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1964
ANNUAL PUBLIC CONFERENCE

The Patent, Trademark, and Copyright Research Institute of
The George Washington University

Theme:

Current and Emerging Problems in Property Rights to R&D and Related Information

Objectives of the Conference

This Conference is the occasion for the presentation and discussion of the research findings of the Research Institute and important current issues relating to "Current and Emerging Problems in Property Rights to R&D and Related Information," from which the Research Institute itself may derive guidance on the planning of its future work. The Conference also provides an opportunity for people from different fields to meet and participate in the stimulating and productive exchanges and contacts of the Conference.

The research work of The PTC Research Institute represents the first university attempt at a comprehensive study of the patent, trademark, copyright and related systems in the United States. This study is systematically planned and coordinated, inter-disciplinary in nature and utilizes a combination of specialties such as economics, statistics, psychology, sociology, and law; and empirical, that is, based on the facts gathered by the staff on the actual operation of the systems.

In attendance at this eighth Annual Public Conference devoted to Problems in Property Rights to R&D and Related Information will be key representatives from the different fields of activity throughout the nation: commerce, education, science, manufacturing, labor, finance, and the professions.

In keeping with the educational purposes of the Research Institute arrangements have been made for recording the Conference and for subsequent radio broadcast.

PROGRAM

THURSDAY, JUNE 18, 1964

8:00 a.m.-12:00 REGISTRATION

9:45 a.m. Welcoming Remarks—**O. S. Colclough,** Provost of The George Washington University; Director of the Research Institute; **L. James Harris,** Executive Director of the Research Institute

"The PTC Research Institute in the Second Decade"—**Earl P. Stevenson,** Chairman of the Advisory Council of the Research Institute

10:00 a.m. Morning Session:

Employer-Employee Stakes in Invention

Moderator—**R. E. Gibson,** Director, Applied Physics Laboratories, The Johns Hopkins University

Invited Contributors

Part I—**Energizing and Rewarding Inventors—Max Tischler,** President, Merck, Sharp, and Dohme, Rahway, New Jersey; **Vladimir K. Zworykin,** Honorary Vice President, Radio Corporation of America, Princeton, New Jersey

Part II—**Loss of Trade Secrets Through Changes in Employment—Joseph McPherson,** Head, Psychology Department, The Dow Chemical Company, Midland, Michigan; **James H. Williams,** Assistant to the General Manager, Lederle Laboratories, Division of American Cyanamid Company, Pearl River, New York; **J. Russell Wilson,** Vice President, Monsanto Chemical Company, St. Louis, Missouri

Research Institute Staff Contributors

Part III—**Robert B. Bangs, John C. Green, Joseph Rossman, Barkev S. Sanders, Irving H. Siegel**

Part IV—Panel Discussion and Question Period
(The panelists are the speakers named in Parts I, II and III)

12:00 LUNCHEON

1:30 p.m. Early Afternoon Session:

Government-Private Issues

Moderator—**Edward J. Brenner,** Commissioner of Patents

Invited Contributors

Part V—**Accelerating the Use of Government-Financed R&D – Hugh L. Dryden,** Deputy Administrator, National Aeronautics and Space Administration; **James W. Roach,** Assistant Director, Engineering Management, Research and Engineering, Department of Defense; **Herbert W. Robinson,** President, C-E-I-R, Washington, D. C.; **Ernest B. Tremmel,** Director, Division of Industrial Participation, U.S. Atomic Energy Commission

Part VI—**Interference Settlements: Patent-Antitrust Public Policy Implications—Donald C. Harrison,** General Patent Counsel, Union Carbide Corporation, New York; **Marcus Hollabaugh,** Hollabaugh & Jacobs, Washington, D. C.; **Arthur M. Smith,** Judge, U. S. Court of Customs and Patent Appeals, Washington, D. C.; **Robert L. Wright,** First Assistant, Antitrust Division, Department of Justice

Research Institute Staff Contributors

Part VII—**John F. Creed, George E. Frost, John C. Green, Mary A. Holman, Jesse W. Markham, Barkev S. Sanders, Donald S. Watson**

Part VIII—Panel Discussion and Question Period
(The panelists are the speakers named in Parts V, VI and VII)

3:30 p.m. Late Afternoon Session:

International Challenges to United States Firms Operating Abroad

Moderator—**Jack N. Behrman,** Assistant Secretary of Commerce, Domestic and International Business, Department of Commerce

Invited Contributors

Part IX—**Industrial Property Problems—Paul Porter,** President, Porter International, Washington, D.C.; **Leonard J. Robbins,** Langner, Parry, Card, and Langner, New York

Part X – **Antitrust and Trade Practice Problems – P. Rand Dixon,** Chairman, Federal Trade Commission; **Wilbur L. Fugate,** Chief, Foreign Commerce Section, Antitrust Division, Department of Justice; **Grant W. Kelleher,** Counsel, Law Department,

Standard Oil of New Jersey, New York; **Harold Levin,** Chief, International Business Practices Division, Bureau of Economic Affairs, Department of State

Research Institute Staff Contributors

Part XI—**Robert B. Bangs, John F. Creed, P. J. Federico, S. Chesterfield Oppenheim, Gerard J. Weiser**

Part XII—Panel Discussion and Question Period
(The panelists are the speakers named in Parts IX, X and XI)

7:30 p.m. RECEPTION

8:30 p.m. DINNER, HONORING GILES S. RICH, Judge of the United States Court of Customs and Patent Appeals, the recipient for 1963 of "The Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education."

Presentation of the Award and Acceptance Address

FRIDAY, JUNE 19, 1964

9:00 a.m. Morning Session:

New Dimensions and Directions

Moderator—**Abraham L. Kaminstein,** Register of Copyrights

Invited Contributors

Part XIII—**Impacts of Proposed Copyright Legislation: the Businessman, the Government, and the Public—Harry G. Henn,** Professor, School of Law, Cornell University; **Benjamin Kaplan,** Professor, School of Law, Harvard University

Part XIV—**New Concepts of Design Protection—Philip Dalsimer,** Kane, Dalsimer and Kane, New York

Part XV—**Patent and Copyright Implications of Electronic Data Processing—Alexander J. Etienne,** Consulting Patent Attorney, Patent Department, International Business Machines Corporation, New York; **Morton David Goldberg,** Foster, Ginsberg, and Schwab, New York

Research Institute Staff Contributors

Part XVI—**Harold F. Bright, P. J. Federico, George E. Frost, Jospeh Rossman, Irving H. Siegel, Edgar Weinberg**

Part XVII—Panel Discussion and Question Period
(The panelists are the speakers named in Parts XIII, XIV, XV and XVI)

11:45 a.m. *Founders' Panel*

Moderator—**S. Chesterfield Oppenheim,** Adviser on Research of the Research Institute

Part XVIII—**Looking Forward to the Second Decade**
From the founders of the Research Institute (then called Foundation) representatives will be selected to participate in the panel.

12:45 p.m. ADJOURNMENT OF CONFERENCE

THE SHOREHAM HOTEL
WASHINGTON, D. C.

Patent and Antitrust Development and Prospects of the European Economic Community

GERARD J. WEISER*

INTRODUCTION

THIS IS A REPORT OF INTERVIEWS with selected officials of the European Common Market who participated in a public lecture and discussion series conducted by The Patent, Trademark, and Copyright Research Institute on the subject of the "Current International Industrial Property Developments and the Relation Thereto of Antitrust and Trade Practice Laws and Policy" in the winter and spring of 1963. Two European experts who had expressed their views on this topic in the recent past at Research Institute Annual Public Conferences were also interviewed.

The officials conferred with included: Dr. Pieter VerLoren van Themaat, Director General of the General Direction for Competition of the Commission of the European Economic Community; Dr. Norbert Koch, of the General Directorate of Competition of the Commission of the EEC; Dr. Franz Froschmaier, also of the Directorate and Secretary of the Working Group of the Coordination Committee which prepared the European Patent Convention; Dr. Kurt W. Haertel, President of the German Patent Office; and Mr. André Armengaud, Patent Attorney and Member of the French Senate and of the European, Market Parliament. The principal purpose of the interviews was to continue an exchange of opinions and to review developments in the patent and antitrust fields that have occurred since these officials lectured in Washington and presented their views in the *Journal* of the

*Mr. Weiser is a member of the Research Staff of The PTC Research Institute.

Editor's Note:

The major objective of the personal interview technique employed by Mr. Weiser was to permit the conference to be guided by a reciprocal, impromptu exchange between the parties, which only a personal confrontation can fully achieve. Certain opening questions were, of course, prepared in advance. Others, however, were prompted by the nature of the response to the previous questions. In this way, the conversations were able to explore the very latest in EEC developments.

Research Institute. The conferences were carried out in the fall of 1963 in Brussels, Munich, and Paris. The interviewer was Gerard J. Weiser, a member of the Research Staff of The PTC Research Institute.

Section (I) of the Report is based on comments of Dr. Froschmaier. It deals principally with the developments concerning the European Common Market Convention. Section (II) deals with antitrust questions as set forth in discussions with Dr. VerLoren van Themaat and Dr. Koch. Section (III) of the Report embodies comments of Dr. Haertel, and Section (IV), those of Mr. Armengaud.

I. Draft for a European Patent Convention

1. *What is the Status of the Draft for a European Patent Convention?*

In November 1962, the Draft for a European Patent Convention[1] was published. It was intended that national administrations and interested, qualified professional organizations, international and of the EEC countries, submit their observations and suggestions towards the preparation of a final Convention setting up a new patent system. Extensive memorandum were submitted by interested parties to the ad hoc working Patent Committee comprising experts from the national governments and the Commission, setting forth their various views on the Draft. Amongst them were the International Patent and Trademark Association, European and business associations such as UNICE, the Union of Industries in the European Economic Community.

During the latter part of September 1963, the Patent Committee thoroughly studied the observations, criticisms, and recommendations made by the various groups. The members of the Committee noted the remarkable and wide support given by all the various groups that had submitted comments in favor of the general principles for a European Patent Convention. The degree of unanimity for this project from such diverse and large circles was striking. Allowance has been made for the views expressed by the experts and the commenting groups. In the main, the technical problems can be considered solved. The disagreement that was voiced amongst the various groups pertained to the specifics of the operations of the systems and to the political questions involved in the Patent Convention.

[1] For further references and prior discussions on this topic, see Editor's Note, p. 10.

2. *What are the Major Political Problems?*

There are three political questions; they are the following:

(*1*) Should the European Patent Convention be accessible, i.e., open, to non-members of the Convention to allow them to file patent applications in the European Patent Office and obtain patents? This question involves Article 5, variants 1 and 2.

(*2*) To whom should accession, i.e., the right to become a party to the Convention, be available? This question involves Article 211. The issue may be pin-pointed as follows: should membership be open to all who wish to accede or only to those who become members of the European Economic Community? This question is probably of greatest interest to the United Kingdom, Switzerland, Austria, and Scandinavian countries.

(*3*) Should economic provisions be written into the Convention? This question involves such Articles as 20a, and 29, Sections 1, 2, and 3.

Such provisions would give the terms and conditions for the issuance of licenses and sublicensing. It would also set forth the conditions which exhaust a patent monopoly as by sale of the patented product. Some parties feel that matters relating to licensing do not belong in the patent law and should be covered by an appropriate EEC law or other national law dealing with the regulation of competition.

3. *What Future Course of Action Can Be Expected?*

It can be expected that the Patent Committee would submit a report to the Coordinating Committee on Industrial Property. That Committee could make proposals to the meeting of the Under-Secretaries of State. The procedure would then be that, following their instructions, the final text and the clauses covering the technical aspects of the law could be prepared for submission to the Under-Secretaries of State of the six EEC countries for their approval.

4. *How Can the Political Question Be Solved?*

On the unresolved political questions, the feeling is that neither the Committee nor the Under-Secretaries of State should really be responsible for the decision. Rather, the decision is one that is properly within the province of the

participating governments. It was hoped that the Coordinating Committee would be able to draw up a report outlining the advantages and disadvantages of each solution proposed and then, after approval of the Under-Secretaries, it be submitted for approval to the respective governments.

Amongst these questions are those discussed above and also the location of the European patent office. Munich and La Hague have figured prominently in the discussion. Both presently are locations of important European patent institutions: the German patent office and the other, the International Patent Institute, both institutions effecting a prior examination procedure. The technical necessity to place the European Office in one of these two towns stems from the fact that the European Office should have access to an existing patent office documentation.

5. *What Progress has been made on Related Provisions?*

The Working Committee was also proposing to submit to the Secretaries of State a draft on a General Convention containing the basic legal provisions for the Administrative Council and for the European Patent Court. The Convention would contain all provisions relating to the Institutions that will be common to the three Conventions envisaged in the field of industrial property: patents, trademarks, and design protection.

The Working Committee moreover was proceeding in the preparation of Rules and Regulations for the implementation of the Convention.

On the matter of institutions for the European Patent, some parties favor establishing a European Patent Court, others favor granting jurisdiction to the present Court of Justice of the EEC that could sit as a patent court. The former proposal would tie the Patent Convention less to the EEC, the latter would strongly favor the bond.

II. Antitrust Developments

1. *What are the Recent Proposed Rulings of the Commission?*

A new development is the publication[2] by the Commission of two applications for negative clearance.[3] In both

[2] *J.O.C.E.*, July 4, 1963.

[3] Regulation No. 17, Article 2, negative clearance, a procedure whereby applicants request the Commission to issue a finding that according to the information

cases, if the negative clearance is granted, it would confirm that Article 85, Section 1, does not apply to the agreements in question.

It is significant that each case involves one party in the Common Market and the other outside of the Common Market. In the first case (Grossfillex Co.; Arbent/Ain, France, and Fillistorf; Zurich, Switzerland), Grossfillex had granted Fillistorf an exclusive agency distributorship for the sale of its goods in Switzerland. Fillistorf had agreed not to manufacture or sell competitive goods and Grossfillex not to sell in the granted territory through any other distributor. In the second case (Nicholas Frères; Chatou, France, and Vitapro Ltd.; London, England), Nicholas Frères had sold to Vitapro certain of its assets for exploitation outside the EEC. Vitapro agreed not to compete with Nicholas Frères in the EEC and Nicholas, to refrain from competing with Vitapro outside the EEC territory. In both cases it is suggested that the agreements do not restrict competition in the EEC nor were likely to affect its interstate trade as specified by Article 85, Section 1.

2. *What is the Purpose of the Rulings?*

The Commission was hopeful that such rulings would be useful in providing guidance to industry. It was being also hoped to issue further rulings on other cases and other situations. If possible, it was being attempted to cover certain typical categories of business relationships. This would assist the parties that have similar business arrangements to take suitable steps.

3. *What is the Present Work of the Commission?*

Presently, the Commission is extremely busy reviewing the old agreements (existing on March 13, 1962) and new ones notified to the Commission. Agreements were being classified and examined on the basis of whether they involved horizontal or vertical arrangements and on the basis of certain priorities. More could not be stated at this time since the matters were under study. However, it was point-

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the Commission has received it has no grounds to proceed under Articles 85 or 86 of the Treaty against the agreements. For an Analysis of the Regulations Implementing the Antitrust Provisions, see Weiser, *PTC J. Res. & Ed.*, Vol. 6, No. 1 (Spring 1962), p. 20.

ed out that a large number of notifications failed to comply with the requisite requirements of formalities, e.g., photo copies of relevant portions of the agreement (when required), a translation into one of the official languages of the Community.

4. *What are the Reasons for Delay in Issuing Further Rulings?*

Certain special studies were in progress. Distributorships and patent licensing arrangements were being further studied. A blanket exemption to be granted for certain agreements was a question under further study. This presents difficult questions of law and competence of the Commission. The relationship between subjecting certain arrangements to notification—e.g., distributorship and licensing agreements—and mergers of companies was under consideration. It was the feeling of some experts that undue antitrust control, such as notification of vertical agreements might precipitate or promote mergers. On the other hand, it was necessary to distinguish these reasons from the normal economic necessity that is causing firms to integrate vertically or to merge in order to keep up with the growth of the size of the market. Of course, it was emphasized that mere exercise of the patent or trademark monopoly should create no antitrust problems. But the exact scope of that monopoly presented difficulties of definition. The scope of know-how was under study.

5. *What are the Applications of Article 86?*

The application of Article 86—abuse of dominant position—needed further study. Various criteria were being studied to ascertain the existence of a dominant position and when and how to determine an abuse. To what extent the ownership by a single enterprise of one or more patents could be regarded as a dominant position was being looked into, also. And also to what extent certain practices in the exploitation of patent or trademark could be considered abuse was being the subject of study. The entire subject was a highly complex one in which the Commission would like to combine and benefit from the results of the various studies in progress with the empirical experience it was gaining from the examination of the notified agreements.

6. *What is the Relationship between the EEC and National Law?*

When there are differences between the EEC and the national law on a particular point, both laws would seem to apply. Restrictive agreements would have to comply with both laws, and as a consequence, invalidity under civil law would prevail even if provided for by only one of the two laws as long as that law applies.

III. The Free Access View[4]

1. *What is the Legal Evolution of the Patent Convention?*

It was pointed out that the proposed European Patent Law is not, as has been called by some, a "revolutionary" concept. Rather it is a normal and gradual outgrowth from the extensive prior work in the field of unification or harmonization of substantive and procedural industrial property law which had been performed in Europe during many years. Projects Longchambon, Reimer I, De Haan were mentioned and also the work of the European examination offices resulting in the Lampert and CNIPA projects. The patent Draft, in large part, grew out of the experience of this prior work.

2. *What is the Basic Difference in the Concept of the Patent Convention?*

A basic difference between the parties that advocate free access and those that are opposed to it is based, it is felt, on

[4] A colleague observed in reviewing the Report: "The two main differences of conception regarding the European patent are contained in what is called in French (*a*) "ouverture de la convention" and (*b*) "accessibilité au brevet international."

(*a*) *"Ouverture de la convention":* Openness of the convention is concerned with the question whether countries other than the Six may adhere to it with the purpose of participating in the common patent. To give an example, if the U.S.A. would join the convention, a common patent concerned would be valid in the territory of the Six as well as in that of the United States. A closed convention means that no countries other than the Six can be a member of the convention, which implies that the common patent shall only cover the territory of the Six. Apart from the question of adherence there is the question of "association." This procedure is dealt with in article 238 of the Rome Treaty; it opens the possibility for a country to adhere fully or partially to a convention such as the Patent Convention, but without the same rights the Six have, the common patent covering also the territory of the associate.

(*b*) *"Accessibilité au brevet international":* Accessibility means that the treaty, whether open or closed, gives the subjects of nonparticipating countries the right to apply for a common patent, which patent is valid within the territory of the state participating in the treaty."

a fundamental difference regarding the nature and purpose of the European Patent Law.

Those who favor a more restricted access are also the proponents of the idea that the Patent Convention should be the basis for the creation of a true international patent open to all members of the Paris Union. This could be achieved by means of accession. Thus, while during its initial stages the Convention should primarily serve the Common Market interests, it should be designed to be expanded to a European and International patent. Under that view to provide an incentive to adherence or association, access should be restricted.

3. *Is This Approach Erroneous?*

Such an approach is unduly idealistic and unrealistic. Proponents of free access believe that the Patent Convention should not be the basis for an International Patent but that its main purpose is a patent best suited to the Common Market. Adherence and association should be reserved for special situations.

Access should be free and unrestricted. Unless this was so it was seriously questioned that the Patent Convention would get the necessary endorsement from the German group.

4. *What are Suggested Changes in United States Patent Practice?*

It would be very desirable if the United States would simplify its patent practice, particularly on interference matters. The foreigner should be allowed to show his reduction to practice. Also formalities should be simplified.

IV. Association as a Basis of Participation

The provisions for association really would provide a better basis for participation in the European Patent than granting unrestricted access.

1. *What are the Reasons for this View?*

Unrestricted access presents very many problems. The first is a technical one. Because of the very large number of patents filed by the United States in Europe, a very significant segment of technology in the Common Market would be dominated by patents in the hands of the United

States. This fact could present serious obstacles to the development of a Common Market industry. It would be especially difficult for medium or smaller size industry if its growth should be hampered by a large body of United States patents in Europe. Common Market industry should not be dependent or dominated by patents of foreign origin.

There is also presented a political problem. If Article 5, variant 1, were adopted, it would allow the U.S.S.R. to file too. If access were restricted to Members of the Paris Convention, this would also open the way for the U.S.S.R. to become a member too and file for the European patent. The question was asked whether the United States would find this to its liking. And the Japanese too would be more likely to protect their technology by way of patents in Common Market than they do now.

2. *What are the Advantages of Association?*

The provisions for association present a much better basis for the United States to participate in a European Patent. Association is a very elastic concept. It can be worked out on an individual basis that is best suited for each country that desires to become an associate. The United States has such a powerful patent system that it could provide many of the elements that would form an attractive basis for association.

The United States' patent system is, in general, difficult, in particular its interference practice is complicated. It discriminates against foreign applicants in precluding them from showing their reduction to practice abroad prior to their filing date there. A change in the interference practice allowing such a showing by the foreign party could be a basis, as part of an overall arrangement, for association.

A simplification or abolishing of some of the formalities would also be helpful. Sharing the results of the examination procedure between the United States and the Common Market could be arranged. It could make available to the respective examiners the result of searches for applications filed under both systems. It could make available to the Common Market examiner the result of the search of the United States examiner on an application filed in the United States. The converse could work out too.

Association also is better suited to the Common Market's

purposes. The timing can be controlled better by that organization. The terms for a suitable formula can be worked out individually for each associate.

The United States interests should be reassured that there is full understanding for their position for free access. There is a willingness and determination to work out a formula that would respect both the Common Market and United States interests. A meeting is recommended at which these issues could be aired and suitable proposals considered.

INTERVIEWER'S COMMENTARY

1. *Status of the Draft of a European Patent Law*

(*a*) TECHNICAL ASPECTS

It is significant that, roughly about a year after the publication of the Draft for the European Patent Law, the work has progressed to

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Editor's Note:

The reader is referred to the following articles published in the *Journal of Research and Education* on the Patent Convention Draft for general EEC background material.

Ralph E. Bucknam, "Access to the European Patent System," Vol. 7, No. 4 (Winter 1963-1964), p. 427. The author takes the position that in approaching the question of the right to apply for an EEC patent for American nationals the member states' (of the EEC) inability to fulfill their obligations under the Paris Union Convention because of a delegation of sovereignty should be the basic consideration

André Armengaud, "Political Aspects of Accessibility to the European Patent," Vol. 7, No. 3 (Fall 1963), p. 314. Senator Armengaud supported the position that association by the United States to the proposed Patent Convention would seem to be the more appropriate solution.

D. A. Was, "Access to the European Patent," Vol. 7, No. 1 (Spring 1963), p. 7. Dr. Was reasons that association by the United States to the proposed Patent Convention would seem to be in the best interests of both United States nationals and EEC countries.

Gerard J. Weiser, "The European Common Market Patent Convention: The Right to Apply for a Common Market Patent," Vol. 6, No. 3 (Fall 1962), p. 317. This report analyzes the two basic alternative provisions proposed in the Draft for a European Patent Convention regulating the right to apply for an EEC patent for United States nationals. The report also discusses background history for the provisions, and evaluates the effects of restrictive access. The State Department is urged to maintain a policy conducive to free access.

For information on antitrust regulations of the EEC, the reader is referred to Gerard J. Weiser's report entitled, "Freedom of Competition in the European Economic Community: An Analysis of the Regulations Implementing the Antitrust Provisions, Vol. 6, No. 1 (Spring 1962), p. 20. This article provides an extensive analysis of the background of the provisions of Regulation 17, as amended, (the basic antitrust regulation). It discusses at length the classes of agreements that are subject to notification and those that are not, the enforcement provisions of the regulations, and the significance of the Commission's rulings.

the extent that the technical aspects of the law are considered as solved. The Under-Secretaries of State of the Member countries consider that it will now be possible to finalize the text of the Convention. In view of the fundamental differences in the patent systems which have prevailed in Europe for so long, both from the procedural and legal and philosophical aspects, the fact that this stage has been reached is indeed noteworthy.

(*b*) POLITICAL ASPECTS

The referral of the unsolved political questions to the national governments of the Member countries rather than to the Council of Ministers of the European Economic Community is further confirmation of the fact that the Patent Convention is not derived from or connected with the Treaty of Rome although it is the work of the Members of the European Common Market. The significance of this move for the United States which is concerned with such important issues as access and association, is that its views regarding these matters should be submitted also to the national governments of the Member countries and not only on the EEC Commission or to an European Patent Authority.

The United States has made its position known informally to the EEC authorities. The position taken favors free access for parties that are not members of the proposed Convention. It underscores the inconsistency of other solutions with the Paris Union Convention. As to accession, the United States does not consider it a suitable form of relationship with the European Patent system but would like to see the way remain open to conclude suitable agreements with the European Patent Authority regarding forms of collaboration in the patent field.

It is known that in Europe, France, Italy, Belgium, Luxembourg, and Holland take the position that it would be desirable that access to the European Patent be restricted, at least for an interim period. They support their arguments on technical, practical and financial grounds. They point out that access is irreversible and the proposed system should be tested before such an irrevocable step be taken. In contrast, Germany is the only country which has taken a stand favoring free access.

(*c*) ASSOCIATION, A BASIS FOR COOPERATION?

Recently, Dr. D. A. Was, pointed out in this *Journal*[5] that when restricted accessibility is discussed in Europe "it is always understood

[5]D. A. Was, "Access to the European Patent," *PTC J. Res. & Ed.*, Vol. 7, No. 1 (Spring 1963), p. 7.

that ultimately accessibility should not be made subject to any restrictions. . . . There is no question that ultimately the European patent should be obtainable for everybody who so desires." It was also pointed out that an association arrangement might be well suited for countries that could not be expected to become full members.

If Article 5, variant 1, of the Patent Draft Convention is not adopted, full consideration should be given to the merits of an association arrangement between the United States and the European Patent Authority that would give the United States applicants free access to the European Patent System. The U. S. patent laws provide superb opportunities for the foreign applicant to protect his inventions in the United States. These laws provide ample basis for an arrangement on which association could be based that would continue to make the U. S. system available to applicants from EEC countries and make the EEC system available to United States applicants.

2. *Antitrust Developments*

(*a*) THE COMMISSION

It is significant that the two proposed rulings on negative clearance requests involve arrangements with markets outside the Common Market. That situation involves a minimum of anticompetitive effects under EEC antitrust laws. The situation which is of greater interest to U. S. parties involves markets and distributorships in the EEC. In those cases, the Commission is proceeding on a case by case basis.

In contrast in the *Faience Convention* case,[6] the Commission denied a negative clearance in an exclusive distributorship situation involving parties in EEC countries and one in England. The Commission ruled that the agreement came within the purview of Article 85, Section 1, since the agreement restricted the export opportunities of suppliers from various EEC countries to one EEC member state and import opportunities of buyers of that state from other EEC countries. Moreover, in its first application of the standards of Article 85, Section 3, the Commission held that the exemption would not be granted because the specified positive objectives of that section could not be attained with sufficient certainty. Recently, the Faience Association agreed to follow the Commissioner's ruling and modified its Agreement.

(*b*) APPLICATION OF EEC ANTITRUST BY THE MEMBER COUNTRIES

Most noteworthy is the widespread use of the EEC antitrust law in recent proceedings in the national administrative agencies and the

[6]Ruling of the EEC Commission, July 24, 1963.

courts of the member countries. In less than two years since the antitrust regulations came into effect, the defense of unenforceability of the agreement has been asserted consistently by the parties in proceedings in national courts. The basis is, generally, that the agreement is invalid and unenforceable either on the ground that it violates the antitrust provisions of the Treaty of Rome (Articles 85 and 86) and/or because it was not notified at all or not notified in time with the EEC Antitrust Commission.

A number of these cases are especially noteworthy. In Nicolas, *Société Brandt et Société Photo Radio Club,*[7] a recent landmark case in French jurisprudence involving an exclusive distributorship and refusal to deal situations, Counsellor Costa already noted that under the EEC antitrust provisions the validity of exclusive distributorship contracts is subject to their prior notification to the EEC Commission in order to obtain an exemption under Article 85, Section 3. In *UNEF v. Consten,*[8] the appellant pointed out that he had challenged the validity of exclusive distributorship agreements on the basis of Article 85, Sections 1 and 2, and Article 86, in the proceedings with the EEC Commission to whom he had notified the agreement on March 6, 1962. In the *Fotokamera* case,[9] another distributorship situation, the court upheld the defendant's position that the agreement was belatedly notified and therefore sales restrictions were provisionally invalid as violative of Article 85, Section 2. On appeal, the court reversed.[10] Construing the agreement to be a two-party agreement only, it held that it was notified timely. Therefore, the court ruled, relying on the *Bosch* case,[11] that the agreement was provisionally valid.

These cases illustrate the growing application of the Community antitrust law by the national courts. The serious impact of that law on the private rights of the parties is being already felt. It is also influencing the dealings of the parties in their negotiations of business agreements before matters come to the litigation stage. It is evident that EEC antitrust is starting to have a bearing on business arrangements in Europe.

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[7] Cour de Cassation (Ch. crim.), July 11, 1962, Rec. D. Jur. 497 (Fr.).

[8] Société Union nationale des eéconomies familiales (UNEF v. Consten, Cour d'Appel de Paris, Jan. 26, 1963, Rec. D. Jur. 189 (Fr.)

[9] Fotokameras, LG, February 25, 1963, WuW/E LG/AG 198.

[10] Fotokameras, OLG, May 30, 1963, WuW/E OLG/556.

[11] Société Kledingverkoopbedrijf de Geus en Uitdenbogerd v. Robert Bosch GmbH, Cour de Justice des Communautés Européennes, April 6, 1962, 8 Rec. de la jurisprudence de la Cour 89, (1962) J.O.C.E. 1081.

COMMENTS BY FOREIGN SPECIALISTS ON THE INTERVIEW REPORT

The Report of the interviews conducted in Europe by Mr. Weiser was circulated for comment to the interviewees and to four additional experts, who were scheduled but unable to be interviewed at the time. The comments received are published below with the exception of those by Dr. VerLoren van Themaat, Director General, Directorate-Generale de la Concurrence, European Economic Community, and Dr. de Haan, President, Netherlands Patent Board. The remarks of the Director General and the President of the Netherlands Patent Board have been taken into consideration in the final version of the interview portion of the Report.

I. Draft Convention Relating to a European Patent

(Relating to the Interview with Dr. Franz Froschmaier, Brussels)

The preliminary draft of a "Convention on a European Patent System" of June 23, 1962 (published in GRUR*), International.

Part 1962, 561; cf. Froschmaier: "Gründzüge des Konventions—entwurfs über ein Europäisches Patentrecht," GRUR International Part 1962, 433) has been presented by the "Working Group Patents" of the EEC at Brussels.

Dr. Froschmaier is the Secretary of this Working Group. The questions raised by him are directed towards a solution of some of the most controversial problems.

Art. 5 of the preliminary draft expressly leaves open the crucial question whether the right to apply for a European patent should be open to any interested person. The following alternative versions are presented by him for debate:

1. to give any interested person the right to apply for a European patent,
2. to give this right to nationals of EEC member states only.

The draft notes in this respect that these versions constitute extreme solutions leaving room for an intermediary solution. The preliminary draft is, however, oriented on the first version.

Art. 211 of the preliminary draft provides that any state which is a member of the International Union for the Protection of Industrial Property Rights ("Pariser Verbandsübereinkunft"*) (presently comprising about 50 states, among them some East-Bloc countries) may

*) "Gewerblicher Rechtsschutz und Urheberrecht."
*) Hereinafter referred to as "PVU."

join the Convention. The remark is added that some of the Working Group members have proposed to limit the membership to European countries only.

The "Working Group Patents" in its 10th session in October 1963 has commenced to evaluate the comments on the draft convention on a European Patent received from interested circles, above all from the top organizations of the economy. In this respect I refer for instance to the comments of the "Ständige Konferenz der Industrie–und Handelskammern" of the EEC (published in GRUR, International Part 1963, 379) and of the "Präsidentenkonferenz der Internationalen Vereinigung für gewerblichen Rechtsschutz" (published in GRUR, International Part 1963, 374).

The Working Group has also received suggestions on amendments or alterations. It appears that the majority is in favour of the first version of Art. 5 of the preliminary draft. At least the free admission of any interested person, to apply for a European patent, has been affirmed in principle. Correspondingly, this view prevails as to the possibility of any interested member of the "PVU" to join the Convention. The USA, Great Britain, Switzerland and Austria have already expressed their interest in this respect.

The legal questions arising therefrom are of prime importance, for the solution of patent law problems within the framework of the proposed Convention must be in conformity with EEC Antitrust law. Above all a European patent that is a common patent of EEC member states must not–different from national patents–cause to establish territorial barriers.

This becomes especially clear from the problems dealt with in Art. 20 a) and 29 of the preliminary draft. Art. 20 a) para 1 solves the question of the exhaustion of the patent right as follows: If the holder of a European patent has introduced the patented article in the market of a member state it becomes a patent-free article in all the member states. Up to now the exhaustion of the patent right of a national patent is only effected for the patentee's own country. If at the present a patentee has patent rights in several European countries he may claim his exclusive right in any of these countries, even if the patent right has been exhausted in one of the countries by introduction of the patented article into the market.

Art. 29 para 2 of the preliminary draft contains the corresponding provision to Art. 20 a) para 1. Pursuant to this provision, exhaustion of the patent right is equally effected once the licensee of a European patent has introduced the licensed products in the market. This solu-

tion is of utmost importance under aspects of competition policy, for the loss of the patentee's right under his European patent also takes place if the licensee—contrary to the license agreement—introduces the patented article into member state markets, to which his license does not extend, thereby infringing the territorial limitations imposed upon him. Pursuant to German cartel law this would not be considered as a "case of exhaustion" ("Konsumtionsfall") since such exhaustion only results from the authorized introduction of the patented article into the market by the licensee. The holder of a German patent may, therefore, sue his licensee for the State of Bavaria by an action in rem if the licensee—in breach of his contractual obligation—for instance makes deliveries of the patented article to Hamburg.

The provisions of Art. 20 a) para 1 and Art. 29 para 2 of the preliminary draft thus serve to establish an essential basis for an optimum of unity of law and economies in the EEC territory. For, at the present, the national patent rights still create territorial boundaries—even in the EEC area—which make it in particular possible to impose export prohibitions.

Objections have been raised against these versions discussed above all from the side of business groups—especially in regard to Art. 29 para 2 of the preliminary draft. This may also be a reason for Dr. Froschmaier's opinion—mentioned above—that license problems are no matters of patent law. They should be regulated under the cartel law of the countries concerned, respectively under EEC Antitrust law. In my opinion the exhaustion of a patent right is a question coming immediately under patent law. This is also consistent with the decisions of most of the national courts in cases of patent right infringements. Already for this reason it appears essential that the provisions in Art. 20 a) para 1 of the preliminary draft be maintained. The regulation provided for in this Article must be complemented, however, by a corresponding provision in Art. 29 para 2 of the preliminary draft insofar as the question of the introduction into market of the patented articles by the licensee is concerned.

The coming into force of the first phase of the Convention is generally not expected before 1966 or 1967. The further question, whether the proposed European patent court shall be an autonomous court, or not, is immediately dependent on the question whether the solution provided for in Art. 211 para 2 of the preliminary draft will be maintained.

If the Convention would be limited to member countries of the EEC a European patent court would come under the jurisdiction of the European Court of Justice.

II. Development of Antitrust Law

(Relating to the Interview with Dr. VerLoren van Themaat and Dr. Koch)

The decisions that are passed by the Commission pursuant to the notifications received by it are of paramount importance for the development of EEC-Antitrust law. It is understandable that the business as well as the national governments feel concerned about the fact that no leading decisions—that may serve as a guidance—have been passed as yet. This may partly be attributed to the circumstance that General Direction IV is inadequately staffed; but partly it is also due to the differing basic conditions of competition prevailing in the countries of the EEC.

But nevertheless the two negative clearances which have been mentioned ("Grossfillex" and Vitapro) are of interest, especially for third countries (non-member countries), insofar as it has been established therein that the Commission considers bilateral restrictive agreements, of which one party is inside and the other outside the EEC-territory, as in principle coming under Art. 85. In consideration of the minor importance of the restraint on competition involved the Commission had granted a negative clearance in both cases.

Pursuant to Regulation No. 17 the Commission has received about 35,300 applications, among them 800 applications concerning horizontal (cartel-type) agreements. The Commission is thus required to solve the so-called "mass problem"; a draft regulation is pending at the present, providing for the Commission's power to grant class exemptions pursuant to Art. 85 para 3. The problems connected with these class exemptions:—clear delineation of this power and relevance of the restraints to the cases concerned—can only just be indicated.

Under aspects of competition policy the Commission's study on the application and eventual necessary amendment of Art. 86 will be of special interest. It is quite natural that this Article in the dynamic process of European integration is of minor importance at present; its import will show in the future. In this regard the development of the North American market provides possibilities of comparison. One will have to create an instrument which mainly would prevent not the abuse of market-dominance but rather the monopolization of markets.

The problems arising from the diversity of national and EEC Antitrust laws, mentioned under Item No. 6 of paragraph II create considerable difficulties. By the national parliaments' ratification the Treaty has been transformed into national law; thereby a uniform law in the member states is established. The national concepts, however,

differ in applying this law. Moreover, it should not be overlooked that the basic conditions of competition prevailing in the individual countries still are far from being assimilated. To advance integration competition should increase efficiency rather than producing gains obtained by national tax regulations or other legal instruments, subsidies or like measures from outside.

With progressive integration the competition policy initiated by the EEC authorities at Brussels have to range before national competition policies; also in this respect the development of the U.S. Federal Antitrust Law may provide comparative standards. In the course of this development the difficulties still existing because of the diversity of EEC and national Antitrust laws will diminish.

III. Free Admission to Apply for a European Patent

(Relating to the Interview with Dr. Haertel, President of the German Federal Patent Office)

As to the statement of Dr. Haertel on the genesis of the convention reference may be made to the profound treatise by Walter Strauss, Staatssekretär a.D.: "Europäische Rechtsvereinheitlichung auf dem Gebiet des Patentrechts" contained in a publication in honour of ("Festschrift") Hans Dölle "Vom deutschen zum europäischen Recht," Vol. II, Tübingen, 1963. As a further reference the relevant statement made by the Senatspräsident am Bundespatentgericht W. Trüstedt: "Europäisches Patentrecht, AuBenwirtschaftsdienst des Betriebsberaters, No. 11/1963 p. 321 seqq. may be cited. Dr. Haertel is also taking up the questions dealt with by Dr. Froschmaier concerning free admission (Art. 5 of the preliminary draft), the joining of (Art. 211 of the preliminary draft) as well as association to the Convention (Art. 212 of the preliminary draft). In this respect I refer to my comments under No. I.

The difficulty actually lies in the fact that it is to be avoided from the beginning to adopt a regulation which is too narrow in its scope and thus would be a bar to a future development towards the creation of a common international patent law. On the other hand, it is to be considered that too great a number of participants would increase the difficulties of harmonizing the law (The European Patent law and EEC law should be synchronous).

IV. Association to the Convention Instead of Free Admission

(Relating to the Interview with M. Armengaud)

I think that the difficulties pointed out by M. Armengaud are not so important that the free admission to apply for a European patent or

free joining in or associating to the Convention need a priori be confined to a small group of states only.

If the USA would be barred from joining in or associating to the Convention or from free admission to apply for a European patent the consequences would be serious not only for the future harmonization of law. Neither in the field of patents should be apprehension of the effects of competition.

For the rest I agree with the suggestions raised by Dr. Haertel and M. Armengaud of adapting the U.S. practice of issuing patents to the respective provisions in the European countries. It is desirable that the Convention leads to harmonize the patent systems of the big industrialized countries. This applies especially to the different regulations of patent issue proceedings and—as far as the U.S.A. are concerned—also to their provisions in appeal cases.

Dr. Ebehardt Günther
President
Bundeskartellamt, Berlin

a) *Re: European Common Market Patent Convention*

Accession and association as well as accessibility are as a matter of fact questions of political nature.

The draft convention of the EEC countries relates to Article 15 of the Paris Convention, serves the purpose of creating a "European" Patent Law and is intended to be open to other signatory states to the Paris Convention. What is really created, however, is merely an EEC Patent Law. Accession of EEC non-members (Article 211) is considerably restricted by the requirement of the unanimous consent of the member states, and practically excluded by conditions which are closely linked to the still unattained goal of a completely unrestricted exchange of goods within the EEC and which are partly influenced by EEC rules on competition. The majority of the Haertel Committee regards the contemplated agreement primarily as an instrument to speed up the commercial integration of the Six and therefore wants to create an EEC patent. Yet a patent covering more territory (Western Europe) would be more helpful to industry and can certainly be realized.

The draft agreement also provides for *association* (Article 212) it is true, but association under agreements of this kind involves some risk. Adopting only part of the rules would entail an additional jumble of conventions with deviating rules, which appears to be undesirable, particularly as for quite some time the national patent laws also of the EEC countries will remain in force in addition to the European patent law (coexistence). A number of countries including Switzerland, when

deciding on whether or not to adhere, would not only have to overcome the aforesaid obstacles, but solve certain constitutional problems stemming in particular from the recognition of a European Court of Justice and the absence of a termination clause. The problems are not unsurmountable, though. On the whole, industry could recommend Switzerland's adherence provided certain basic postulates are met.

The further important question, namely, the eligibility of persons in non-member countries as "European" or EEC patentees (so-called accessibility) is answered in two different ways in the draft convention (Article 5). Some members of the Haertel Committee are inclined to grant such right to non-members, while others want it reserved for persons in member states and they even want to prescribe that the first application be made in a member country. This latter position is due largely to some fear of American influence, and it involves the much-discussed problem of whether "accessibility" is compatible with the Paris Convention (Article 2) to which all EEC countries adhere. It is our opinion that for practical reasons the basically sound, full accessibility should be restricted for an initial period so as to give the new system a good start and to promote adherence.

In our opinion, it is necessary to revise nearly all the important points of the draft agreement on a "European" patent which is now in the center of interest. *In particular, the EEC project should be remodeled into a European Agreement.* In making the revision, it might be advisable to link the agreement to the convention drafts of the Council of Europe, so that the national patent laws (which will remain in force for some time yet) can be readily adapted.

b) *The Council of Europe Convention on Material Aspects of Patent Law*

To complete the European patent picture, I want to call attention to the fact that seven out of the seventeen countries of the Council of Europe have signed a convention on "The Unification of Certain Points of Substantive Law on Patents for Invention," to which likewise great importance has to be attributed; it may well be assumed that the convention will come into force this year. The convention of the Council of Europe mainly serves a harmonization purpose, it laying down the principles of a more general nature to be observed by the member states both in law-making and in actual practice; unlike the Haertel draft, the convention does not advocate a Central Patent Office granting a European patent.

Dr. Jurg G. Engi
Manager,
CIBA, Basel

. . . in the meantime the Under-Secretaries of State have decided during their meeting of December 10, 1963 to submit a report on fundamental questions of the European Patent Law for decision to the Governments of E.E.C. member states. This report exposing in an objective way the different possible solutions and their consequences without taking a position, has been adopted by the Under-Secretaries on February 25, 1964 and is now being submitted to the Governments.

Dr. Franz Froschmaier
Director in the General Direction
for Competition of the Commission of
the European Economic Community

The remark [in reference to the question] "Is this Approach erroneous?" appears to me as somewhat excessive. It is difficult to uphold that the proponents of a Convention to which free access is refused have an idealistic and unrealistic view. Four solutions are in fact possible:

—a Convention open to all outside countries which would accept its rules, the advantages of this Convention being refused to nationals of non adhering countries;

—a Convention open to all outside countries which would accept its rules, the advantages of this Convention being also granted to nationals of non adhering countries;

—a Convention with restricted access and creating a Common Market patent subject to the ruling of the European Economic Community, the advantages of this Convention being granted to nationals of non adhering countries;

—a Convention with restricted access and creating a Common Market patent subject to the ruling of the European Economic Community, the advantages of this Convention being refused to non-member countries of the European Economic Community.

Among these solutions, only the 1st and the 4th ones are logical, otherwise the signatories of the Convention would not enjoy more advantages than non-member countries, since nationals of these latter countries would have access to the Convention just as nationals of the signatories.

Further, it would not be fair to grant the advantage of the European Patent to nationals of countries which would not acknowledge the

validity of this patent on their territory on equal terms with their national patent. This would amount to grant non-nationals an advantage which would receive no counterpart for the nationals of signatory countries.

At the present time, French circles are unanimous to oppose a Convention with free access to outside countries. The only controversy in France is that some people favor a Common Market patent while the others favor a European Economic Community patent with free access to countries who would sign the Convention creating such a Patent.

But, it must be noted that the Europeans are clearly conscious of the problem with which nationals of outside countries are confronted with regard to refusal of access to the Convention. Nevertheless, the general opinion is that free access cannot be granted without reciprocity, which can be found in a formula to be studied as suggested by Mr. Weiser in his Article, is fine.

M. André Armengaud
Beau de Lomenié, Armengaud
& Houssard; Paris and
Senator in the French Parliament

According to the opinion of the proponents of an international patent solution, the territorial expansion of an international patent should only be realized by accession to the Convention as a full member. They consider the territorial expansion of the international patent by way of the association as too complicated, partly even as unnecessary. Envisaging full membership only for the respective EEC countries, the proponents of the EEC solution suggest, however, the association as the only and appropriate means to extend the territorial effect of the European patent beyond the EEC area also to third countries.

. . . in this connection it should be pointed out that the proponents of the international solution up to now strictly objected to the realization of the aims of the EEC treaty within the framework of the Patent Convention because they consider this Convention to be entirely independent of the EEC treaty. Consequently they object to any limitation of the Convention to the EEC countries even for a transitional period. According to their viewpoint, an international patent system should from the very beginning be adapted to the interests of a greater group of countries. Thus the interests and objectives of the European integration within the EEC cannot be realized neither as for the objectives nor as for the institutional framework of the Patent Convention.

According to this opinion, particular points necessitated by the interests of the Common Market should eventually be dealt with in a special arrangement among the EEC countries.

The question of simplification particularly in respect of the interference procedure for foreigners has been raised for the reason that a more liberal procedure can eliminate a part of the objections brought forward against free accessibility. Thus a change of American law in this respect would make it easier for the proponents of free accessibility to defend their viewpoint.

Dr. Kurt W. Haertel
President,
The German Patent Office

Taxation of the Foreign Licensor in Australia

JOHN K. CONNOR*

THE UNITED STATES DEPARTMENT OF COMMERCE estimated that in January 1963 there were approximately 800 license or similar arrangements then in force between United States licensors of industrial property and like rights and Australian licensees.[1] The tax implications of such arrangements are therefore of considerable significance to the United States business community. The purpose of this paper is to briefly outline the impact of Australian taxes on these and related agreements and transactions.

For the most part, the only significant Australian tax imposed on the receipts from licenses of, and other transactions in, industrial property and allied rights is the income tax imposed by the Commonwealth of Australia. (Australia, like the United States, is a federation of states with distinct governments in addition to a commonwealth [i.e. federal] government.) Discussion in this article will therefore be confined to the incidence of the Commonwealth income tax.

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[1] United States Department of Commerce Trade List of American Firms, Subsidiaries and Affiliates in Australia issued January 1963.

Editor's Note:

This article is the first report in a series of studies being conducted by John F. Creed, a member of the Research Staff of The PTC Research Institute, dealing with the taxation of the foreign licensor in certain selected non-U.S. jurisdictions. The series naturally breaks down into three study groupings:

1) Australia, Canada, United Kingdom and India.
2) The Common Market countries.
3) Japan.

At a later time other non-U.S. jurisdictions will be included in the series.

While the studies will be involved principally with income taxation, other taxes will also be covered where they have a material impact on the foreign licensor. Particular attention will be paid to the taxation of U.S. licensors in the various jurisdictions, and in this connection an analysis of the pertinent U.S. double taxation treaties will come into play.

The studies will be undertaken by men who, through training and experience, are tax experts in the respective jurisdictions. In presenting their studies, they will strive to walk the path between undue technicality and over-simplification.

Basic Concepts

Australian income tax law hinges around three basic concepts—taxable income, residence, and income source. Some explanation of each of these is essential to any proper understanding of the Australian income tax system and is a necessary preamble to the discussion which follows.

Taxable Income

The concept of income for tax purposes is, for the most part, as ill-defined in Australian tax law as it is in the United States.[2] Basically, taxable income for Australian tax purposes is ascertained by deducting from the taxpayer's "assessable income" the appropriate "allowable deductions."[3] "Assessable income" approximates to gross income for United States tax purposes with the exception of capital gains, there being no Australian income or similar tax on capital gains. "Allowable deductions" may be classified into general and concessional deductions, the former comprising principally business expenditures while the latter arise as a consequence of a taxpayer's personal status or needs, location in Australia or domestic responsibilities.[4]

One significant difference from United States tax law is that all royalties are specifically deemed to be income receipts, even though on a conceptual analysis they might be considered as being capital items.[5] However, the converse is not necessarily true and a royalty payment may well be a nondeductible capital expenditure on the part of the payor.[6]

Residence

Residence is a concept of considerable significance since it may determine not only basic liability to Australian income tax,[7] but also the rate of tax payable,[8] the appropriate method of tax collection,[9]

[2] The basic test was propounded by Chief Justice Jordan of the New South Wales Supreme Court in Scott v. C. of T. (N.S.W.) (1935) S.R. (N.S.W.) 215 (at page 219) as being whether a receipt is income by the "ordinary concepts and usages of mankind."

[3] Income Tax and Social Services Contribution Assessment Act 1936-1963 (hereinafter referred to as "the Act"), Sections 6 and 48.

[4] The Act, Section 48 *et seq.*

[5] The Act, Section 26 (f), and see McCauley v. F.C. of T. (1944) 69 C.L.R. 235. cf. Minister of National Revenue v. Spooner, A.C. 684.

[6] See Colonial Mutual Life Assurance Society Ltd. v. F.C. of T. (1953) 89 C.L.R. 428.

[7] The Act, Sections 25 (l) and 23 (r).

[8] See p. 10 *post.* It affects only the rate of tax imposed on certain corporate dividend income.

[9] The Act, Sections 219, 255 and 226.

entitlement to concessional deductions,[10] and the scope of protection afforded by the Double Taxation Conventions to which Australia is a signatory.[11]

An individual will be taxed as an Australian resident if he is in fact resident there by ordinary legal standards.[12] In Australia, the general legal concept of residence is to be distinguished from that of domicile, which may be governed by place of birth, operation of law, or secured by choice, but is not necessarily dependent on having an actual residence in the place of domicile. Residence, on the other hand, turns solely on the existence of an actual home or place of abode in the relevant jurisdiction.[13]

In addition, an Australian domiciliary will be treated as an Australian resident for tax purposes, even if he has currently no actual residence in Australia, unless he can satisfy the Commissioner of Taxation that he has his permanent place of abode outside Australia.[14] A taxpayer will also be taxed as an Australian resident if he is actually in Australia for more than one-half of the tax year, unless he can satisfy the Commissioner that his usual place of abode is outside Australia and that he does not intend to take up residence there.[15]

A company will be resident in Australia for tax purposes if it is incorporated in Australia, if its central management and control is located within the country, or if it carries on business in Australia and has its voting power controlled by shareholders who are Australian residents.[16] The prime but not the only criterion for determining the central management or control of a company is the situs of its directors' meetings.[17] However, if real management and control is not exercised by the directors at their meetings, or if it is in fact shared with other individuals or corporate organs, then the situs of the directors' meetings will not in itself be decisive. The test to be applied is, in essence, one

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[10] Section 82A of the Act limits concessional deductions to residents of Australia, including residents of certain external territories.

[11] See p. 30 *post.*

[12] The Act, Section 6 (1) and see Gregory v. D.F.C. of T. (1937) 57 C.L.R. 774.

[13] See Davies and Jones v. Western Australia (1904) 2 C.L.R. 29; Udny v. Udny (1869) L.R. 1 H.L. Sc. 441; 9 C.T.B.R. Case 64.

[14] The Act, Section 6 (1).

[15] *Ibid.*

[16] *Id.* and see Malayan Shipping Company Limited v. Federal Commissioner of Taxation (1946) 71 C.L.R. 156.

[17] See De Beers Consolidated Mines Co. Ltd. v. Howe (1906) A.C. 455; John Hood & Co. v. Magee (1918) 7 T.C. 327; North Australian Pastoral Co. Ltd. v. F.C. of T. (1946) 71 C.L.R. 623.

which looks to the locus of the "voice" which controls the company's business.[18]

Income Source

An Australian resident (as above defined) is subject to Australian income tax on his world-wide income, with certain exceptions, while a nonresident is subject to tax only on Australian source income.[19] For this reason, the concept of income source is of particular significance to nonresidents.

In a watershed case, Isaacs J. of the High Court said of the word "source," when used in a statutory context very similar to that of the present Commonwealth Income Tax legislation, that it "meant, not a legal concept, but something which a practical man would regard as a real source of income . . . the ascertainment of the actual source of a given income is a practical, hard matter of fact."[20] Despite frequent reiteration of this statement, the Australian courts have perhaps proved to be more influenced by conceptual legal criteria than have their United States counterparts when determining income source.

In general, it may be said that earnings derived from the rendering of services will be allocated to Australian source if the services are actually rendered in Australia, while income derived from the systematic exploitation, renting or licensing of property located in Australia will normally be said to have an Australian source as a matter of course.[21] In some other cases the place of making of a particular contract may influence the source of the income to which it gives rise, and the place of receipt of the income may also be a relevant factor. (Obviously, other rules may apply in areas, e.g. that of mercantile profits, dividends and interest, outside the scope of this article.) These are, of course, broad generalizations, and as such are subject to many exceptions and modifications in particular cases. Their particular application in the present area of inquiry will be further developed in this article.

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[18] Unit Construction Co. Ltd. v. Bullock (1960) A.C. 351; Koitaki Para Rubber Estates Ltd. v. F.C. of T. (1940) 64 C.L.R. 241, and North Australian Pastoral Co. Ltd. v. F.C. of T., *supra*.

[19] The Act, Section 25 (1) and 23 (r).

[20] Nathan v. F. C. of T. (1918) 25 C.L.R. 183 at pp. 189-190. See also Rhodesia Metals Ltd. (In Liq.) v. Taxes Commissioner (Southern Rhodesia) (1940) A.C. 774, and C. of T. (N.S.W.) v. Cam & Sons Ltd. (1936) 36 S.R. (N.S.W.) 544.

[21] See F.C. of T. v. United Aircraft Corporation (1943) 68 C.L.R. 525; Curtis Brown Ltd. v. Jarvis (1929) 14 T.C. 744; F.C. of T. v. French (1957) 98 C.L.R. 398; 13 T.B.R.D. Case No. N36.

Tax Classification of Companies

Since the great majority of foreign licensors and owners of Australian industrial property and like rights are undoubtedly corporations, it may be convenient at this stage to refer briefly to a distinction adopted in Australian income tax law between so-called "private" and "public" companies.[22] This distinction is only incidentally related to that adopted for Australian Company Law purposes between public and proprietary companies and a company's status for corporate law purposes does not necessarily give any accurate indication of its tax status.

The distinction between the two classes of companies is important, since, not only are differing rates of tax imposed on the two types of companies, but, in addition, an undistributed profits tax is imposed on certain private companies if they fail to make a sufficient distribution of their after-tax income.[23] No undistributed profits or similar tax is imposed on public companies.

In brief, a private company, whether resident or not, is a company in which, on the last day of the tax year, all of the shares are held by twenty or fewer persons and which is capable of being controlled by seven or fewer persons (the concept of control being spelt out by explicit statutory criteria),[24] unless:

i) it is a company in which the public is substantially interested, or

ii) it is a subsidiary of a public company, or

iii) it is unreasonable that it be so treated.

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[22] The Act, Part III, Division 7.

[23] *Id.* Section 104 (1).

[24] A company will be one capable of control by seven or fewer persons, the word "person" including a company, if they:

i) are capable of exercising more than half of the voting power, or

ii) hold more than half of its paid-up capital, other than capital comprised of shares having a fixed dividend rate only, or

iii) are capable of exercising three-quarters or more of the voting power, or

iv) hold shares comprising three-quarters or more of its paid-up capital, other than capital represented by shares bearing a fixed dividend rate only, or

v) are capable of controlling the company by any means whatsoever, the word "control" here referring to shareholding control in the sense of being able to secure the passage of a resolution at a general meeting of the company.

(See F.C. of T. v. Sidney Williams (Holdings) Ltd. (1957) 100 C.L.R. 95) For the purposes of tests (*i*) and (*ii*) above, a person and his nominees are deemed to be one person (the Act, Section 105 (2)), while for the purposes of tests (*iii*) and (*iv*) a person as well as his nominees and certain relatives are deemed to be one person (the Act, Section 105 (3)).

Dealing with each of these exceptions in turn:

i) A company is a company in which the public is substantially interested if, generally, shares of the company have, in the current fiscal year, been quoted on the official list of a stock exchange, unless shares carrying not less than three-quarters of the voting power in the company are, at the end of each fiscal year, beneficially held by or for twenty or fewer persons.

ii) A company is a subsidiary of a public company, if, by reason of beneficial ownership of the shares, the control of the company is in the hands of one or more companies, none of which is a private company.[25]

iii) If it can be established, to the satisfaction of the Commissioner, that, because of special circumstances existing as of the last day of the year of income, it is unreasonable to treat a company as a private company then it will not be so treated. The operation of this exemption is, of course, dependent on a favorable exercise of his discretion by the Commissioner and such exemptions are not lightly given.

Any company which is not a private company is a public company.

THE UNDISTRIBUTED PROFITS TAX AND THE NONRESIDENT COMPANY

As previously mentioned, an undistributed profits tax is imposed on certain private companies if they fail to make a sufficient distribution of their after-tax income.[26] This tax, which is imposed at a flat rate (currently 50%) on so much of a company's undistributed after-tax income as exceeds fixed maximum percentages, is levied in addition to the normal income tax which is otherwise payable by the company.[27] The undistributed profits tax is imposed on a nonresident private company only if it has a branch or head office in Australia, in which event all of its Australian source income is brought into account in determining whether a sufficient dividend distribution has been made to avoid the tax.[28] Since the computation of the undistributed amount on which the tax is imposed is based on a company's taxable income, and since, in the case of a nonresident company, its taxable income will include only Australian source income, such a company's

[25] If one or more public companies are capable, as a matter of shareholding power, of controlling a particular company, then that company will be public despite the fact that such control is not actually exercised. See Adelaide Stevedoring Co. Limited v. Federal Commissioner of Taxation (1961) 8 A.I.T.R. 440.

[26] The Act, Section 104 (1).

[27] The Act, Sections 103, 104 (1), 105 (A) and 105 (B), and Income Tax and Social Services Contribution Act 1961-1963, Sixth Schedule Section (3) (c).

[28] The Act, Section 104 (1).

foreign source income is not taken into account in determining its distributable income and hence whether it has made a sufficient distribution.[29]

Rates of Tax

Although special tax rates are imposed in some circumstances upon dividends and interest received by nonresidents, no special rates of tax are imposed on taxable income of the type with which we are concerned which is derived by a nonresident.

The Double Taxation Conventions with the United States, the United Kingdom, Canada, and New Zealand do not in any way affect the rate of Australian tax payable by residents of these countries on taxable income, other than dividends, but do operate to exempt certain income from tax.[30] The rates of tax currently payable by individual taxpayers range from zero on an income of less than £100 ($225) per annum up to a maximum of 66.66% on taxable income in excess of £16,000 per annum.[31] The present rates of tax imposed on corporate income of the type with which we are concerned are as follows:[32]

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[29] As explained earlier, a nonresident's assessable income and hence his taxable income includes only Australian source income. The procedure for arriving at the amount subject to the undistributed profits tax is as follows, bearing in mind that the tax is imposed on the "undistributed amount" of the company's income:

i) "Distributable Income" = Taxable Income—(Commonwealth and any State and Foreign Income Taxes + Net Foreign Trading Losses).

ii) "Reduced Distributable Income" = Distributable Income—Income from Property.

iii) "Retention Allowance" = A sliding percentage (see table below) of the Reduced Distributable Income + 10% of the Taxable Income from Property (except dividends from other private companies for which no retention allowance is granted).

iv) "Undistributed Amount" = Distributable Income—(Retention Allowance + Dividends Paid).

It should be noted that although the taxable income of a nonresident company will only include its Australian source income, it may pay dividends out of other income and still bring such dividends into account when ascertaining whether it has made a sufficient distribution.

Retention Allowance Table
For Income other than that derived from Property

Reduced Distributable Income	Retention Allowance
First £5,000 ($11,250)	50%
Second £5,000	45%
Amount exceeding £10,000 ($22,500)	40%

[30] See p. 30, *post.*

[31] Income Tax and Social Services Contribution Act 1961-1963 First Schedule.

[32] *Id.,* Sixth Schedule.

Type of Company and Quantum of Income	*Rate*
Resident public companies on first £5,000 ($11,250) of taxable income	35%
Resident public companies on the balance of the taxable income over £5,000	40%
Nonresident public companies on the balance of first £5,000 of taxable income after subtracting taxable dividend income therefrom	35%
Nonresident public companies on all taxable income over £5,000	40%
Resident and nonresident private companies on first £5,000 of taxable income	25%
Resident and nonresident private companies on balance of taxable income over £5,000	35%

Special Problems of Nonresident Licensors and Owners

Australian or Foreign Source Income?

To reiterate, a nonresident is only liable to Australian income tax on Australian source income and the problem of source allocation is, therefore, a major one.

In this area it is possible to make several dogmatic assertions. Thus, we may confidently assert that receipts directly derived by a nonresident proprietor or licensor from the licensing, sublicensing or sale for a royalty, of patents, designs, trademarks, and copyrights registered in Australia will definitely have an Australian source.[33]

An interesting example of the application of this principle was recently provided by a Commonwealth Taxation Board of Review decision.[34] A nonresident owner of certain inventions patented in Australia granted an exclusive license not registered under the Patents Act 1952 to a nonresident company which in turn granted an unregistered sublicense to an Australian resident. The Board held that royalties paid to the nonresident company were derived from an Australian source despite the fact that neither the head license nor the sublicense was registered in Australia and that the agreement was executed, and the royalty payments made, outside Australia. The decision seems an eminently sensible one, but is contrary to a view formerly held by many in Australia and is currently being appealed.[35]

One may also assert dogmatically that an agreement by a nonresident to render technical services completely outside Australia will not give rise to Australian source receipts, especially if the agreement is concluded abroad and payments are received outside the country.[36] Until

[33] See Curtis Brown Ltd. v. Jarvis (1929) 14 T.C. 744; (1958) 9 T.B.R.D. Case J22.

[34] 13 T.B.R.D. Case No. N36.

[35] But see George Kent Ltd. v. C. of T. (N.S.W.) (1943) 2 A.I.T.R.

[36] See United Aircraft Corporation v. F.C. of T. (1943) 68 C.L.R. 525 discussed *infra*.

recent years it was possible to be equally dogmatic as to a license of unpatented or unregistered inventions, processes, formulae and the like, and confidently to classify such licenses for Australian tax purposes as in fact no more than agreements to provide technical services which, if the above rules were observed, would not give rise to Australian source income. Now, however, as a consequence of some of the judgments given in the English Courts in *Evans Medical Supplies Ltd. v. Moriarty*,[37] it is no longer possible to be quite so cavalier.

In the twenty year old case of *United Aircraft Corporation v. F.C. of T.*,[38] the High Court of Australia held, by a two-to-one majority, that a license to use unpatented technical data granted by a United States licensor to an Australian company did not give rise to Australian source income where the agreement was concluded and royalty payments made in the United States and the technical data was communicated principally by depositing written materials in the mail in New York City, even though the quantum of royalties payable was determined by reference to production in Australia. The reasoning of Latham C. J., in particular, rested largely on the premises that there could be no legal property in unpatented inventions, whether secret or otherwise, and that income could be derived only from acts done or from the ownership of property.[39] Basing his reasoning on these two premises, he concluded that since the data licensed did not constitute property in a legal sense, the agreement in fact amounted to a contract to communicate information which, being communicated outside Australia, could not give rise to Australian source income, especially when the relevant agreement was executed and payments made in the United States. The decision of Rich J. in the other majority opinion rested on somewhat different grounds and utilized a balance of contacts approach, looking less to purely legal concept and reasoning and more to the practical hard matter of fact, case by case, approach enunciated in other cases.[40]

Some of the views of Latham C. J. would appear to be in conflict with those enunciated by Viscount Simonds of the English House of Lords in *Evans Medical Supplies Ltd. v. Moriarty* in so far as secret matter is concerned. Viscount Simonds, in a speech concurred in by one other member of the House of Lords,[41] adopted the view that secret processes and formulae can in fact constitute property in a legal

[37] (1957) 1 All E.R. 336 (C.A.), (1957) 3 All E.R. 718 (H.L.).
[38] (1943) 68 C.L.R. 525.
[39] *Id.*, at p. 536.
[40] *Id.*, at p. 539.
[41] Lord Tucker.

sense, his opinion in this regard actually bearing a striking similarity to the dissenting judgment of Williams J. in the *United Aircraft* case. Thus, for instance, Viscount Simonds remarked that "it is manifest that a secret process . . . is something which can be disposed of for value and that, by imparting the secret to another, its owner does something which could not fairly be described as 'rendering a service.' " He also held that the particular taxpayer in the case had "parted with its property for a purchase price, and when I say its property, I mean . . . a capital asset. In this respect I see no difference between a patent and a secret process."

Williams J. in his dissenting judgment[42] in the *United Aircraft* case adopted a view as to the nature of secret processes and inventions quite compatible with the views expressed by Viscount Simonds and others in *Evans Medical Supplies Ltd. v. Moriarty.* In his view, a secret process or invention in fact constitutes property, and a license to use it amounts to something more than a mere agreement to make disclosure. Having arrived at the view that such a license was indeed a license to use property, he then examined the question as to whether incorporeal property of this type could be said to have a situs and concluded, on the basis of an earlier English House of Lords' decision relating to goodwill,[43] that it could, especially if assigned such a situs by the parties themselves in their contractual arrangements. His Honour pointed out that in the particular agreement in issue, the parties had acted upon the assumption that a license was necessary to use the relevant inventions in Australia and had expressly limited the right of use to Australia and New Zealand. He therefore concluded that the agreement was in fact a license to use industrial property in Australia, which gave rise to Australian source income in the same way as would a lease of personal property to be used in Australia.

The recent English case of *Rolls-Royce Ltd. v. Jeffrey,*[44] and more particularly the judgments rendered in the Court of Appeal, would seem to indicate that a distinction is to be drawn between secret processes and formulae property so-called, and mere "transient by-products of advanced engineering science" which is "ever growing, ever changing."[45] It would appear that the less secret types of technical data and know-how are not property and that a purported license to use

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[42] (1943) 68 C.L.R. 525 at 540.

[43] Commissioners of Inland Revenue v. Muller & Co's. Margarine Ltd. 1901 A.C. 217.

[44] (1962) 1 All E.R. 801 (H.L.); (1961) 2 All E.R. 469 (C.A.).

[45] *Per* Holyroyd Pearce L.J. (1961) 2 All E.R. 469 at p. 474.

them is in fact simply an agreement to communicate or impart knowledge.

In sum, the theoretical position as to the source of royalties paid to a nonresident in respect of a license to use secret processes, formulae, and inventions in Australia remains obscure. The Australian Taxation Commissioner may well continue to apply the *United Aircraft* decision even in respect of such licenses, especially since the decision in *Evans Medical Supplies Ltd. v. Moriarty* is a confused one from which it is difficult to extract a *ratio decidendi* of broad application, a fact which has been given judicial recognition in England.[46] Moreover, the precise issue raised in the English cases related not to income source, but instead to the question of whether particular receipts constituted capital or income items.[47]

If a United States licensor desires to avoid Australian income tax on such royalties, he would be well advised to stress the service aspect in the relevant agreement (assuming such services are supplied from outside Australia) and to minimize or otherwise express the secrecy aspects. Even slight differences in contractual terminology may be of considerable practical assistance in this regard.

A source allocation problem will frequently be encountered by United States residents when registered Australian industrial or artistic property is licensed and the licensor also agrees, either in the same or different agreements, to license unregistered technical data and know-how or to provide technical services to the licensee from outside Australia. In these circumstances, considerable difficulty may be experienced in allocating territorially the resultant income and expenses for both United States and Australian tax purposes. A U. S. foreign tax credit may well be granted for only a portion of the Australian taxes assessed because the U. S. tax authorities may allocate a smaller proportion of the income to Australian sources than the Australian Tax Commissioner.[48] Similar problems may arise in the allocation of expenses.

If the one agreement encompasses both a license to use registered Australian industrial or artistic property and a contract to provide information or services which, on a *United Aircraft* analysis, would be free of Australian tax (because supplied from outside Australia), the Australian Tax Commissioner may seek to allocate all or most of the income to Australian sources.

If the information and services provided are clearly subservient to

[46] *Id.* at p. 471.
[47] See p. 22 *post.*
[48] See Section 904 (a) of Internal Revenue Code of 1954 (as amended).

the registered Australian industrial or artistic property (e.g. explanations as to the method of use of a patented invention), then the Taxation Commissioner is probably justified in allocating all of the resulting income to an Australian source and taxing it accordingly. If, however, the Commissioner seeks to allocate part only of the income to Australian sources when the parties themselves have contracted for a single indivisible royalty or fee payment, then the position is not so clear.[49]

In other cases, the parties themselves may allocate payments so as to distinguish between income sources, either by entering into two distinct agreements or by a specific allocation within a single agreement, or by executing one agreement confining itself to technical services and unregistered information and data (supplied from outside Australia) while the nonresident *de facto* allows the other party to use a particular Australian patent, design, copyright, or trademark without formal agreement. In such cases, the Commissioner may seek to reallocate a portion or all of the royalties or fees paid for the use by the licensee of the registered industrial or artistic property and to tax the nonresident accordingly. If the parties are related and one is an Australian resident while the other is a resident of one of the countries with which Australia has a Double Taxation Convention, then the Commissioner could conceivably seek to apply a provision which, with some variations, appears in each of the Conventions to which Australia

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[49] The provisions of Sections 25 (l) and 23 (r) of the Act provide respectively that a nonresident is to be taxed on Australian source income and he is not to be taxed on income derived from sources wholly outside Australia. These two Sections have not been specifically judicially interpreted in the context of allocating otherwise indivisible items of income between Australian and ex-Australian sources. However, the present Chief Justice of the High Court, Dixon C.J., would seem to have regarded source allocation in such a case as improper, in the absence of express statutory authorization (see Hillsdon Watts Ltd. v. C. of T. (N.S.W.) (1937) 57 C.L.R. 36 at pp. 51-52. The same Judge in a case concerning Section 23 (q) of the Act, which exempts from tax income derived from sources outside of Australia where that income is not exempt from tax in its country of derivation, expressly reserved the question as to whether apportionment was ever possible in the particular statutory context there being considered (F. C. of T. v. French (1957) 98 C.L.R. 398). On the other hand, in the same case, Williams and Taylor JJ. specifically affirmed the principle of apportionment (See also C. of T. v. Cam & Sons Ltd. (1936) 36 S.R. (N.S.W.) 554).

Section 42 of the Act provides that the Commissioner may make regulations as to the allocation of the whole or any part (and, if a part, what part) of any profit derived by a person from sources in Australia. However, no such regulations have ever been made and it is in any event an open question as to whether this Section should not be confined to the case of a sale of goods since it occurs in and is by its terms directly related to the other sections of a special Division of the Act dealing with this topic.

is a party and which is designed to impose an arm's length standard on transactions between related parties.[50] In addition, in an extremely gross case, the Commissioner may try to apply a general tax avoidance provision of the principal Australian Income Tax Act which is essentially an annihilating section (see *infra*).

Similar problems may also arise when a license to use industrial property registered in Australia is granted by one nonresident legal entity and another agreement with the same licensee is entered into by an entity related to the first licensor providing for the rendering of technical services or the licensing of technical data in a fashion which does not give rise to Australian source income. In such a case, the Commissioner's power to reallocate income from the tax-free arrangement to the taxable license would seem even more conjectural than when the two agreements run between the same parties, unless the arrangement is so transparent as to attract the annihilating provision.

In cases where it is obvious that the parties have adopted particular arrangements solely or primarily to avoid taxation of the nonresident party, or to minimize to an exaggerated extent his Australian tax liability, then the Commissioner may seek to apply Section 260 of the Act. This is an annihilating Section which allows the Commissioner to void, as against himself, all contracts, agreements or arrangements which have or purport to have the purpose or effect of in any way directly or indirectly altering the incidence of any income tax or, *inter alia,* defeating, evading or avoiding any duty or liability imposed on any person by the principal Income Tax Act, or preventing the operation of that Act in any respect. This section for the most part can only be applied in the grossest cases.[51] Its applicability to the type

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[50] See Article IV of the Double Taxation Convention with the United Kingdom, the United States, Canada, and New Zealand. However, Article IV of the Convention with the United States differs from the others in that there is no specific authorization for deeming profits of a United States enterprise attributed to it pursuant to the Article to be income derived from Australian sources and hence taxable by Australia—cf. Article IV (2) of the other Treaties. These Conventions form part of domestic Australian income tax law by virtue of their forming Schedules to the Income Tax (International Agreements) Act 1953-1960.

[51] Needless to say, a section of such extraordinary breadth as this one, which, if read literally, would allow the Commissioner to disregard almost any business transaction since very few transactions do not have some effect on the incidence of income tax, has been the subject of a flurry of litigation in recent years as the ingenuity of Australian professional tax advisors has developed. The Section has not yet been applied in any reported case to the type of transaction with which we are concerned. For the leading case on the Section, and an example of the confusion to which it gives rise, see Newton v. F.C. of T. (1958) 98 C.L.R. 1.

of license situation with which we are presently concerned has not been tested in the courts and it would seem most unlikely that it could be applied except in the most flagrant circumstances.

If a nonresident owner of Australian patents, trademarks, copyrights, or designs does not license them or sell them on a royalty basis, but instead sells them outright for a fixed sum, then he will probably not derive Australian source income if the relevant agreements and payments are made outside Australia. An exception will perhaps be made if the industrial or artistic property disposed of was developed in Australia (e.g. by composing a particular literary or other copyrighted work in Australia or developing a particular patented invention there),[52] or if the particular sale in question forms part of a pattern of trafficing in Australian industrial and artistic property or like rights.[53]

Capital Gain or Assessable Income?

Having determined that a particular receipt derived by a nonresident has an Australian source, it is then necessary to determine whether or not it is a capital or income receipt and hence excluded from or included in the recipient's assessable income.

The general conceptual approach adopted by the Australian Courts is expressed in the statement by Dixon J. in *Sun Newspapers Ltd. v. F.C. of T.* that "the distinction between expenditure and outgoing on revenue account and on capital account corresponds with the distinction between the business entity structure or organization set up or established for the earning of profit and the process by which such an organization operates to obtain regular returns by means of regular outlay, the difference between the outlay and the returns representing profit or loss."[54] The type of analysis here suggested has been adopted in the Australian cases both in seeking to ascertain the character of the receipt on the one hand or an outgoing on the other, but its application to actual cases is often difficult. The application of similar tests in the United Kingdom has evoked an exasperated judicial comparison to the "spin of a coin."[55]

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[52] See the South African case of Millin v. I. R. Commr. (1928) 3 S.A.T.C. 170 and the Commissioner's decision referred to in *Gunn's Commonwealth Income Tax Law and Practise,* (7th ed.) para. 931.

[53] Rhodesia Metals Ltd. (in liq.) v. Taxes Commr. (Southern Rhodesia) (1940) A.C. 774.

[54] (1938) 61 C.L.R. 337 at pp. 359-360.

[55] *Per* Sir Wilfred Green in I.A. Commrs. v. British Salsmon Aero Engines Ltd. (1938) 2 K.B. 482 at p. 498.

As has already been noted amounts received as or by way of royalty are specifically deemed to be assessable income (e.g. revenue items) for Australian income tax purposes, regardless of whether or not they arise from the disposal of a capital asset.[56] It has been said that it is inherent in the conception of "royalty" as used in the Australian Income Tax Act that "the payments should be made in respect of the particular exercise of the right . . . and, therefore, should be calculated either in respect of the quantity or value taken on the occasions upon which the right is exercised."[57] In other words, a receipt will be said to be a royalty if its quantum varies with the use or exploitation of the right granted.

If particular industrial property or like rights are licensed or disposed of for a lump sum or a fixed sum payable by installments rather than for royalties, it is necessary to determine in each case whether the amounts so received constitute income or capital receipts. In this regard, the Australian case law is sparse and reference must be made to the English case law.[58] For the most part, the applicable tests are:

1) Whether the particular property right being disposed of was acquired for the purposes of its disposal at a profit or whether its disposal forms part of a profit making scheme, undertaking, business, or vocation.[59]
2) Whether the transaction in fact amounts to disposal of a property or similar right, or whether it is in fact an agreement to render services or communicate information not involving secret processes, formulae, or inventions.[60]
3) Whether, in the case of a disposition of the right to use know-how, all or part of the consideration granted by the vendor can be viewed negatively as a restrictive covenant. Many so-called sales of know-how can be viewed as being wholly or in part a covenant not to compete. It is clear law that a covenant not to compete, if given for a lump sum or fixed or definable

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[56] The Act, Section 26 (f).

[57] *Per* Dixon C. J., Williams, Webb, Fullagar and Kitto JJ. in Stanton v. F.C. of T. (1955) 92 C.L.R. 630; see also A. G. for Ontario v. Mercer (1883) 8 App. Cas. 767; Re Graydon (1896) 1 Q.B. 417 and Nethersole v. Withers (1948) 28 T.C. 501; and Pacific Coal Co. Pty. Ltd. v. Perpetual Trustee Co. Ltd. (1954) 91 C.L.R. 486.

[58] An analysis of English taxation of the foreign licensor will appear in a later edition of the *Journal.*

[59] The Act, Section 26 (a), and see Rolls-Royce Ltd. v. Jeffrey (1961) 2 All E.R. 469 (C.A.) and (1962) 1 All E.R. 801 (H.L.).

[60] See p. 11 *et seq., supra* and in particular the cases of Evans Medical Supplies Ltd. v. Moriarty and Rolls-Royce Ltd. v. Jeffrey there discussed.

amount payable in installments, may constitute a capital receipt.[61] Thus such a sale may in fact consist of two elements, a covenant to provide "know-how," which on an Australian tax analysis will probably be treated as a contract to perform services or to communicate information,[62] coupled with a covenant not to compete, the granting of which may give rise to a capital receipt.[63]

The Problem of Deductibility

For Australian income tax purposes, losses, and outgoings are deductible to the extent to which they are incurred in gaining or producing assessable income or are necessarily incurred in carrying on a business for the purpose of gaining or producing such income, unless they are of a capital, private or domestic nature.[64] These provisions apply in the case of a foreign licensor or recipient of Australian source income derived from the sale or exploitation of industrial property rights in the same way as with any other taxpayer. But it will be noted that since assessable income in the case of a nonresident includes only income derived from an Australian source,[65] the losses and outgoings will be deductible only to the extent to which they are incurred in producing Australian source income or in carrying on a business for the purpose of producing such Australian source income. Obviously difficult allocation problems can arise, especially in the case of know-how and similar licenses, and for this reason if for no other it is generally desirable to avoid the incidence of Australian income tax on such receipts in so far as is possible. In the case of know-how licenses and technical service agreements, this is not usually a very difficult matter under present Australian tax law.[66]

The question of whether a particular outgoing is a capital or revenue item is one which frequently troubles both Australian residents and nonresidents in the type of situation with which we are involved. The nonresident may be immediately concerned with the deductibility of some item which is clearly referable to his Australian source income. He may also be concerned with the extent to which an amount paid

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[61] Margerison v. Tyresoles Ltd. (1942) 25 T.C. 29; Higgs v. Sir Laurence Olivier (1951) Ch. 899, Dickenson v. F.C. of T. (1958) 98 C.L.R. 460; (1957) 7 T.B.R.D. case G82.

[62] See p. 12, *supra.*

[63] See also Musker v. General Electric Co. (1962) T.R. 199.

[64] The Act, Section 51 (1).

[65] *Id.,* Section 23 (r) and 25 (1).

[66] See p. 12 *et seq., supra.*

to him will be deductible on the part of the Australian resident payor, since this may affect the type of arrangement to which the resident party will agree or, if the two parties are related, may affect the overall tax position of the nonresident.

Since the resident will be liable to Australian tax on his world-wide income, with the exception of certain exempt income, the expense if it is a revenue item will in most cases be deductible unless it happens to relate to the production of income which is exempt from Australian tax in his hands.[67] A determination of whether an outgoing is a capital or a revenue item will therefore conclude the issue of deductibility in most cases for a resident taxpayer. The rules for distinguishing capital from revenue outgoings are intimately connected with, and no clearer than, those applied to distinguish between capital gains and assessable income. The same type of approach may be adapted to both questions in many cases. However, it is self evident that the character of a particular receipt in the hands of its recipient will not necessarily be decisive of its character as an outgoing on the part of the payor. Thus, for instance, it is obvious that a manufacturer of a commercial refrigerator will take the purchase price received into his assessable income while the corner grocery store which purchases it will have to treat it as a capital expense, and hence not deductible.

In the area with which we are concerned, the situation may arise in which a royalty paid by an Australian resident will be assessable income in the hands of its nonresident recipient, and yet will not be deductible by the resident party because it represents a capital outgoing. While there is an express statutory provision that specifically deems all royalties to be income receipts,[68] there exists no comparable specific provision rendering a royalty automatically a deductible revenue item.

The legal or equitable proprietor or licensee of registered Australian patents, copyrights or designs is, however, permitted to amortize capital expenditures made in acquiring such rights or, in the case of an original owner, directly incurred in relation to inventing or producing the protected invention, work or design.[69] In addition, a taxpayer who acquires such industrial or artistic property by virtue of a disposal by the previous owner otherwise than for valuable consideration will be

[67] E.G. by being not exempt from tax in some foreign country where it has its source. (See the Act, Section 23 (q).)

[68] See Colonial Mutual Life Assurance Society Ltd. v. F.C. of T. (1946) 73 C.L.R. 604.

[69] The Act, Section 124K *et seq.*

allowed an amortization deduction if the assignor was, or would have been, entitled to a similar deduction.[70]

No provision is made for the amortization of expenditures made in acquiring or developing trademarks or foreign patents, copyrights or designs, or made in acquiring or developing unregistered industrial rights such as unpatented secret processes, formulae, inventions, technical data and know-how. Moreover, the statutory method prescribed for calculating an amortization deduction would seem to preclude the possibility of amortizing royalties paid to acquire such rights, even though such royalties might be considered capital expenditures and therefore not deductible by the payor.

The method of amortization is simple, being determined each year by dividing the residual value of the industrial property right concerned (e.g. its cost less the sum of past amortization deductions taken) by the number of years in its remaining effective life.[71] In the case of a taxpayer who has acquired a right other than for valuable consideration, the residual value is determined by reference to the residual value at the time of acquisition in the hands of the person from whom the right was acquired, unless part only of the rights held by the previous owner was so acquired, in which case the Commissioner of Taxation is given power to determine the residual value.[72]

Provisions complementary to those outlined above provide for an accrual to a taxpayer of taxable income if he disposes of an amortized industrial property right at a price in excess of its residual value, the taxable income so derived being limited to the sum of the previous deductions taken by the taxpayer in respect of the right.[73] As a necessary corollary, a deduction is granted in the event of its disposal at a price less than its residual value.[74]

Other provisions allow the Taxation Commissioner to allocate part of a particular purchase price to amortizable industrial rights if these are purchased together with other assets and no separate price is allocated by the parties to the industrial property so purchased, and to disregard such part of any purchase price paid for such property as he may deem excessive.[75]

Of particular interest to nonresidents is a provision which allows the Commissioner to reduce amortization deductions which would

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[70] *Id.*, Section 124L (1) (c).
[71] *Id.*, Section 124 S and 124M.
[72] *Id.*, Section 124R.
[73] *Id.*, Section 124P.
[74] *Id.*, Section 124N.
[75] *Id.*, Section 124R.

otherwise accrue to the benefit of the owner of an industrial right if he has obtained benefits from a related right exercised outside Australia, the reduction being made by reference to the overseas benefit so derived.[76]

The above summary of the amortization provisions is by no means exhaustive. Of secondary importance are a number of other provisions contained in the Act dealing with special situations and providing for coordination with other sections. These provisions endeavour to close off techniques which taxpayers have devised in the past to secure advantages from the amortization sections not intended by the legislation.

Finally, it should be mentioned in passing that the Commissioner has on occasions attempted to use Section 51 of the Act (the section governing deduction of business expenses) as a means of attacking tax avoidance arrangements.[77] He has not been particularly successful in this regard except where a payment was quite obviously not made for a business purpose, but was instead of a private or domestic nature. In particular, his efforts to use the section to disallow otherwise justifiable business expenditures on the ground that they are excessive have met with little success.[78]

Assessment and Collection of Tax from Nonresidents

No special withholding or other tax is imposed upon income of the type with which we are concerned. However, the Act makes general provision for the collection of tax due from nonresidents and special provision for collection of the tax due in respect of royalties.

In the case of royalties, the payor, who need not necessarily be a resident,[79] is required to furnish a statement to the Commissioner of the royalty due before making payment. He is then required to retain the tax assessed by the Commissioner from the royalty payment, and if he fails to do so is personally liable.[80]

With other types of payment, the payor who again need not necessarily be a resident,[81] is required to pay the tax due by the nonresident only when required to do so by the Commissioner, e.g. after the Commissioner has made an assessment. However, the payor is again personally liable for the tax payable by him on behalf of the nonresident, being given statutory authority to retain sufficient amounts for this

[76] *Id.*, Section 124Z.

[77] For an example see Cecil Bros. v. F.C. of T. (1962) 8 A.I.T.R. 523.

[78] See the Cecil Bros. case cited immediately *supra.*

[79] The Act, Section 256 refers simply to a "person" making payment—not necessarily a resident "person."

[80] The Act, Sections 256 and 255.

[81] *Id.*, Section 255.

purpose and being indemnified for payments made to the Commissioner.[82]

The only difference between the provision applicable to royalties and the more general provision is, therefore, that in the case of royalty preliminary assessment must be made by the Commissioner before payment is made, while in the case of other receipts assessment may be made after payment, and the payor, if he is willing to take the risk of being subsequently liable after assessment, may make the payment in full if he believes that the nonresident will not be liable to Australian tax thereon.

In practice, if an agreement involving payment of royalties is concluded, it will generally be submitted to the Commissioner of Taxation for an informal ruling as to whether or not the nonresident will be liable for Australian tax thereon. For instance, in the case of a technical service agreement fulfilling the criteria laid down by the *United Aircraft* case,[83] the Commissioner should rule that the royalty will not be subject to Australian tax, and payments may then be made without deduction of tax. In the case of periodic payments other than royalties, the Commissioner will generally assess the nonresident directly and if payment is not made will then apply to the payor the general provisions of the Act allowing for what is, in effect, garnishment of any future sums due to the nonresident.[84]

Impact of Double Taxation Treaties

The Double Taxation Convention between Australia and the United States, like those with Canada and New Zealand, but unlike that with the United Kingdom, does not make any special provision for the tax treatment of royalties, other than certain copyright and mining royalties, except to exclude them from the class of "industrial and commercial profits" protected by the more general provisions of the Treaties.[85] The Convention with the United Kingdom on the other hand exempts from Australian income tax all royalties (with the exception of certain motion picture royalties) derived by residents of that country from Australian sources if paid as consideration for the use of, or for the right of using, copyrights, patents, designs, secret processes or formulae, trademarks, or other like property, unless the

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[82] *Ibid.*

[83] See p. 12 *et seq., supra.*

[84] The Act, Section 218.

[85] The definition of "industrial and commercial profits" contained in Article II (1) (n) and Article II (1) (k) respectively of the Conventions with the United States and Canada defines the term "industrial and commercial profits" so as to exclude royalties.

recipient has a permanent establishment in Australia or is not subject to tax in the United Kingdom.[86] The Conventions with the United States, Canada, and New Zealand do protect from Australian tax copyright royalties (other than motion picture royalties and, in the case of New Zealand, television royalties) derived from Australian sources by residents of these countries, provided the taxpayer in question does not have a permanent establishment in Australia.[87] It should be noted that, unlike the exemption granted by the United Kingdom Convention, the protection given to United States, Canadian, and New Zealand residents does not depend on their being subject to tax in their country of residence.[88]

There would seem to be no *a priori* reason why receipts, other than royalties, derived from the exploitation of industrial or artistic property or like rights by residents of any of the countries with which Australia has a Double Taxation Convention should not fall within the general class of "industrial and commercial profits" protected by the general provisions of the treaties, if the overall conditions prescribed by the particular Convention are otherwise fulfilled and if they are not classifiable as management charges or remuneration for personal services.[89]

Conclusion

The picture which Australia presents in this field is one of a country to which nonresident licensing of industrial property and similar arrangements are and have been for some time of great importance. It is a nation with a high standard of living and rapidly growing industrialization which itself does not have sufficient experience and resources to develop more than a fraction of the technology which its economy and social life demand. Its tax system as a whole, being of relatively recent origin, is reasonably straight-forward and its application in the area with which we have been concerned is fairly well defined vis-a-vis the more traditional types of industrial and artistic property, such as patents, copyrights, and trademarks. But, as with many other countries, the law is less well defined in relation to unregistered industrial and commercial technology of one type or another. The tax system probably also reflects, in its lack of discrimination against nonresidents in this area, a recognition of Australia's need for the fruits of foreign experience and talents.

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[86] See Article VII.

[87] See Article X of the Convention with the United States and Article IX of those with Canada and New Zealand.

[88] *Ibid.*

[89] See Article II (1) (i), Article II (1) (n), Article II (1) (k) and Article II(1)(h) of, respectively, the United Kingdom, United States, Canadian and New Zealand treaties.

Dominance of Sole Patentees In Computer-Related Technology

IRVING H. SIEGEL*

SUMMARY

SOLE INVENTORS ACCOUNT FOR A LARGER SHARE of patents than joint inventors in computer-related technology. This fact, observed also in other fields of technology, is demonstrated with special reference to IBM experience in the period January 1957-January 1964. A very simple formula is proposed for estimating the proportion of IBM patents contributed by 2,3,4, . . . inventors once the proportion for sole inventors is known. The proportions form a geometric progression and they add to the desired sum of one.

A WIDESPREAD PHENOMENON

IN THE ANALYSIS OF PATENTS for automatic data-processing and related equipment, components, and supplies, single inventors of record are encountered more frequently than combinations of two or more inventors. This statistical dominance of single inventors negates the impression created by publicized events marking success in collaborative activity—such as the award of the Nobel prize for physics in 1956 to three pioneers in transistor development at Bell Telephone Laboratories,[1] or the award of a patent for a compact computer system in 1963 to 21 employees (the largest number in U.S. patent annals) of the National Cash Register Company.[2]

The pattern observed in computer-related technology is also visible in other lines of manufacture. Indeed, as earlier papers by the present author show, sole patentees are still typical, rather than uncommon, in the modern industrial setting.[3]

The dominance of sole patentees may at first seem inconsistent with

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[1] Edgar Weinberg and Irving H. Siegel, "Development and Implications of the First Transistor Patents," *PTC J. Res. & Ed.*, Vol. 3, No. 4 (Winter 1959), pp. 392-397.

[2] *New York Times,* November 30, 1963 and January 4, 1964.

[3] Irving H. Siegel, "On Individual and Joint Patent Production," *PTC J. Res. & Ed,* Vol. 6. No. 2 (Summer 1962) pp. 241-260; "Persistence of the Sole Inventor," *ibid.,* Vol. 5, No. 2 (Summer 1961), pp. 144-149; and remarks by author, *ibid.,* Conference Number 1963, pp. 157-160.

the familiar finding that today's inventors are likely to be corporate employees and members of research and development teams. The two ideas, however, are not irreconcilable. Even in a group endeavor, one person may stand out for his critical contribution, and he may well press for differential recognition or reward. Since the unit of invention is somewhat arbitrary, a zealous specialist may plausibly seek recognition for his unique contribution without reference to the novelty or fate of the total group accomplishment. Indeed, in a company context, it would seem easier for a motivated individual to define and pursue acknowledgment of his special achievement than for an impermanent project team to agree on the partitioning of credit and seek a joint patent. To the extent that well-placed individuals fall heir to or acquire credit for group inventions to which they have not contributed decisively, a bias in favor of sole patentees surely exists. But, whatever the discounts that are deemed applicable, the dominance of sole inventors has to be reckoned as a significant phenomenon, rather than a statistical vagary.[4]

Looking ahead, we may confidently anticipate that sole patentees will remain prominent in future statistical tabulations for computer-related technology. The theater for invention will be greatly enlarged with the widening use of electronic data-processing systems (including so-called "peripheral equipment") in accounting and other clerical office activities, in decision-making by executives and managers, in engineering simulation and design, in factory and process control, in national defense, in space exploration, and in scientific research. Strong motivation for inventive activity is also provided by the interest of both equipment producers and users in faster, cheaper, more versatile, more flexible (e.g., modular), and more reliable information-processing systems. The pool of potential inventors is becoming much larger. It includes the technical staffs of the users as well as the scientists and engineers working under private and government auspices in such areas as solid-state physics, molecular electronics, cryogenics, superconductivity, microcircuitry, thin-film sandwich construction, thermoplastic recording, character recognition, and high-speed printing. The capacity of these scientists and engineers, moreover, increases with the growth of their experience and with the broadening of their technical horizons through professional communication and job change. In many of the research areas listed, as well as in equipment design and fabrication, abundant opportunity exists for individual accomplishment, even in an environment of teams.

[4] For additional remarks on this matter, see "On Individual and Joint Patent Production," cited in preceding footnote.

Statistical Evidence

The lists of "New Patents" provided by R. R. Skolnick in *Computers and Automation,* a monthly magazine, constitute a convenient source of information for this paper. The Patent Office's weekly *Gazette* furnishes the basic data for such lists. Of the patents cited by Skolnick in 1962 and 1963, about two-thirds are credited to one patentee, slightly more than a quarter to pairs of inventors, and roughly one-sixteenth to larger groups. A check made for an earlier year—1956, during which important settlements affecting computer-related patents were negotiated—disclosed a contribution of about three-quarters from sole inventors.

Since electronic computers and components are subsumed in the Patent Office's "electrical" category, a brief review was also made of patents so classified in the *Gazette.* About four-fifths of the patents reported under this major head in the issue for December 17, 1963 were credited to single inventors. Approximately the same ratio was observed by the author and a colleague in their analysis of the Patent Office file for transistors and related devices during 1960.[5]

The quarterly publication of lists of new company patents in the *IBM Journal of Research and Development* since January 1957 permits convenient analysis of the experience of the largest manufacturer of automatic data-processing systems. Over two-thirds of the patents listed in all issues through January 1964 are credited to individuals. The percentage distribution of the 2,108 patents follows:

IBM

No. of Inventors	% of Patents
Total	100
Sole	68.9
Joint	31.1
Two	23.1
Three	5.8
Four	1.6
Five	0.5
Six	0.1
Seven	(0.05)

This IBM distribution closely resembles those derived for 1962 and 1963 from the *Computers and Automation* lists of "New Patents." It is also similar to those obtainable from patent information for Western Electric Company (and Teletype Corporation) reported quarterly in the *Western Electric Engineer.* Thus, the following percentage distribution applies to the 167 patents noted in the five issues from January 1963 to January 1964:

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[5]Edgar Weinberg and Irving H. Siegel, "Analysis of 203 Transistor Patents," *PTC J. Res. & Ed.,* Vol. 4, No. 3 (Fall 1960), pp. 201-207.

Western Electric

No. of Inventors	% of Patents
Total	100
Sole	67.7
Joint	32.3
Two	22.7
Three	9.0
Seven	0.6

(The patent for which seven collaborators were reported—in the July 1963 issue—refers to an "automatic positioning servosystem.")

A Closer Look at IBM

The accompanying table presents the essential information contained in each issue of *IBM Journal* from January 1957 to January 1964. The proportion of patents contributed by sole inventors always exceeds one-half and has occasionally reached three-quarters or four-fifths. No significant trend is evident; the proportion averaged 69.4 percent for 1957-60 and 68.5 percent for 1961-64. The weighted average number of inventors per patent, 1.42 for the whole period, has ranged from 1.28 to 1.57, again without any definite trend.

Only a few of the IBM patents—well under 1 percent—were the joint products of five or more inventors. A "high-speed electronic calculator" was reported for seven associates in 1961. The two patents ascribed to six collaborators refer to a "data coordinator" and "tape control circuits."

A Simple Distribution Formula

In this concluding section, a mathematical formula is presented for approximating the distribution of IBM patents according to the number of inventors in the period January 1957-January 1964. This distribution, like those examined for other companies and industries, is highly "skewed" to the left, resembling the left half of a U when it is graphed. The author noted in an earlier article that many types of formulas are eligible for characterizing such frequency arrays of patents: "Models meriting investigation include the Yule and truncated Poisson distributions, exponential 'decay' functions, and various logarithmetic 'laws' associated with the names of Pareto, Lotka, and Zipf."[6]

A specific extremely simple formula that is "linear in the logarithms" describes well the distribution of patents awarded to IBM employees in 1957-1964. According to this formula, the proportions of patents attributable to different numbers of inventors are in geometric progression. Furthermore, a fairly good fit to the observed IBM distribution is obtained when (*a*) the observed proportion for sole inventors

[6] *PTC J. Res. & Ed.*, Vol. 6, No. 2 (Summer 1962), p. 242.

PATENT AWARDS TO IBM EMPLOYEES
REPORTED IN 1957-64

Journal Issue[a]	Distribution of Patents by No. of Inventors								% Credited to Single Inventors	Wtd. Ave. No. of Inventors Per Patent[b]
	Total	1	2	3	4	5	6	7		
All Issues	2108	1452	486[c]	123	33	11	2	1	69	1.42[c]
1964										
Jan.	63	43	17	3					68	1.37
1963										
Oct.	88	68	14	4	2				77	1.32
July	73	53	14	6					73	1.36
Apr.	129	86	37	5	1				67	1.39
Jan.	127	86	28	9	4				68	1.44
1962										
Oct.	150	103	35	5	3	4			69	1.47
July	89	58	26	5					65	1.40
Apr.	93	63	24	2	3	1			68	1.44
Jan.	92	60	23	7	1	1			65	1.48
1961										
Oct.	99	68	22	6	2	1			69	1.45
July	83	59	15	6	2	1			71	1.45
Apr.	83	54	19	7	1	0	1	1	65	1.57
Jan.	77	53	14	7	1	1	1		69	1.52
1960										
Oct.	101	71	22	5	3				70	1.41
July	38	26	10	2					68	1.37
Apr.	91	61	21	6	2	1			67	1.47
Jan.	82	57	19	5	1				70	1.39
1959										
Oct.	66	47	12	5	1	1			71	1.42
July	65	48	14	3					74	1.31
Apr.	48	32	8	5	3				67	1.56
Jan.	86	56	23	5	2				65	1.45
1958										
Oct.	44	31	11	2					70	1.34
July	36	28	6	2					78	1.28
Apr.	35	26	8	1					74	1.29
Jan.	45	31	12	2					69	1.36
1957										
Oct.	32	26	6[c]						81	1.46[c]
July	28	20	7	1					71	1.32
Apr.	38	24	8	5	1				63	1.55
Jan.	27	14	11	2					52	1.56

a—*IBM Journal of Research and Development*, a quarterly containing a section on new patent awards to IBM employees. This table covers entire file of the *Journal*.
b—Ratio of total number of inventors of record to the number of patents concerned.
c—Six patents attributed in the October 1957 issue to one inventor *"et al"* were assumed to be the work of pairs of inventors. The resulting downward bias in the weighted average number of inventors per patent is trivial.

is accepted without adjustment as the first term of the geometric series and (*b*) the complementary proportion, referring to the contribution of all joint inventors, is accepted as the constant factor to be used in computing all the remaining proportions (i.e., for 2,3,4, . . . inventors).

Explicitly, the formula is:

$$P_i = P_1 \ (1-P_1)^{i-1} \ ,$$

where P_i is the computed proportion of patents associated with i inventors (i=1,2,3, . . .), P_1 is the observed proportion for sole inventors, and $(1-P_1)$ is the complementary proportion for all joint inventors.

In addition to permitting the rapid estimation of the percentages of patents attributed to 2,3,4, . . . inventors once we know the proportion credited to sole inventors, the formula has the virtue of exhaustiveness. That is, the sum of all the proportions cannot exceed one. This desirable property is inherent in geometric progressions having a fraction less than one as the constant factor. Thus, using the familiar algebra expression for the sum "to infinity" of the terms in a geometric series, we have:

$$S = \frac{P_1}{1-(1-P_1)} = 1.$$

If $P_1 = 68.9$ percent as in the IBM distribution shown above (p. 47), we calculate $(68.9)(33.1) = 21.4$ percent for the proportion credited to two inventors, $(68.9)(33.1)^2 = 6.7$ percent as the proportion for three inventors, and so forth. The whole series, which is close on the whole to the observed IBM estimates shown above, follows:

IBM Calculated

No. Inventors	% of Patents
Total	100
Sole	68.9
Joint	31.1
Two	21.4
Three	6.7
Four	2.1
Five	0.6
Six	0.2
Seven	0.1

Still better conformity between observed and calculated frequencies is obtainable when constants in addition to the proportion for sole inventors are introduced into the formula. The "method of least squares" is a classical technique available to statisticians for this kind of adjustment. Indeed, this adjustment technique may provide variant formulas that belong to the same family and describe fairly well the frequency arrays observed for companies other than IBM and for other technologies than the one here considered.

Patterns of Commercial Exploitation of Patented Inventions by Large and Small Corporations

BARKEV S. SANDERS*

SUMMARY

THE SMALLEST[1] CORPORATIONS INSTEAD OF BEING FORCED to sell their patented inventions to largest corporations as alleged by some economists, put them to commercial use themselves. A study of patent utilization patterns of large and small corporations by The Patent, Trademark, and Copyright Research Institute shows that the smallest corporations put to commercial use a higher proportion of their patented inventions than larger corporations do. Thus while larger corporations reported 49 percent of their patented inventions commercialized, for smallest corporations this percentage was 71.[2] The excess is exclusively in terms of patented inventions reported still in use. This percentage was 29 for larger corporations and 55 for the smallest. The higher utilization rate of patented inventions by smallest companies is borne out no matter what criteria are used to array corporations by size. In this study the criteria used were (*1*) net sales, (*2*) gross assets and (*3*) net profits.[3]

Largest corporations were most responsive in returning questionnaires, while the smallest corporations were most deficient in this

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[1] See pages 57-62 for classification of corporations into five categories according to size.

[2] An earlier study shows that less than 1 percent of the patent holdings of the largest corporations is acquired through purchase. See Barkev S. Sanders, Joseph Rossman, and L. James Harris, "Patent Acquisition by Corporations," *PTC J. Res. & Ed.*, Vol. 3, No. 3 (Fall 1959), pp. 217-261.

[3] The earlier paper referred to in footnote 2 came to a similar conclusion (B. S. Sanders, J. Rossman, and L. J. Harris, "Patent Acquisition by Corporations," *PTC J. Res. & Ed.*, Vol. 3, No. 3 (Fall 1959), pp. 217-261). In that earlier study we used the concepts developed by the Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary, United States Senate, 84th Congress, *Distribution of Patents Issued to Corporations (1939-55)*. In that analysis large companies represented a mixture of companies with large assets and or with a large number of patents. The present analysis is in terms of single economic classifications based on Moody—grouping corporations by (*1*) the net volume of sales; (2) gross assets, and (*3*) net profits. For further elucidation see pp. 7-9.

respect. There is also indication that inventors assigning their inventions to larger corporations were more apt to return a questionnaire than those assigning to the smallest corporations.

With respect to patents used in the past, there is some indication of greater inconsistency in the information supplied initially and subsequently by the smallest companies, despite this, in general, there is no significant association between corporation size and reliability in the patent information supplied.

There is some indication that the largest corporations are most apt to put an invention to commerical use prior to filing a patent application, while smallest corporations are more deliberate and show a relative excess in the percentage of patents put to use after issue.

Variability in mean length of time that patented inventions remain in use is too great to permit us to reach any definitive conclusion, but there is some suggestion that smallest corporations keep patented inventions in commercial use longer than larger corporations.

If in addition to patented inventions put to commercial use we were to consider patents reported licensed which were not reported used, and others deemed useful for other reasons, then no significant differences are found among large and small corporations regarding the proportion of patents deemed useful.

On the basis of assignee replies as to the degree to which patented inventions were exploited there is no significant differentiation between the large and small companies. With respect to the economic effects from the commercial use of the patented invention, there is some suggestion that in smaller corporations this influence is apparent more often through increased sales. This suggested relationship might not be real, however, in view of the fact that a higher proportion of the largest corporations failed to supply any information as to the effect of use on sales. Larger companies more often indicate the influence of commercial use reducing costs of production instead of increasing the volume of sales.

Information on net gain or loss from the use of patented inventions was supplied for less than half of the inventions put to use. For patented inventions reported in current use for which net gain or loss was reported, 93 percent showed gain with the possibility that some or all those still in use may eventually show a net gain. There is no significant association between corporation size and the proportion of patented inventions that were put to use resulting in net gain or loss. For patented inventions used in the past net gain was reported for two-thirds, and net loss for the remaining third. There is a decline in the proportion of patents showing net gain with declining corpora-

tion size, thus, there is some indication that smallest corporations are more apt to report net loss from patented inventions put to use.

Information on whether the use of the patented invention had resulted in net profit asked in a follow-up questionnaire brought in more complete returns. These returns suggest the proportion of net gain from the use of the invention to be highest for companies of intermediate size. It is lowest for the largest companies, but primarily because a much higher proportion of these failed to supply any information on costs. It is low for the smallest companies, 86 percent for inventions still in use, and 60 percent for those used in the past.

Net gain or loss in dollar amounts were reported for only 93 patented inventions out of 292 reported used. The amounts, as would be expected, are highly variable. The range of net gain per patent varied from $1,000 to $15,000,000 with an average close to $600,000. For losses the range was from $1,000 to $400,000, with a mean of about $100,000. The relationship of net gain or loss to corporation size becomes circuitous, however, since if a corporation acquired a highly profitable patent it would soon become a large corporation, so in general we find net returns lowest for the smallest corporations and vise-versa.

If the net gain or loss reported for the 93 patented inventions put to commercial use is typical, taking account of the fact that most of these patented inventions are in current use and will continue to remain in use for decades to come, the net gain (algebraic sum) per patented invention over the years of its commercial use could well exceed $1 million, even after allowing for the costs of all the unused patents and other costs incidental to patenting. This would mean a net return of $30 billion or so for the 30,000 or so United States patents issued to corporations directly or acquired by assignment each year.

IN POPULAR LITERATURE ON PATENTS AND INVENTIONS, one frequently finds references to a common practice on the part of large corporations buying patented inventions and shelving them to prevent their exploitation which would be inimical to their investments. This writer is unable to recall one instance where such allegation is supported by adequate documentation.[4] Even if documentation were

[4] George Frost, my fellow researcher for The Patent, Trademark, and Copyright Research Institute of The George Washington University, in connection with recent congressional hearings designed to curtail patent rights for pharmaceutical inventions observes: "There have been no substantial contentions that patent suppression has occurred, that patents have been purchased to limit competition,

available for a handful of patented inventions, this would not necessarily mean an indictment of the present patent system on this score, when one considers that these examples would be selected from more than 3 million patents issued by the United States since the Patent Office was established in 1790.[5]

A few reputable economists, nevertheless, have given their support to this type of calumny on the basis of sheer armchair speculation about patents and monopoly. It is on this basis that Corwin Edwards wrote.

> In many lines of activity neither the inventor nor the small company controlling the invention has the resources to exploit the invention commercially. Capital, market connections, or access to other patented technology may be lacking. *Thus the invention must remain unused or be sold, often to a big company which controls related patents.*[6]

What Edwards says makes sense in the absence of any evidence, and Edwards, like other economists who have written on the patent system,

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or that there have been other specific anticompetitive practices based on patents." "The Case Against Drug Patent Compulsory Licensing," *PTC J. Res. & Ed.,* Vol. 7, No. 1 (Spring 1963), pp. 93-94.

[5] If such practices occurred with any degree of frequency this would be known since such practices would be actionable under the Sherman Act. See U. S. v. Besser Mfg. Co., 96 F. Supp. 304, and Kobe v. Dempsey Pump Co., 198 F (2d) 416. The present serial numbering of patents issued was established actually in 1836 when the examination procedures for novelty and utility were adopted. Therefore patents issued prior to 1836 are not included in the current count. Prior to the initiation of serialized patent numbers in 1836 some 10,000 patents had been issued. See Historical Statistics of the United States, Colonial Times to 1957, p. 608, series W-66-76.

While the objective is to assign numbers serially to patents, occasionally after assignment of numbers some patents are not issued. Therefore in each year the actual number of patents issued might be somewhat smaller than the serial numbers would indicate, but the difference is so small it could be ignored for most purposes.

[6] Corwin D. Edwards, *Big Business and the Policy of Competition,* p. 89. Emphasis added. One of my associates has observed that Edwards probably made a slip, and that the quoted view is probably not shared by present economic fraternity. It would be difficult for me to say what is the general point of view of "economic fraternity" on patents or on any other problem. I do believe many persons regarded as economists have severely criticized the patent system without showing any close familiarity with it and its operation. See for instance "An Economic Review of the Patent System," Study of the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, 85th Congress, 2nd Session, Pursuant to S. Res. 236, Study No. 15, 1958, prepared by Fritz Machlup. See also "Patents and Inventive Effort. The evidence is insufficient to prove or disprove the claim that patent protection promotes inventive effort," by the same author in *Science,* Vol. 133, No. 3463, May 12, 1961, pp. 1463-66. See views of C. Warne, *PTC J. Res. & Ed.,* Vol. 3, Conference No. (1959), pp. 95-100. I could cite still others but there is enough here to indicate that Edwards is not alone, and the quotation is not a slip on his part.

presents no evidence as to how frequently this happens, if ever. In physical sciences it is now axiomatic that a theory cannot be accepted simply because it sounds plausible, but this basic tenet is violated frequently in the so-called social sciences.

The George Washington University's Patent, Trademark, and Copyright Research Institute is dedicated not to condemn or defend the present patent system but to try to understand its workings. This can not be done by armchair speculation, but must be done by first hand study of the workings of patent systems here and abroad. One of the Research Institute's studies based on a sample of patents on which completed questionnaires were returned by about 50 percent of the assignees (85 percent of the largest corporations represented in the sample) shows that large corporations rarely purchase patents—that purchased patents constitute less than 1 percent of the patent portfolios of these largest corporations; that almost all of their patents are obtained from their own employees with contractual agreement to assign. These findings flatly contradict the assertions of Edwards. These statistics on acquisition of patents by corporations have been analyzed in some detail in an earlier interim report.[7]

Edwards is dead wrong not only with respect to his assertion about large corporations purchasing patents, but also in his other assertion about smaller corporations not being able to commercialize their patents. This interim report will be centered on this latter subject—the proportion of patents exploited commercially by corporations of varying sizes. Some preliminary studies have indicated already that smallest American corporations exploit commercially a higher proportion of their patented inventions than larger corporations.[8]

These preliminary findings regarding the comparative patent utilization levels of "large" and "small" corporations as explained in the appropriate interim reports used as their basis the classification of large corporations adopted by the Senate Subcommittee on Patents.[9]

The Subcommittee's interest in company sizes was dual, it wished information with respect to the following two types of corporations:

"(*1*) Which companies have taken out the largest number of unexpired patents?

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[7] *Supra,* footnote 2.

[8] See for instance B. S. Sanders, *PTC J. Res. & Ed.,* Vol. 3, Conference No. (1959), pp. 56-59, 110-114. Also the Report cited under footnote 2.

[9] *Distribution of Patents Issued to Corporations (1939-55),* Study of the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, 84th Congress, 2nd Session, pursuant to S. Res. 167, Study No. 3. Washington, 1957, p. 34.

"(2) How many unexpired patents have been issued to a selected group of the largest corporations?"[10]

To answer these two questions, Federico, who prepared the report for the Subcommittee, compiled patent information for 3 separate lists of corporations defined as follows:

List I, gives the names of 394 corporations which in the 17 years (1939-55) were granted 101 or more patents each. Of this total 362 were American corporations. Of these American corporations 128 were companies with assets of $100 million or more in 1954. These were defined to represent the "select group of the largest companies" referred to by the Subcommittee.

List II, represents a partial list of 135 corporations to which 75 to 100 U. S. patents had been issued during 1939-1955. One hundred thirty-one of these were American corporations, of these, 14 were corporations with assets of $100 million or more.

List III, consists of 100 American corporations with assets of $100 million or more in 1954, to which 1 to 74 United States patents had been issued within the period 1939-1955.[11]

In our analysis we considered all the American corporations found on any of the 3 lists as "large" corporations, and those with sampled patents in the Research Institute's Patent Utilization Study which were not on any of these 3 lists as the "small" corporations. It was found that there was a large differential in the proportion of patents reported put to commercial use by these two groups of corporations. The utilization rate was much higher for the non-listed corporations—which represented corporations with less than $100 million assets and less than 75 patents issued to them during 1939-55.[12]

The analysis of patent utilization of listed corporations, arrayed according to the number of United States patents issued to them, also showed some upward trend in the proportion of patents commercialized with declining number of patents. However, the significant differential was between the listed, which we regarded as "large" and

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[10] *Ibid.*, p. 1.

[11] *Ibid.*, pp. 19-34. These three lists included 242 American corporations with assets of $100 million or more in 1954. Presumably all American corporations with one or more patents which had assets of $100 million or more in 1954 were included in these three lists. These constituted the largest corporations. The lists also included all American corporations to which 100 or more patents were issued in the years 1939-55. Finally as a by-product list II included most American corporations with assets of less than $100 million to which 75-100 U. S. patents were issued during 1939-55.

[12] As the description of list II has indicated, the list of corporations with 75 to 100 patents was not complete, so among the "small" or unlisted corporations there could be a few with 75 to 100 patents issued to them.

the non-listed, which we considered "small" corporations.[13]

The ready availability of these lists of companies greatly facilitated the task of this type of analysis. The suggestive findings were of such importance as to justify a more direct approach to the problem of the association between corporation size and the proportion of its patented inventions that are commercialized. Resources were made available, therefore, to develop appropriate means of grouping corporations by size to ascertain this association. The present interim report deals with this effort and the findings.

Arraying Corporations by Size

A corporation has numerous characteristics and attributes that might be used to determine its size in comparison to other corporations. There has been no analytic study as to which of these criteria of size is the most appropriate for a given purpose. The characteristics which were used in arraying corporations for this study were: (*1*) Net annual sales, (*2*) Gross assets, and (*3*) Net profits. Attempt was made also to array corporations by the average number of their employees, however, information for this was so incomplete that eventually the effort was abandoned. This was also true with respect to value-added.[14]

Aside from deciding what criteria to use for arraying corporations by size, there was the question what year or years to select for arraying the corporations, since our sample of patents represents those issued in 1938, 48, and 52, and since a patented invention is often put to use years before the year of issue and may remain in use for many years after issue.[15] Selection of a specific year would not matter if the rank of corporations with regards to their relative size, regardless of the criterion used, did not change from year to year. For large aggregates in blocks, the way corporation size is taken into consideration in this analysis, these changes may not be too marked for the span of time under consideration.[16]

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[13] *Supra,* footnote 8, see especially Tables B and C, pp. 111-112.

[14] Also serious consideration was given to arraying corporations according to their degree of diversification as a gradient and seeing whether the proportion of patents utilized varied significantly in relation to this gradient. The ordering of corporations would have been based on the compilation of the Federal Trade Commission: "Industrial Concentration and Product Diversification in the 1,000 Largest Manufacturing Companies; 1950," Jan. 1957. This had to be abandoned, however, because of inherent difficulties of how to equate concentration in different industries, and more specifically because of limitation of manpower.

[15] B. S. Sanders, "Speedy Entry of Patented Inventions into Commercial Use," *PTC J. Res. & Ed.,* Vol. 6, No. 1 (Spring 1962), pp. 87-116.

[16] See *Fortune's* annual list of 500 Large American Corporations. See also

In the 2 percent sample of all patents issued to American residents analyzed in this report, the assigned patents, regardless when assignment occurred, represented 35, 24, and 41 percent of the patents issued to resident inventors of assigned patents for 1938, 48, and 52, respectively. The working sample, representing patents with completed assignee questionnaire, consisted of 31, 26, and 43 percent for the three years, respectively. These percentages shift toward 1952 still more if one considered assigned patents on which inventor questionnaires were received (with or without the receipt of assignee questionnaire). Weighing these factors, 1949 was chosen as the year for which information was compiled as to relative size of corporations, in terms of (*1*) net sales, (*2*) gross assets, and (*3*) net profits. Information with respect to these three corporate characteristics was abstracted largely from Moody.[17]

All listed corporations with completed patent questionnaires were arrayed according to their (*1*) net sales, (*2*) gross assets, and (*3*) net profits respectively, and their patent utilization characteristics were analyzed along each of these gradients. Data on sales, assets and profits could not be found for all corporations for which there were completed patent questionnaires in our sample. It is assumed that companies for which sales, or assets, or profits were not recorded represented by and large the smallest corporations.[18] The analysis in relating patent utilization to corporate size was made following a set pattern. For each measure of size, listed corporations were divided into four more or less equivalent groups in terms of the number of assignee questionnaires available for each group. This grouping was in terms of comparative size of corporations according to (*1*) net sales, (*2*) gross assets,

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A. D. H. Kaplan, *Big Enterprise in a Competitive System* (Washington, D. C.: Brookings Institution, 1954), 269 pp. See especially Ch. VII, pp. 132-155.

[17] Moody's *Manual of Investments American & Foreign Industrial Securities*, 1950.

[18] In making this assumption that corporations in our sample for which no sales are reported for 1949 were the smallest corporations, we appreciate that this may not be true invariably. There might be a few instances of overlapping, particularly in comparison to corporations listed in the group labeled the 4th largest. That is there will be instances in which one or more listed companies might be smaller than some non-listed companies with patents. But it is believed that these exceptions would be few and would not seriously affect the general downward gradient with respect to the net volume of sales, particularly since much of our significant findings is with respect to the listed companies as a group compared with the non-listed companies as a group. For these reasons, it is believed, we would not be far from the truth by labeling the listed as the "large" corporations, and the non-listed as the "small" corporations. The same reasoning was followed in analyzing corporations arrayed according to their gross assets, and net profits in relation to patent utilization.

and (*3*) net profits. The fifth group in each instance consisted of non-listed companies, which were presumed not listed primarily because of their comparative small size and possibly recency of incorporation. In most instances where there is significant association between utilization level and size, these differences are primarily between the listed and non-listed corporations, though frequently there is some suggestive indication of a negative association between corporation size and percentage of patents utilized even for listed companies *inter se*—this gradient, however, for listed corporations is generally neither marked nor consistent. But, between listed and non-listed corporations the differences are relatively consistent and marked for certain criteria.

Corporations Arrayed by Volume of Net Sales:

Using 1950 Moody's Classification of Industrial Companies for all corporations with one or more patents[19] in our systematic sample for which net sales information was available, this information was abstracted. Then corporations listed were arrayed according to the amount of their net sales, as of 1949, and divided into four groups as may be seen from Table 1. The fifth group consisted of the patents of non-listed companies.

The first consideration is to determine whether the probability of

[19] For patents that are assigned before issuance the patent letter indicates that the patent is assigned. Certain other patents which show no assignment on the face of the patent-letter may be assigned subsequently. The original sample of patents in the Patent Utilization Study issued to resident inventors showed 1,058 patents assigned prior to granting. Consultation with the Patent Office assignment files showed 30 patents unassigned at the time of issue were assigned subsequently to American corporations. In addition, replies from inventors indicated an additional 39 patents that were assigned subsequently even though no record of such assignment was found in the Patent Office assignment files. Since of the patents which were not assigned at the time of issue we had replies from about a third of the inventors it is plausible that had there been replies from all the inventors the total number of subsequently assigned patents would have been three to four times that shown by the Patent Office assignment file. That is we estimate that instead of 30 (as shown by Patent Office assignment files), anywhere 100 to 150 patents issued as unassigned become assigned to American corporations subsequently. However, in this report we shall use as assigned only those patents for which the assignment status was ascertained, 1,127. This indicates that in the three years under consideration of the patents issued to domestic inventors 59 percent were assigned before the patent was issued, i.e., assignment was shown on the face of the patent. We know from our confirmed studies that of the total number of patents issued to resident inventors 63 percent were assigned. We estimate that for those patents issued to resident inventors in 1938, '48 and '52 the estimated percentage of ultimately assigned patents is probably between 64 to 67 percent. Of course, this percentage is appreciably higher for patents issued today.

TABLE 1

NUMBER OF ASSIGNED PATENTS IN THE SAMPLE AND NUMBER AND PROPORTION OF THOSE WITH COMPLETED ASSIGNEE QUESTIONNAIRES, NUMBER OF INVENTORS OF THESE PATENTS AND THE NUMBER AND PROPORTION OF COMPLETED INVENTOR QUESTIONNAIRES, MEAN NUMBER OF INVENTORS PER ASSIGNED PATENT FOR CORPORATIONS GROUPED IN ORDER OF THEIR NET SALES IN 1949.[1]

PRELIMINARY

Corporations grouped according to net sales in 1949	Assignee questionnaires			Inventor questionnaires			Patents with inventor or assignee questionnaires		Mean No. inventors per patent
	Number in sample	Number returned	Percent returned	Number inventors in sample	Number returned	Percent returned	No.	%	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Largest corporations	127	107	84.2	163	100	61.4	114	89.8	1.28
2nd largest corporations	204	120	58.8	261	154	59.0	173	84.8	1.28
3rd largest corporations	199	118	59.3	238	131	55.0	168	84.4	1.20
4th largest corporations	203	115	56.6	247	111	44.9	152	74.9	1.22
All listed corporations	733	460	62.8	909	496	54.6	607	82.8	1.24
Smallest corporations (not listed)	394	130	33.0	468	174	37.2	220	55.8	1.19
Total	1,127	590	52.4	1,377	670	48.7	827	73.4	1.22

[1] Listed companies arrayed according to their net sales in 1949 as given in Moody and other standard sources. The non-listed companies are assumed to represent the smallest corporations with respect to net sales. The largest corporations reported net sales in excess of $1,158 millions, 2nd largest in excess of $223 million, 3rd largest in excess of $55 million, and 4th largest in excess of $1 million.

returning a completed questionnaire varied for corporations of different size according to net sales. Table 1 shows that response rate did vary both for assignee return of completed questionnaire and, to a lesser extent, for the inventor's as well, the vast majority of whom were current or former employees of these corporations.[20]

For assignee return the response rate is highest for the largest corporations, 84 percent as against 52 for all corporations, and 63 percent for large, i.e. the listed corporations as a group. Except for the very high rate of return of the group of largest corporations, there is no apparent marked variation among the remaining large corporations *inter se.* However, the return rate was markedly and significantly lower for the non-listed, i.e. the smallest corporations, 33 percent.[21] These findings are corroborated by our earlier finding when the list of companies used to differentiate large companies were the three lists prepared for the Senate Subcommittee by Federico and the small companies were those in the sample that were not on any of the three lists[22]

Our analyses along similar lines of corporations arrayed according to assets and according to net profit also give similar results in all relationships as those which we found for companies arranged according to net sales. We, therefore, see no justification to present and discuss these other analyses separately. If there are enough requests for these tables, paralleling those which are analyzed in this interim report, the Research Institute would reproduce them for distribution to individuals requesting them.

Table 1 shows that the probability of returning a completed questionnaire by a non-listed corporation is almost half of that for a listed corporation, .33 against .63. It should be apparent, therefore, that if there is a marked variation in the patent utilization levels of listed

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[20] Other things being equal, of course, much more effort was put in persuading the largest corporations to respond to the original questionnaires. The author personally visited headquarter offices of several of these, this, in all probability, accounts for the higher rate of participation on the part of the largest corporations. Also the fact that a number of these corporations have been actively interested in the work of the Research Institute and are, or have been, represented on its Advisory Council contributes to this higher response rate shown for the largest corporations.

[21] In 23 of these no correct address could be found for these non-listed companies. The addresses which we had from the patent or could find by consulting various directories left this residual of companies without a current address. If a validation study is made as recommended by Sanders, *PTC J. Res. & Ed.,* Vol. 7, No. 1 (Spring 1963), p. 53, the names of these companies should be given to Dunn and Bradstreet for identification and location if possible.

[22] *Supra,* footnote 2, Table 12, p. 253.

and non-listed corporations, that, our sample would be biased giving a lower average utilization level in comparison to the "true rate" as a result of the lower response rate by the smallest corporations in our working sample.

Considering column 7, percentage of questionnaire returns by the inventors of these patents, there is also a general downward gradient in response rate paralleling the decline in the rank order of companies based on 1949 net sales. In this column also, while the differences among the listed corporations *inter se* are moderate, the difference between listed and non-listed corporations is much more marked, 55 and 37, respectively. However, the differences among inventors are less marked than the differences among assignees. It is clear, therefore, that in the working sample of Patent Utilization, whether one considers assignee or inventor questionnaires, patents for smallest corporations, those not listed, are markedly underrepresented. The net effect of these combined factors can be seen in column 9, showing the proportion of patents in the sample for which either an assignee or an inventor questionnaire was returned. These percentages are more appropriately comparable with those given in an earlier interim report referred to in footnote 2. The percentages in the previous analysis were 81.0 for listed companies and 59.4 for the non-listed, as against 83 and 56 for listed and non-listed, respectively, shown by Table 1 in this report.

The last column of Table 1 shows the relationship of the average number of inventors per patent for corporations of different sizes. It would seem the propensity for multiple inventors per patent is somewhat greater for the largest corporations in comparison to smaller ones. But the differences are not marked and it is not certain that they are statistically significant.

Utilization of Patented Inventions

The main interest in undertaking this analysis is to ascertain the relationship, if any, between corporation size and percentage of patented inventions commercialized. This relationship is summarized in Table 2.

Table 2 gives the relationship between assignee reports on utilization of the sampled patents[23] and corporation size in terms of net sales

[23] Utilization status for the 436 patents for which the subsequent return is based on later information if the entry for subsequent return was current use, or past use as against some other entry in the initial return. For a rational of this see B. S. Sanders, "The Upgrading of Patented Inventions and Their Use Here and Abroad," *PTC J. Res. & Ed.*, Vol. 7, No. 1 (Spring 1963), p. 60.

TABLE 2

NUMBER AND PERCENTAGE DISTRIBUTION OF ASSIGNED PATENTS ACCORDING TO ULITIZATION STATUS AS REPORTED BY ASSIGNEES RELATED TO CORPORATION SIZE GROUPED IN ORDER OF THEIR NET SALES IN 1949.[1, 2]

PRELIMINARY

Corporations grouped according to net sales in 1949	Current use		Past use		Used		All other not reported used		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Largest corporations	26	24.3	24	22.4	50	46.7	57	53.3	107	100.0
2nd largest corporations	31	25.8	19	15.8	50	41.7	70	58.3	120	100.0
3rd largest corporations	35	29.7	19	16.1	54	45.8	64	54.2	118	100.0
4th largest corporations	42	36.5	29	25.2	71	61.7	44	38.3	115	100.0
All listed corporations	134	29.1	91	19.8	225	48.9	235	51.1	460	100.0
Smallest corporations (not listed)	71	54.6	21	16.2	92	70.8	38	29.2	130	100.0
Total	205	34.8	112	19.0	317	53.7	273	46.3	590	100.0

[1] See footnote 1 of Table 1.
[2] Utilization status for 436 patents for which the subsequent postal card questionnaires were returned are based on these postal card returns if the entry on the postal card showed in current use, or past use—different from the entry in the initial return. For a rationale of this see B. S. Sanders, "The Upgrading of Patented Inventions and Their Use Here and Abroad," *PTC J. Res. & Ed.*, Vol. 7, No. 1 (Spring 1963), pp. 45-83 (p. 60).

for listed companies in 1949 and the non-listed companies, which we believe represent the tail end of the distribution according to sales volume in 1949.

For the proportion of patented inventions reported in current use, the percentages increase progressively with declining company size. It is about 24 for the largest companies, 36 for the smallest listed companies, and 55 for the smallest (non-listed companies). These differences are, in general, highly significant in terms of appropriate statistical tests. That is, it is extremely improbable that the differences shown by columns 2 and 3 between the listed and non-listed companies could be attributed to chance.

With respect to patented inventions reported in past use, the gradation in the proportion reported used does not show a consistent pattern in relation to corporation size based on the volume of sales in 1949. The highest proportion is reported by the fourth largest corporations. That is the smallest of the listed corporations. Second in rank are the largest corporations. There is very little difference among the remaining three groups of corporations. It would seem, on balance if there is any apparent association between company size and percentage of patented inventions reported used in the past, that, this association is direct rather than inverse as with respect to patents reported in

current use. Evidently more extensive study of this phenomenon is required to ascertain the underlying factors which could account for this apparent anomaly.

One possible disturbance could be the greater deficiency on the part of smaller corporations to effectively search their back files for patented inventions which are no longer in use. In an earlier interim report attention has been called to this matter.[24] The possibility that patented inventions are kept in current use longer by the smallest corporations in comparison to larger ones could also account for this phenomenon and is perhaps at the root of this seeming anomaly.[25] A host of other factors could also account for this apparent anomaly which requires further study. Yet in spite of these anomalies one can not overlook the decided inverse association between patent utilization and corporation size shown most sharply by columns 2 and 3, but also evident in the summary columns 8 and 9 showing the higher proportions of patented inventions not used by the larger companies.

Some 237 assigned patents with an inventor questionnaire but no assignee questionnaire were also analyzed.[26] In general, we regard

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[24] B. S. Sanders, "The Upgrading of Patented Inventions and Their Use Here and Abroad," *PTC J. Res. & Ed.*, Vol. 7, No. 1 (Spring 1963), pp. 58-60. An analysis of returns of postal card questionnaires tends to strengthen this hypothesis; it shows relatively minor differences in the net number of patents used in the past for listed companies—but a drastic decline for the non-listed corporations. The number reported in past use initially was 18, while that reported on the postal card is only 10. Only in 5 the initial and subsequent reporting is consistent. The corresponding figures for the largest companies are 14 and 15 respectively with identical reporting in 10. For 2nd largest 15-17, and 10; for 3rd largest 14-17 and 5; for 4th largest 21, 19 and 9. This inconsistency in reporting patented inventions used in the past gives further impetus to the need of a validation study, referred to in footnote 21.

[25] One must regard the patents reported used in the past as part of the universe of all patented inventions put to commercial use. The anomalous relationship of columns 2 and 4 to corporation size would suggest a higher persistence (hanging on to commercial use), even if immediate returns are not large, on the part of some corporations in comparison to others. On this basis one might surmise that the smallest corporations might be more persistent to retain the use of the patented invention than corporations of intermediate size. This further variable in the behavior of corporations of varying size should not obscure the apparent evidence that a distinctly higher proportion of patented inventions owned by smallest (non-listed) corporations are put to commercial use than by larger corporations, as shown by percentages in column 7.

[26] In all, as indicated by Table 1, 670 inventors of assigned patents returned the questionnaire for the sampled patent. The majority of these were for patents for which an assignee questionnaire was also returned. We are inclined to place more confidence on assignee reply with regards to the utilization of the sampled patent in comparison to that obtained from the inventor. The aggregate inventor returns also indicate a higher utilization level for patents of non-listed corpora-

inventors' information on the utilization status of their patented inventions less reliable compared with that supplied by assignees. This is borne out to the extent that for these patents the relationship between current and past use and corporation size shows even less regularity. Despite this, the combined information from assignees and inventors still shows a net inverse association between the percentage of patents utilized and the sizes of the corporations owning these patents. These relationships are shown in Table 3.

Column 3, despite some irregularities, shows an inverse relationship between corporate size and proportion of patented inventions reported in current use. With respect to patents used in the past, as in Table 2, there is no clear cut monotonic relationship. But column 7 in Table 3 as the corresponding column in Table 2, shows a general inverse association with corporation size, based on utilization status reported by assignees or inventors of assigned patents. Again the dominant fact is

TABLE 3

NUMBER AND PERCENTAGE DISTRIBUTION OF ASSIGNED PATENTED INVENTION ACCORDING TO UTILIZATION STATUS AS REPORTED BY ASSIGNEES AND INVENTORS FOR PATENTS WITHOUT ASSIGNEE RESPONSE RELATED TO CORPORATION SIZE GROUPED IN ORDER OF THEIR NET SALES IN 1949.[1, 2]

PRELIMINARY

Corporations grouped according to net sales in 1949	Current use		Past use		Used		All other not reported used		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Largest corporations	29	25.4	25	21.9	54	47.4	60	52.6	114	100.0
2nd largest corporations	55	31.8	28	16.2	83	48.0	90	52.0	173	100.0
3rd largest corporations	49	29.2	30	17.9	79	47.0	89	53.0	168	100.0
4th largest corporations	59	38.8	35	23.0	94	61.8	58	38.2	152	100.0
All listed corporations	192	31.6	118	19.4	310	51.1	297	48.9	607	100.0
Smallest corporations (not listed)	109	49.6	48	21.8	157	71.4	63	28.6	220	100.0
Total	301	36.4	166	20.1	467	56.5	360	43.5	827	100.0

[1] See footnote 1, Table 1.
[2] See footnote 2, Table 2.

tions as compared with those listed, the differential, however, is somewhat less pronounced for patented inventions reported in current use. These percentages are 35.3 for listed and 49.4 for non-listed corporations for patented inventions reported in current use. The corresponding percentages for patents in past use are 16.5 and 23.6, respectively. Thus for all used patents the percentages based on inventor replies are 51.8 and 73.0 in comparison to 48.9 and 70.8 shown in Table 2, based on assignee replies to initial and subsequent questionnaires—essentially the identical differential between the listed and not listed corporations.

that 51 percent of the patented inventions of larger corporations were reported used and more than 71 percent of the smallest corporations' inventions were in this category.

Consistency in Reporting Utilization Status

Since the focus of this interim report is on the differential characteristics of corporations arrayed by volume of sales in relation to patent utilization, it is important to consider briefly whether the consistency of reporting utilization status is associated with corporation size and its possible effects on the findings considered so far. This is shown in Table 4 where utilization status reported initially is tabulated against that reported subsequently by large and small corporations for the identical patents.

TABLE 4

Consistency in Reporting Utilization Status of Sampled Patents in Initial and Subsequent Reporting of Utilization Status by Assignees Related to Corporation Size Grouped in Order of Their Net Sales in 1949.[1]

Preliminary

Utilization status initial	Largest corporations: Utilization status subsequent				2nd largest corp.: Utilization status subsequent				3rd largest corp.: Utilization status subsequent			
	Current	Past	Other	Total	Current	Past	Other	Total	Current	Past	Other	Total
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*
Current use	10	3	2	15	13	5	6	24	15	7	2	24
Past use	1	10	3	14	1	10	7	18	5	5	4	14
Future use	—	1	5	6	—	—	14	14	1	—	5	6
All others	—	2	18	20	2	2	46	50	4	5	39	48
Total	11	16	28	55	16	17	73	106	25	17	50	92

Utilization status initial	4th largest corp.: Utilization status subsequent				Smallest corporations: Utilization status subsequent					Percent in	
	Current	Past	Other	Total	Current	Past	Other	Total		Diagonal[2]	Incon.
(14)	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	*(21)*	Corp. size		
Current use	23	7	3	33	39	5	2	46	Largest	71%	13%
Past use	3	9	9	21	6	5	7	18	2nd largest	65%	17%
Future Use	—	—	3	3	2	—	5	7	3rd largest	65%	22%
All others	1	3	29	31	2	—	22	24	4th largest	67%	22%
									Smallest	72%	12%
Total	27	19	42	88	49	10	36	95	Total	68%	17%

[1] See footnote 1, Table 2.

[2] Where a patent reported initially as "future use" is reported in current, past, or never used these are all deemed as being in the diagonal. The postal card questionnaire did not have a question with respect to "future use."

Table 4 shows no marked association between corporation size and general consistency in reporting utilization status in the initial and subsequent questionnaires. As a measure of consistency we have used first the percentage of patents reported the same, that is those in the diagonal.[27] The percentage of patents for which the same utilization status is reported both times is highest for the smallest corporations, 72 percent,[28] but it is almost as high for the largest corporations, 71. It is somewhat lower for corporations of intermediate sizes, but these differences could all be attributable to chance.[29]

It would be incorrect, however, to assume that any change in utilization status initially and subsequently is per se a measure of inconsistency. For instance, it is reasonable to assume that some patents reported in current use initially would be no longer in use by 1962, for these an entry of past use would still be consistent. Similarly, a patent reported in future use initially which is reported never used would also be hardly considered erroneously reported. Therefore, the overall percentage of patents where the reporting is patently inconsistent is not 32 (100-68), but rather 16 (71/436); which, though not perfect, is not too bad in comparison to other statistics that are currently used.[30]

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[27] For patents reported in future use we have assumed utilization the same if these patents were reported in current or past use. Table 4 indicates only 4 such patents.

[28] This, inspite of the fact that with respect to patents reported used in the past the proportion of identically reported patents in the initial and subsequent questionnaire was the smallest for non-listed companies, as we indicated in footnote 24.

[29] The mean percentage in the diagonal for all 436 patents is 68, and standard error of the difference between this and 72 percent is 5.3 percent, thus the differerence is statistically non-significant between listed and non-listed corporations.

[30] For instance the identification of males who were reported unemployed in the Current Population Survey in April, 1960, compared with employment status reported for these same individuals to the Census shows only 52 percent were the same, for 24 percent, employment status in the Census for these presumably unemployed individuals was given as employed and for the remaining 24 percent as not in the labor force. Consistency was much poorer for females. Of those reported unemployed in CPS only 31 percent were reported unemployed in the Census as well. Fifteen percent of these presumably unemployed females were reported employed in the Census, and 53 percent not in the labor force. This is the level of reliability or consistency of the unemployment statistics on which this Nation relies. This author wherever he has tried to examine reliability or validity of statistical data used by economists and other social scientists has found the reliability and validity, woefully poor, if assessable at all. On the basis of this general situation one may tolerate the inconsistencies found with respect to utilization status of patented inventions. See B. S. Sanders, "Have Morbidity Surveys Been Oversold," *American Journal of Public Health,* Vol. 52, No. 10 (Oct. 1962), pp. 1648-1659. The unemployment data cited above was obtained from: *Measuring Employment and Unemployment,* President's Committee to Appraise Employment and Unemployment Statistics, Gov't. Print. Office, 1962, Table K. 4,

The adjusted percentages of inconsistency based on a comparison of the two responses for corporations arrayed by size are 13, 17, 22, 22, and 12, respectively, from the largest to the smallest.

While with respect to patents reported used in the past there appears to be a greater inconsistency in reporting by the smallest corporations, this is not a general characteristic apparently. The overall measure of consistent reporting of utilization status of patented inventions shows no association between consistency and corporation size. The overall percentage of patents for which the reporting is patently inconsistent is 17 as compared with 12 for the smallest companies, and 19 percent for the larger companies—differences, which are not statistically significant, at 5 percent level.

The reader should differentiate reliability or consistency from validity. If a patent which formerly was reported used and subsequently as never used, one or the other statement must be in error. But if the reporting was the same both times this would indicate consistency, though not necessarily validity, since incorrect information could have been supplied both times. So consistency is an essential but not a sufficient requirement for validity of information.

Prompt Use of Patented Inventions

From earlier analysis of patented inventions it was seen that there is much pressure for early commercial use of patented inventions.[31] Is this characteristic associated with corporations differentiated as to size? This relationship is indicated by Table 5.

With respect to patents reported in current use as of 1956-57 or as of 1962, for those for which a postal card questionnaire was received, there is some suggestion that the largest corporations are the speediest. Thus for largest and second largest corporations 54 to 55 percent of patented inventions reported in current use, the use began prior to patent application. The smallest percentage of preapplication use is for corporations in the fourth largest group. But the corresponding percentage, for the smallest non-listed corporations, even though not the lowest is also low compared with listed corporations as a whole; 34 and 42, respectively. There is also some suggestion that these smallest companies are more apt to have a higher proportion of their patented inventions put to use after the date of issue.

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p. 392. See also sources and validity of medical statistics with special emphasis on diagnoses, B. S. Sanders' Proceedings of American Statistical Association, on Social Statistics, 1963, pp. 250-259. See also O. Morgenstern, "Qui Numerare Incipit Errare Incipit," *Fortune*, Vol. LXVII, No. 4 (Oct. 1963), pp. 142-44, 173-74, 178-80.

[31] B. S. Sanders, "Speedy Entry of Patented Inventions into Commercial Use," *PTC J. Res. & Ed.*, Vol. 6, No. 1 (Spring 1961), pp. 87-116.

TABLE 5

NUMBER AND PERCENTAGE DISTRIBUTION OF ASSIGNED PATENTS BY TIME WHEN USE BEGAN AS RELATED TO THE DATE OF PATENT APPLICATION AND PATENT ISSUE BY UTILIZATION STATUS AT THE TIME OF REPORTING FOR CORPORATIONS GROUPED BY VOLUME OF NET SALES IN 1949.[1, 2]

PRELIMINARY

Corporations grouped according to net sales in 1949	Patents reported in current use							
	Use before application		Use after application		Use after issue		Unknown or unanswered	
	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Largest corporations	14	53.8	8	30.8	4	15.4	0	0.0
2nd largest corporations	17	54.8	11	35.5	1	3.2	2	6.5
3rd largest corporations	15	42.9	16	45.7	1	2.9	3	8.6
4th largest corporations	10	23.8	23	54.8	7	16.7	2	4.8
All listed corporations	56	41.8	58	43.3	13	9.7	7	5.2
Smallest corporations (not listed)	24	33.8	27	38.0	16	22.5	4	5.6
Total	80	39.0	85	41.5	29	14.1	11	5.4

	Patents reported in past use							
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Largest corporations	11	45.8	8	33.3	2	8.3	3	12.5
2nd largest corporations	6	31.6	10	52.6	2	10.5	1	5.3
3rd largest corporations	6	31.6	7	36.8	5	26.3	1	5.3
4th largest corporations	7	24.1	10	34.5	5	17.2	7	24.1
All listed corporations	30	33.0	35	38.5	14	15.4	12	13.2
Smallest corporations (not listed)	6	28.6	11	52.4	1	4.8	3	14.3
Total	36	32.1	46	41.1	15	13.4	15	13.4

	All patents reported used							
	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Largest corporations	25	50.0	16	32.0	6	12.0	3	6.0
2nd largest corporations	23	46.0	21	42.0	3	6.0	3	6.0
3rd largest corporations	21	38.9	23	42.6	6	11.1	4	7.4
4th largest corporations	17	23.9	33	46.5	12	16.9	9	12.7
All listed corporations	86	38.2	93	41.3	27	12.0	19	8.5
Smallest corporations (not listed)	30	32.6	38	41.3	17	18.5	7	7.6
Total	116	36.6	131	41.3	44	13.9	26	8.2

[1] See footnote 1 of Table 1.
[2] See footnote 2 of Table 2.

With respect to patented inventions reported in past use the tendency for larger companies to initiate early use is apparent again, though it is not as marked as for patents in current use. But for patented inventions for which use began after issue, the pattern suggests lowest use for the smallest companies but highest use for corporations of intermediate size, third largest. This would suggest that corporations of intermediate size are more likely to commercialize inventions of comparatively low potential than the smallest or the largest corporations. The frequencies, however, are too small to reach a firm conclusion with respect to early or late use, other than the general impression that the largest corporations are probably more apt to initiate commercial use of inventions prior to patent application than smaller or smallest corporations. Smallest corporations, on the other hand, are more apt to put a patented invention into commercial use while the patent is pending or after it has been issued.

Duration of Commercial Use

The economic returns from commercial exploitation of patented inventions depend among other things on the length of time that the invention is kept in use and the returns from such use. Table 6 indicates the association found between corporation size and the duration over which the invention was kept in commercial use for patents used in the past and for those in current use up to 1/1/57 for the 590 patents with initial returns, and 1/1/62 for the 436 patents with postal card returns.

First it should be observed that the variability in duration of commercial use both for patented inventions no longer in use and those still in use is very large. With such wide variability our sample sizes are too small to show any definitive relationship between duration of commercial utilization of patented inventions and corporation size. From column 2 one gets the impression that perhaps there is some tendency for smaller companies to keep patented inventions in use somewhat longer, but the statistical evidence is by no means definite. Column 6 also shows the lowest mean duration for patented inventions of the largest corporations, but the second lowest mean duration is for the smallest corporations. In view of the large standard deviations, no solid conclusion as to association between company size and the duration of exploitation can be deduced. About all one can say is that there is no evidence that smaller corporations are hindered from using their patented inventions over as long a period as larger corporations, if anything they might be using them somewhat longer, on the average,

TABLE 6

SUMMARY STATISTICS WITH RESPECT TO MONTHS OF COMMERCIAL USE OF PATENTED INVENTIONS REPORTED IN PAST OR CURRENT[1] USE IN THE INITIAL AND SUBSEQUENT QUESTIONNAIRES, RESPECTIVELY, RELATED TO CORPORATION SIZE GROUPED IN ORDER OF THEIR NET SALES IN 1949[2]

Corporations grouped according to net sales in 1949	Statistics on length of commercial use[2] in months															
	Based on initial returns[3]								Based on subsequent returns[4]							
	Inventions in past use				Inventions in current use[1]				Inventions in past use				Inventions in current use[1]			
	M	S.D.	C.V.	N	M	S.D.	C.V.	N	M	S.D.	C.V.	N	M	S.D.	C.V.	N
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Largest corporations	45.5	31.0	68.2	17	117.8	58.9	50.0	25	95.7	74.8	78.2	13	172.6	27.5	15.9	11
2nd largest corporations	56.5	48.3	85.5	14	167.2	64.8	38.3	20	51.3	29.3	57.2	13	215.9	68.1	31.5	16
3rd largest corporations	55.5	50.2	90.0	14	154.5	80.6	52.2	22	67.1	51.4	76.6	14	235.5	95.8	40.7	24
4th largest corporations	60.6	47.8	78.9	20	146.4	66.6	45.5	33	50.1	27.3	54.5	14	199.8	68.4	34.2	25
All listed corporations	54.7	45.6	83.4	65	145.2	70.0	42.4	100	65.8	52.8	80.2	54	210.5	77.5	36.8	76
Smallest corporations (non-listed)	58.7	56.2	95.4	16	135.4	66.4	47.7	52	107.8	56.2	52.1	8	182.7	67.2	36.8	42
Total	55.5	47.9	86.3	81	141.8	69.0	48.7	152	71.2	54.1	76.0	62	200.6	75.2	36.5	118

[1] Duration of use in months for patents in current use for which the date of initial use was reported was based on the interval between such date and 1/1/57 for initial return, and 1/1/62 for subsequent return.
[2] See footnote 1 in Table 1.
[3] Initial return, the date or dates given in response to the original questionnaire for patent Utilization Study.
[4] Post card return, the date or dates given in response to it.

in comparison with the length of time that the largest corporations use their patented inventions.

Columns 5, 9, 13 and 17 give the number of patents for which information was given from which length of time that the patented invention had been in use could be computed. Comparison of frequencies in columns 5 and 9 with those given in Table 2, indicates that requisite information on time when use began, and for patents used in the past the terminal time as well, was not provided for one-third to one-fourth of these patents. We find no consistent pattern as to completeness of reporting this information by corporations differentiated by size. The frequencies in columns 13 and 17 could be compared with appropriate frequencies given in Table 4, (horizontal totals) again no set pattern of completeness of reporting is shown to be associated with company size. The proportion of complete replies, however, by companies returning postal cards is significantly higher than for all companies responding to the initial questionnaire. This is to be expected, that companies which cooperated both times were the more cooperative companies and consequently more inclined to provide all the information asked for. For the total group of patented inventions reported used in the past information given regarding the time when use began and terminated was for 72 percent, the corresponding percentage for patents with postal card return the percentage was 79. For patents in current use information when such use began was given for 74 percent, in response to the initial questionnaire, the corresponding percentage for postal card questionnaire was 92.

Proportion of Patents Considered Useful

Even though from the standpoint of society and the economic system the value of the patent is to be measured primarily in terms of its net commercial return, for corporations patents might have competitive and other values even though they were not exploited commercially. Therefore, in the patent utilization study aside from commercial exploitation of the patented invention, which incidentally did not include the licensing, we also sought information on whether the patent was licensed,[32] and whether the assignee considered the patent

[32] Question 21 in the assignee questionnaire reads in part, "Have licenses been issued by you to others for the sampled patent: (*a*) Yes —— (*b*) No —— . . . *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 111. An appreciable number (7%) of assigned patents were reported licensed even though they were not reported used. Use was defined as "Making or selling the patented invention, or using the patented invention in the production of goods or services, or making financial arrangement (s) with a third party (s) for the production, use, or sale of the patented invention." *Ibid., p.* 108.

useful and if so in what way.[33] We have considered a patented invention useful if it was put to commercial use, or if it was licensed, or if the response of the assignee to question 20 was affirmative. For the entire working sample of 590 assigned patents for which assignee questionnaires were returned the percentage of patented inventions reported useful in terms of the above definition was 75. Is this broader criterion of usefulness associated with corporation size? This query is answered by the figures given in Table 7.

Columns 2 and 3 show the number and percentage of patents reported in current, past and future use. Despite some irregularities there is a general gradient, the percentage of patented inventions in this group increases with decreasing size of the corporation. The overall percentage is 52 for large (all listed companies) and 75 for the small (non-listed) companies. Columns 4 and 5 show the number and proportion of patents reported licensed. These percentages also are markedly associated with corporation size. But in this case the association is direct and not inverse. It is 23 percent for the largest corporation, 7 percent for 4th largest and none for the smallest (non-listed) corporations.[34]

In columns 6 and 7 there is no clear cut pattern, but nevertheless the larger companies (all listed) report proportionately twice as many patents useful as smallest non-listed companies—9.4 and 4.6 respectively. In columns 8 and 9 are combined all the elements included in our definition of useful patents. There is no linear association between the percentages in column 9 and corporation size. The percentage of useful patents, as defined here, reported by the largest and the smallest corporations are essentially the same, 80.4 and 79.4, respectively. They are lowest of all for the third largest companies and intermediate for

[33] Question 20 in the assignee questionnaire reads: "Describe any other benefits which you have derived or expect to derive from your right(s) in the sampled invention." *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 111. This is in addition to questions 7 to 9 inquiring with respect to commercial use of the patented inventions, questions 10 and 11 seeking information as to the duration of such use, questions 17-19 asking about the intensity of use and its effect on sale and production costs, question 21 asking about licensing, and questions 26 and 27 seeking information on net financial returns realized from the use of the invention.

[34] It should be stressed that columns 4 and 5 are limited to licensed patents which were not reported in use. The total proportion of patents reported licensed is three times the number shown in column 4, i.e., 27 percent of the patents for which assignee questionnaires were returned. From the postal card questionnaire in which assignees were again asked if the sampled patent had ever been licensed the returns by the 436 respondents the percentage said to have been licensed were distributed as follows regardless of use: 26, 26, 26, 23 and 22 from the largest to the smallest corporations. This indicates no significant association between licensing in general and corporation sizes of licensors.

TABLE 7

NUMBER AND PERCENTAGE DISTRIBUTION OF ASSIGNED PATENTS REPORTED USED OR TO BE USED, LICENSED OR SOME OTHER USEFULNESS INDICATED BY ASSIGNEE RELATED CORPORATION SIZE GROUPED IN ORDER OF THEIR NET SALES IN 1949[1]

Corporations grouped according to net sales in 1949	Patents reported in current, past or future use		Patents not reported used but licensed		Patents not reported used or licensed but considered useful		All patents considered useful		Total questionnaires returned	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*
Largest corporations	55	51.4	25	23.4	6	5.6	86	80.4	107	100.0
2nd largest corp.	63	52.5	12	10.0	15	12.5	90	75.0	120	100.0
3rd largest corp.	51	43.6	10	8.6	14	12.0	75	64.1	117	100.0
4th largest corp.	71	61.7	8	7.0	8	7.0	87	75.7	115	100.0
All listed corp.	240	52.3	55	12.0	43	9.4	338	73.6	459	100.0
Smallest corporations (non-listed)	98	74.8	0	0.0	6	4.6	104	79.4	131	100.0
Total	338	57.3	55	9.3	49	8.3	442	74.9	590	100.0

[1] Postal card questionnaire inquired whether the sampled patent was licensed, but there was no question corresponding to question 20 in the initial assignee questionnaire. Therefore this Table and all subsequent Tables, except Table 13, are based exclusively on the initial questionnaire. See *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), pp. 109-111.

second and fourth largest. All of these differences, however, could easily be attributed to chance.[35] Therefore, on the basis of the evidence on hand one is led to believe that even though smallest corporations have a significantly higher proportion of their patented inventions in use, and largest corporations have a higher proportion of patents not used by themselves that are licensed, there is no indication of any linear relationship between corporation size and the proportion of useful patents as here defined and reported by assignees.[36]

[35] The Chi-Square test shows that deviations from a uniform percentage as large as those shown in column 8 could occur through chance 50 times in each hundred samples. The Chi-Square is 3.48 with 4 degrees of freedom.

[36] Some question might be raised whether this lack of significant relationship between corporation size and proportion of useful patents does not cast a shadow on the significance of the association which has been stressed between corporation size and the proportion of patents put to commercial use.

To me these diverse findings suggest no inconsistency. In all probability the reason why smallest corporations use a higher proportion of their patented inventions might be that many of these corporations are formed for the explicit purpose of exploiting certain patented inventions. Furthermore, as long as the corporation remains small, almost of necessity it must restrict itself to patented inventions that appear sure fire—and can not take long risks. As the corporation grows and gains reserves it can take long risks, its interest in patents becomes widened and it would be natural for the proportion of patented inventions put to use to decline. But

Intensity of Use of Patented Inventions

Going back to the narrower definition of patented inventions put to commercial use (patents reported in current or past use) we shall consider the intensity of their use. The most effective measure of intensity of use would be perhaps the net profit that assignees had derived from the commercial use of their patented invention. But to obtain such a net figure from the many companies would be still beset with many imponderables. As far as we know there are no standardized accounting procedures used to obtain net returns from patented inventions. Therefore, even had we been successful to obtain complete information on net profits, the dollar amounts would have concealed much diversity in terms of the true net returns. Furthermore, it is probably a fact that many companies do not try to cost closely their inventive and patent activities. Finally, we had no reason to believe that, even the companies which did have estimates of net returns from identifiable patents included in our sample, that they all would have shared this information with us. In consideration of these, we use a number of questions attempting to measure intensity of use. The rest of this report would be concerned in analyzing the information obtained from these queries bearing on the problem of intensity of use by companies differentiated by size.

How much used?

On the extent of use one of the questions was 13.[37] Admittedly this is a very elastic measure, nevertheless, we have tabulated the responses and these are shown in Table 8. In general, there is no indication of any consistent pattern of association between intensity of use as defined in question 13 and company size. Whether this absence of association would have been altered if we had a more objective measure of intensity of use we can not surmise.[38]

Effect of use on sales

Another attempt to assess the intensity of use was in terms of the impact of use on the sales volume of the company. This was included in

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there is no necessity that there be a similar decline in the proportion of patents that are useful or the intensity with which patented inventions put to commercial use are carried on as we shall see in that respect also we find no significant difference between large and small corporations.

[37] Question 13 reads: "If the sampled patent is or was used in production, indicate if it was used: (check) (a) Extensively —— (b) Moderately —— (c) To a limited extent —— (d) Other (specify)." *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 110.

[38] A Chi-Square test showed the variations observed well within sampling variability.

TABLE 8

ASSIGNEE REPLIES REGARDING THE INTENSITY OF COMMERCIAL USE OF PATENTED INVENTIONS REPORTED IN CURRENT OR PAST USE RELATED TO CORPORATION SIZE BASED ON SALES IN 1949.[1]

PRELIMINARY

Corporations grouped according to net sales in 1949	Patents reported in current use							
	Extensively		Moderately		Limited		All others[2]	
	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Largest corporations	13	52.0	4	16.0	8	32.0	0	0.0
2nd largest corporations	14	50.0	10	35.7	3	10.7	1	3.6
3rd largest corporations	13	52.0	6	24.0	5	20.0	1	4.0
4th largest corporations	20	51.3	10	25.6	6	15.4	3	7.7
All listed corporations	60	51.3	30	25.7	22	18.7	5	4.3
Smallest corporations (not listed)	29	46.0	22	34.9	10	15.9	2	3.2
Total	89	49.4	52	28.9	32	17.8	7	3.9
	Patents reported in past use							
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Largest corporations	6	27.3	6	27.3	9	40.9	1	4.5
2nd largest corporations	1	5.5	6	33.3	10	55.5	1	5.5
3rd largest corporations	4	22.2	6	33.3	7	38.9	1	5.5
4th largest corporations	6	21.4	5	17.8	15	53.6	2	7.1
All listed corporations	17	19.7	23	26.7	41	47.7	5	5.8
Smallest corporations (not listed)	5	19.2	4	15.4	16	61.5	1	3.8
Total	22	19.6	27	24.1	57	50.9	6	5.4
	All patents reported used							
	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Largest corporations	19	40.4	10	21.3	17	36.2	1	4.7
2nd largest corporations	15	32.6	16	34.8	13	28.3	2	4.6
3rd largest corporations	17	39.5	12	27.9	12	27.9	2	4.3
4th largest corporations	26	38.8	15	22.4	21	31.3	5	7.5
All listed corporations	77	37.9	53	26.1	63	31.0	10	4.9
Smallest corporations (not listed)	34	38.2	26	29.2	26	29.2	3	3.8
Total	111	38.0	79	27.0	39	30.5	13	4.5

[1] Replies to question 13 in the assignee questionnaire. See *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 110.
[2] Includes unknown or unanswered and all other replies not included in the specific categories shown.

question 18 in the assignee questionnaire.[39] This question, like the previous one, is largely subjective. The replies from corporations differentiated by size are summarized in Table 9.

[39] Question 18 reads: "Has the sampled invention increased your sales? (check) (a) Markedly —— (b) Moderately —— (c) Slightly —— (d) Not at all—— (e) Other (Specify)," *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 110.

TABLE 9

ASSIGNEE REPLIES REGARDING THE EFFECT OF COMMERCIAL USE OF THE PATENTED INVENTION ON VOLUME OF SALES RELATED TO CORPORATION SIZE BASED ON NET SALES IN 1949.[1]

PRELIMINARY

Corporations grouped according to net sales in 1949	Patents in current use									
	Markedly		Moderately		Slightly		Not at all		Other[1]	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Largest corporations	2	8.0	3	12.0	3	12.0	6	24.0	11	44.0
2nd largest corps.	2	7.1	6	21.4	5	17.9	5	17.9	10	35.7
3rd largest corps.	6	24.0	4	16.0	7	28.0	5	20.0	3	12.0
4th largest corps.	9	23.1	10	25.6	11	28.2	4	10.3	5	12.8
All listed corps.	19	16.2	23	19.7	26	22.2	20	17.1	29	24.8
Smallest corporations (non-listed)	9	14.3	22	34.9	13	20.6	9	14.3	10	15.9
Total	28	15.6	45	25.0	39	21.7	29	16.1	39	21.6

	Patented inventions used in the past									
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Largest corporations	0	0.0	3	13.6	3	13.6	5	28.8	11	50.0
2nd largest corps.	2	11.1	4	22.2	6	33.3	5	27.8	1	5.6
3rd largest corps.	0	0.0	3	16.6	5	27.8	5	27.8	5	27.8
4th largest corps.	1	3.6	7	25.0	5	17.9	12	42.8	3	10.7
All listed corps.	3	3.5	17	19.8	19	22.1	27	31.4	20	23.2
Smallest corporations (non-listed)	3	11.5	1	3.9	11	42.3	8	30.8	3	11.5
Total	6	5.4	18	16.1	30	26.8	35	31.2	23	20.5

	All used patented inventions									
	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
Largest corporations	2	4.3	6	12.8	6	12.8	11	23.4	22	46.7
2nd largest corps.	4	8.7	10	21.8	11	23.9	10	21.7	11	24.9
3rd largest corps.	6	13.9	7	16.3	12	27.9	10	23.3	8	18.6
4th largest corps.	10	14.9	17	25.4	16	23.9	16	23.9	8	11.9
All listed corps.	22	10.8	40	19.7	45	22.2	47	23.1	49	24.2
Smallest corporations (non-listed)	12	13.5	23	25.8	24	27.0	17	19.1	13	14.6
Total	34	11.6	63	21.6	69	23.6	64	21.9	62	21.2

[1] Replies to question 18 in the assignee questionnaire. See *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 110.
[2] Includes "unknown," or unanswered and all other replies not included in the specific categories shown.

Columns 2 and 3 suggest some inverse relationship among listed companies differentiated by size, but not between the listed and non-listed companies. If we consider all affirmative answers, i.e., columns 2, 4, and 6 combined, the percentages become 32, 46, 68, 77 for the listed companies. This indicates a strong inverse relationship. The

weighted percentage of affirmative answers for all listed companies is 58, and for non-listed companies it is about 70. Thus, even though the linear relationship breaks down since the highest percentage is for fourth largest group of corporations, nevertheless, there is considerable difference in favor of the smallest corporations (non-listed) as compared with large corporations (listed) taken as a group.

Columns 8 and 9, where it was said the use had no effect on sale, the percentages are too erratic to support any hypothesis. Finally, columns 10 and 11 indicate that between the listed companies the proportion not responding specifically to question 18 is considerably higher in the largest corporations compared with percentages for third and fourth largest companies. The smallest companies take an intermediate position, slightly above percentages reported by third and fourth largest but much below that of the largest or the second largest. With the large proportion of no information returns, however, it is difficult to say whether the differences suggesting a decline in the intensity of impact on sale with increasing size of listed companies is real or not.

For patented inventions used in the past the patterns are even more erratic and do not lend themselves to generalization other than apparently greater reluctance or perhaps actual difficulty for the largest corporations to determine the effect of the use of the sampled patent on their sales.

Columns 22-24 somewhat more definitely suggest that on the average the affirmative effect of use of the patent on the volume of sales appears to increase with decreasing size of the corporation. This relationship, however, could be in part due to the greater reluctance or greater difficulty, or both, on the part of largest companies to report the effect of use of the sampled invention on their sales.[40]

Use reducing production costs

The use of an invention might not increase sales but it might reduce costs of production. Question 19 in the assignee questionnaire deals

[40] A Chi-Square test applied to the frequencies corresponding to the cells in columns 22 to 26 gives a value of 30.01. The tabular value of Chi-Square with 20 degrees of freedom as in this case, is 31.410 with a P equal to .05. This borderline value would suggest, therefore, that the differences are perhaps statistically significant, since variations as large as those observed could result through chance only in about 5 or 6 samples out of 100 different samples drawn from a universe in which there was no association between size and effect on sales. We could not tell how much of the differences would have remained if the non-response were eliminated or equalized somehow.

with this aspect.[41] The responses of assignees are summarized in Table 10.

TABLE 10

ASSIGNEE REPLIES REGARDING THE EFFECT OF COMMERCIAL USE OF THE PATENTED INVENTION ON PRODUCTION COSTS RELATED TO CORPORATION SIZE BASED ON NET SALES IN 1949[1]

PRELIMINARY

Corporations grouped according to net sales in 1949	Patents in current use									
	Markedly		Moderately		Slightly		Not at all		All others[1]	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Largest corporations	4	16.0	6	24.0	3	12.0	3	12.0	9	36.0
2nd largest corps.	5	17.9	5	17.9	6	21.4	4	74.3	8	28.5
3rd largest corps.	6	24.0	2	8.0	6	24.0	8	32.0	3	12.0
4th largest corps.	2	5.1	5	12.8	7	17.9	13	33.3	12	30.8
All listed corps.	17	14.5	18	15.4	22	18.8	28	23.9	32	27.3
Smallest corporations (non-listed)	4	6.3	8	12.7	7	11.1	32	50.8	12	19.0
Total	21	11.7	26	14.4	29	16.1	60	33.3	44	24.5

	Patents used in the past									
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Largest corporations	1	4.5	4	18.2	4	18.2	6	27.3	7	31.8
2nd largest corps.	0	0.0	4	22.2	3	16.7	8	44.4	3	16.7
3rd largest corps.	1	5.6	4	22.2	1	5.6	6	33.3	6	33.3
4th largest corps.	0	0.0	2	7.1	0	0.0	17	60.7	9	32.2
All listed corps.	2	2.3	14	16.3	8	9.3	37	43.0	25	29.0
Smallest corporations (non-listed)	1	3.8	2	7.7	0	0.0	19	73.1	4	15.4
Total	3	2.7	16	14.3	8	7.1	56	50.0	29	25.9

	All used patented inventions									
	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
Largest corporations	5	10.6	10	21.3	7	14.9	9	19.1	16	34.1
2nd largest corps.	5	10.9	9	19.6	9	19.6	12	26.1	11	23.9
3rd largest corps.	7	16.3	6	13.9	7	16.3	14	32.6	9	20.9
4th largest corps.	2	3.0	7	10.4	7	10.4	30	44.8	21	31.3
All listed corps.	19	9.4	32	15.8	30	14.8	65	32.0	57	27.0
Smallest corporations (non-listed)	5	5.6	10	11.2	7	7.9	51	57.3	16	17.9
Total	24	8.2	42	14.4	37	12.7	116	39.7	73	25.0

[1] Replies to Question 19 in the assignee questionnaire. See *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 110.
[2] Includes "unknown" or unanswered and all other replies not included in the specific categories shown.

[41] Question 19 reads: "Has the sampled invention resulted in the reduction of your production costs? (check) (a) Markedly —— (b) Moderately —— (c) Slightly —— (d) Not at all —— (e) Other (Specify) ——." *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 110.

The percentages in columns 3, 5, and 7 suggest that the use of patented inventions by larger companies (listed) is more apt to reduce production costs than for small companies, the non-listed. For listed companies among themselves there is no clear-cut pattern, though when the three columns are combined it appears that the impact in reducing production costs is lowest for the fourth largest corporations, 36 percent in contrast to 52 for the largest, 57 for the second largest, and 56 for the third.[42]

Any beneficial effect from use?

We have analyzed so far the information given by assignees as to whether the use of the sampled patented invention increased sales or reduced production costs. It would be of interest to consider beneficial effects reported regardless of how these were obtained. To obtain this we have first considered patents in which the use increased sales, regardless of any other beneficial effect. For patents in which the use did not increase sales we considered whether it reduced production costs. Finally for patents in which the use according to the assignee did not have any beneficial effect on sales and on production costs did it have some other beneficial effect? This beneficial effect other than increasing sales or reducing production costs in a sense approaches our concept discussed earlier, of useful patents as distinguished from used patents. These results are shown in Table 11.

Columns 2 through 5, as we have seen from Table 9, suggest on the average an increase in the measurable effect of use on sales with decreasing size of corporations. Columns 6 through 9 suggest a decline in the percentage of patents which reduce production costs with decreasing size of corporations. That is, it would appear that large corporations more often have patented inventions the use of which reduces production costs. This is a corroboration of Table 10. Consequently when these two are combined, as in columns 10 and 11, the beneficial effect of patent use through sales or reduced production costs show a reduced linear association with corporation size, but the net association tends to be still negative in relation to size.

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[42] The Chi-Square for all the groups combining the patents in current use and those in past use is 34.83 with 16 degrees of freedom. This is highly significant since variations as large as these could occur as a result of chance only less often than once in a hundred. After the removal of the smallest (non-listed) corporations from the group the Chi-Square differences are no longer significant even at 5% level. The Chi-Square for differences in the listed companies is 18.5. A variation as large as this could occur once in every 10 trials, drawing samples from a universe homogeneous in this respect.

TABLE 11

ASSIGNEE REPLIES AS TO THE EFFECT OF THE USE OF PATENTED INVENTION ON SALES ON PRODUCTION COSTS OR ANY OTHER USEFUL EFFECT RELATED TO CORPORATION SIZE BASED ON NET SALES IN 1949.

PRELIMINARY

Corporations grouped according to net sales in 1949	For all patented inventions reported used (past or current use)																	
	Increased sales				Reduced production costs[1]				Favorable on sales or production costs		Other favorable effect[2]				Favorable effect		All others[3]	
	Yes		No		Yes		No				Yes		No					
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Largest corporations	14	29.8	27	57.4	14	29.8	13	27.7	28	59.6	6	12.8	2	4.3	34	72.3	11	23.4
2nd largest corps.	25	54.3	18	39.1	12	26.1	6	13.0	37	80.4	4	8.7	1	2.2	41	89.1	4	8.7
3rd largest corps.	24	55.8	18	41.9	7	16.3	9	20.9	31	72.1	8	18.6	0	0.0	39	90.7	4	9.3
4th largest corps.	43	64.2	21	31.3	5	7.5	16	23.9	48	71.6	6	9.0	8	11.9	54	80.6	5	7.5
All listed corps.	106	52.2	84	41.3	38	18.7	44	21.7	144	70.9	24	11.8	11	5.4	168	82.8	24	11.8
Smallest corps. (non-listed)	59	66.3	29	32.6	7	7.9	21	23.6	66	74.2	12	13.5	3	3.4	78	87.6	8	9.0
Total	165	56.5	113	38.7	45	15.4	65	22.3	210	71.9	36	12.3	14	4.8	246	84.2	32	11.0

[1] With respect to patented inventions which were reported not to have increased the sales.
[2] With respect to patented inventions which were reported not to have increased sales or reduced production costs.
[3] Includes unanswered and unknowns.

Columns 12 and 13 indicate any residual beneficial effect other than through sales and reduced production costs. The columns show no distinct pattern of relationship. The highest percentage, almost 19, is reported for third largest corporations and the smallest for the second largest, less than 9. These differences, however, are not statistically significant, and, therefore, could be attributed to chance.[43]

When any other beneficial effect is considered that is combining the 3 groups, columns 16 and 17, almost all linear relationship to corporation size disappears, and if there is any association left it is the inability or the greater reluctance of the largest corporations to report the beneficial effect use of patented inventions on their sales, production costs or otherwise (columns 18 and 19).[44]

Net profit from use

We have indicated the reasons why we have tried varied approaches to assess the intensity of use of commercially exploited inventions. It is agreed, however, that theoretically the most appropriate measure of intensity of use would be the net gain or loss from the commercial use of the patented invention in a given interval of time. Question 26 was designed to get this type of information.[45]

To learn something of the basis on which replies to 26 were based we also asked question 27.[46]

As we feared, only a fraction of the respondents who returned the questionnaires answered question 26. Of the 292 questionnaires returned in which the sample invention was reported used currently or in the past, only 44 percent gave useful information with respect to question 26. That is information with respect to 127 patented inventions. Of this total, in 93 a specific amount of gain or loss was reported,

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[43] A Chi-Square test confirms this conclusion.

[44] A Chi-Square test applied to the frequencies in columns 2, 6, 12 and 14 combined, and 18 indicates that the differences are statistically significant. That is, there are interrelationships between corporation size and the type of beneficial effects of use, some of this is linear and some non-linear. The Chi-Square value is 33.62 with 12 degrees of freedom. This would mean a chance difference as large as those observed could occur less often than 1 in a hundred. Leaving out the unknown, the Chi-Square is reduced to 26.09, with 8 degrees of freedom, these differences are still statistically highly significant since the tabular value of Chi-Square with a P of .01 is only 20.090, with 8 degrees of freedom.

[45] Question 26 reads: "What would you estimate as the net loss or gain that you have had to-date from the sampled invention? (give the estimated amount) (a) Net loss $—— (b) Net gain $—— (c) Other (Specify)." *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 111.

[46] Question 27 reads: "Is the amount in 26 (a) a recorded figure —— (b) an informed guess —— (c) Other (Specify)." *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 111.

usually in rounded figures suggesting that often the figure was only an approximation (and sometimes indicating only a partial figure, which we used, nevertheless). In the remaining 34 patents there is merely an indication whether on balance there was a net gain or loss.

In Table 12 we analyze the information reported for these 127 patents whether on balance according to the information supplied by the assignee there was a net gain or loss from the commercial use of these inventions.

Examining first column 19 it is seen that for 56 percent no information was supplied whether the commercial use of the patented invention had been profitable or not. Many assignees indicated they were unable to estimate, others merely left the question blank. The percentage who could not or would not report net gain or loss from the commercial use of the sampled patent out of those who returned a questionnaire shows no linear association with corporation size. The highest proportion, nearly 64 percent, is with respect to patents of third largest corporations. The lowest is about 50 percent, with respect to patents of fourth largest corporations. The percentage for all listed companies failing to answer is about 56 and for the smallest corporations (nonlisted) it is 58. The differences observed are not large enough to be statistically significant.

If there is no bias with respect to failure to respond to question 26 on the part of corporations differentiated by size then perhaps differences in gain or loss associated with corporation size, if any, are apt to be more meaningful.

Columns 2 to 7 indicate that of the 180 patented inventions reported in current use for 85 the information on net gain or loss was supplied, and in 79, or 93 percent of those, for which information was supplied, the corporation had made a net gain from the use of the sampled patent. While the percentage reporting a gain varies considerably for companies of different sizes, there is no indication that these variations are statistically significant.[47] For the 6 patented inventions for which a net loss was reported, one would surmise the situation can change eventually as time goes on and the net loss could be replaced by net gain, since these patented inventions were still in use.[48]

With respect to 112 patented inventions no longer in use, for 62

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[47] Chi-Square analysis for all groups and for those showing gain or loss indicated that differences as large as those observed in Table 12 for patented inventions in current use could easily have resulted from chance variation.

[48] Of these 6, for two no postal card was returned on our 1962 follow up. Of the 4 with cards returned, two failed to answer the question on the postal card "Has use been profitable." The other two which answered, one is "no" and the other "not known yet, probably *yes*."

TABLE 12

ASSIGNEE REPLIES REGARDING NET GAIN OR LOSS RESULTING FROM THE CURRENT OR PAST USE OF PATENTED INVENTIONS RELATED TO CORPORATION SIZE BASED ON NET SALES IN 1949.[1]

PRELIMINARY

Corporations grouped according to net sales in 1949	Patented inventions in current use						Patented inventions in past use						Patented inventions in past or current use					
	Net gain		Net loss		All other[1]		Net gain		Net loss		All other[2]		Net gain		Net loss		All others[2]	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Largest corporations	9	36.0	1	4.0	15	60.0	9	40.9	2	9.1	11	50.0	18	38.3	3	6.4	26	55.3
2nd largest corps.	9	32.1	1	3.6	18	64.3	7	38.9	2	11.1	9	50.0	16	34.8	3	6.5	27	58.7
3rd largest corps.	10	38.5	–	—	16	61.5	4	22.2	2	11.1	12	66.7	14	31.8	2	4.5	28	63.6
4th largest corps.	23	59.0	1	2.6	15	38.5	6	21.4	4	14.3	18	64.3	29	43.3	5	7.5	33	49.3
All listed corps.	51	43.2	3	2.5	64	54.2	26	30.2	10	11.6	50	58.1	77	37.7	13	6.4	114	55.9
Smallest corps. (non-listed)	28	45.2	3	4.8	31	50.0	2	7.7	4	15.4	20	76.9	30	34.1	7	8.0	51	58.0
Total	79	43.9	6	3.3	95	52.8	28	25.0	14	12.5	70	62.5	107	36.6	20	6.8	165	56.5

[1] Based on replies to Question 26 in the assignee questionnaire. See *PTC J. Res. & Ed.*, Vol. 1, No. 1 (June 1957), p. 111.
[2] Unanswered or unknown.

percent no information was supplied regarding net loss or gain realized from the use of the sampled patented invention. The percentage of patents on which no useful information was supplied in this respect is highest for the smallest corporations, 77 percent, while it is only 50 percent for the largest corporations. This suggests a greater reluctance on the part of the smallest (non-listed) corporations to carefully search their records with respect to the sampled patent in answering the questionnaire. But the indication is by no means definitive. The difference between 77 percent for the smallest corporations and 58 percent for the larger corporations is not statistically significant, and, therefore, might be attributable to chance.[49]

For patented inventions used in the past on which information is supplied on net gain or loss, for one-third a net loss is indicated and for the remaining two-thirds a net gain. The proportion of patented inventions on which a net gain was reported is highest for the largest corporations and lowest for the smallest, thus there is an apparent linear relationship associated with size suggesting that smallest corporations are more apt to have used patents which do not cover all outlays. However, the differences in relation to the frequencies are not large enough to be statistically significant. In this instance the difference approaches the borderline of statistical significance.[50] A Chi-Square analysis for the five groups, including or excluding the unknown cases, indicates that the differences observed in relation to corporation size and proportion of patents on which gains were reported is not statistically significant, though the difference between smallest corporations compared with all listed corporations is almost high enough to suggest statistical significance. One is led to infer that there is perhaps a greater likelihood for smallest companies to have a somewhat higher proportion of used patents on which they experience a net loss.[51]

In the postal card questionnaires sent to assignees who had returned the initial questionnaire a question was asked with respect to used patents, namely "Has use been profitable? Yes ——, No ——." In all of the 590 patents for which follow-up questionnaires were sent to as-

[49] The standard error of the difference is 10.2 percent and the actual difference 18.8 percent, less than two times the standard error which is used conventionally as the measure of statistical significance.

[50] In comparing the net gain and net loss percentages for the smallest corporations (non-listed) with largest corporations—the listed, the standard error of estimate is 20.7 and the difference between percentage reporting gain for these two groups is 38.9, only slightly below the borderline of significance which we consider twice the standard deviation of the difference.

[51] This may result from a lack of resources forcing the abandonment of further use of a patented invention with economic potentialities.

signees 436 were returned. Of these 207 were patented inventions reported used in the past or currently. For all but 13 of these the assignee answered the question on whether the used patent had proved profitable. This would suggest that initially had we not tried to obtain information on the amount of gains or losses that many more companies would have answered the question in terms of net gain or loss. That is, many companies declined to give the information in response to question 26 because they lacked precise information or they did not wish to make such information available to us. There would have been no such reluctance on the part of many had we asked merely whether they had experienced net gain or loss. This emphasizes the need, for continued studies to gain the cooperation and confidence of corporations in studies of this type.

The replies to the postal card questionnaire on whether the use of the sample patented invention had been profitable are summarized in Table 13.

Table 13 suggests somewhat greater reluctance for largest corporations to supply information on profitability, no matter how general the query, this difference, however, could be the result of chance variation.

Considering the question of primary interest to us in this report, the association between percentage of patents in current use with net gain related to corporation size, the evidence is inconclusive. However, a comparison of the proportion of patented inventions on which a loss was reported by the smallest corporations compared with the rest shows statistically significant difference, tending to confirm the suspicion that on balance smallest corporations are more likely to experience net loss from used patented inventions than larger corporations.

For patents used in the past both the general association and the difference between smallest corporations from the larger ones is not large enough to be statistically significant though it is in the same direction, that is the proportion of patents on which net loss was reported is higher for the smallest corporations.

In the initial questionnaire, the number who supplied information on net gain for all used patented inventions was 85. Since 6 of the patents for which a loss was reported were still in use, at least some of these, and possibly all, may eventually be shifted to the group showing a net gain, thus this percentage is apt to increase. Its limiting value according to our sample would be 89 percent. So that the suggested percentage of patented inventions used on which there is a profit

TABLE 13

ASSIGNEE REPLIES TO THE QUESTION "IF SAMPLED PATENT USED, HAS USE BEEN PROFITABLE? YES ——, NO ——" FOR PATENTED INVENTIONS IN CURRENT OR PAST USE,[1] RELATED TO CORPORATION SIZE BASED ON NET SALES IN 1949.

PRELIMINARY

Corporations grouped according to net sales in 1949	Patented invention in current use						Patented invention in past use						Patented invention in past or current use					
	Gain		Loss		Other		Gain		Loss		Other		Gain		Loss		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Largest corporations	8	72.7	--	--	3	27.3	11	68.9	4	25.0	1	6.3	19	70.4	4	14.8	4	14.8
2nd largest corps.	16	100.0	--	--	--	--	14	82.4	2	11.8	1	5.9	30	90.9	2	6.1	1	3.0
3rd largest corps.	23	92.0	--	--	2	8.0	15	88.2	2	11.8	--	--	38	90.5	2	4.8	2	4.8
4th largest corps.	26	96.3	--	--	1	3.7	14	73.7	4	21.1	1	5.3	40	87.0	4	8.7	2	4.3
All listed corps.	73	92.4	--	--	6	7.6	54	78.3	12	17.4	3	4.3	127	85.8	12	8.1	9	6.1
Smallest corps. (non-listed)	42	85.7	3	6.1	4	8.2	6	60.0	4	40.0	--	--	48	81.4	7	11.9	4	6.8
Total	115	89.8	3	2.3	10	7.8	60	75.9	16	20.3	3	3.8	175	84.5	19	9.2	13	6.3

[1] Based on the follow-up postal card questionnaire mailed to assignees who had returned the initial questionnaire.

would be between 84 and 89 based on initial returns.[52] On the basis of the postal card questionnaire on which a much higher proportion of corporations indicated whether the used patented invention had been profitable or not the percentage in which the answer was yes for patented inventions in current use was 97—with possibility that this percentage could rise to 100. With respect to patented inventions used in the past according to the replies to follow-up questionnaires 79 percent had resulted in net gain and 21 percent in net loss, excluding those which supplied no information in this respect. This percentage is not inconsistent with results of Table 12 where the corresponding percentage is somewhat lower, since patented inventions which are abandoned earliest are more likely to have resulted in loss than those abandoned after a while through obsolescence.[53]

Combining patents in current use and those used in the past the percentage reporting net gain would be 90, with the possibility of its rising to 92. It would appear, therefore, that the percentage based on initial replies perhaps is somewhat on the low side, that given adequate developmental time perhaps 90 percent of the patented inventions put to commercial use result ultimately in net gain for the company.

Dollar returns

Of the 292 patented inventions reported in current or past use net profits or losses in terms of specific dollar amounts were reported for only 93 patented inventions. Statistics with respect to these amounts are summarized in Table 14.

Of the total number of patents in Table 14, 76 or 82 percent, reported gains and the balance losses. But of this balance 6 were patented

[52] The reader must keep in mind that we are considering only patented inventions put to commercial use. If all patenting activities are considered the percentages showing loss would of course be much larger since with a few exceptions all the patented inventions which were not put to commercial use would have a net loss. But even in this context our evidence would suggest that on the average every other patented invention proves profitable in terms of net profit over the costs for the used invention. This would lead one to conclude that a company with a significant number of patented inventions is well nigh certain to have a net gain from these activities instead of a net loss. This approaches certainty for companies with hundreds of patents.

[53] This is borne out by the fact that for the 15 patented inventions used in the past for which a gain is reported the mean duration of use is 67.1 months. The corresponding average for the 8 patented inventions used in the past for which a loss was reported is 50.2 months. The difference in these two means is statistically highly significant. The observed difference is more than 5 times the standard error of the difference.

TABLE 14

SUMMARY STATISTICS DERIVED FROM ASSIGNEE REPLIES OF NET DOLLAR GAINS OR LOSSES REALIZED UP TO THE DATE OF REPORTING FROM THE COMMERCIAL USE OF SAMPLED PATENTED INVENTIONS SEPARATELY FOR PATENTED INVENTIONS STILL IN USE AND FOR ALL USED PATENTED INVENTIONS RELATED TO CORPORATION SIZE BASED ON NET SALES IN 1949.

PRELIMINARY

Corporations grouped according to net sales in 1949	Patented inventions resulting in net gain									
	Patented inventions in current use					All used patented inventions				
	Mean	Medium	S.D.	C.V.	No.	Mean	Medium	S.D.	C.V.	No.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Largest corporations	$2,017,000	$ 70,000	$4,626,175	229	9	$1,303,786	$ 39,000	$3,830,643	294	14
2nd largest corporations	163,788	22,000	236,194	144	8	167,780	37,000	244,014	145	14
3rd largest corporations	1,578,272	500,000	1,840,696	117	5	1,001,545	240,681	1,634,824	163	8
4th largest corporations	141,824	11,000	266,450	188	14	115,586	13,500	240,172	208	18
All listed corporations	815,006	32,500	2,563,892	315	36	568,423	24,500	2,124,357	374	54
Smallest corporations (non-listed)	141,143	20,000	339,022	240	21	134,955	20,000	332,438	246	22
Total	566,740	25,000	2,073,576	366	57	442,945	22,000	1,810,295	409	76
	Patented Inventions for Which Net Losses Were Reported									
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Largest corporations	$ 5,348	$ 5,348	$ 0	—	1	$ 5,348	$ 5,348	$ 0	—	1
2nd largest corporations	140,000	140,000	0	—	1	76,000	76,000	64,000	84	2
3rd largest corporations	—	—	—	—	—	31,000	31,000	19,000	61	2
4th largest corporations	4,000	4,000	0	—	1	8,074	7,500	6,497	80	5
All listed corporations	49,783	5,348	63,796	128	3	25,972	10,000	40,260	155	10
Smallest corporations (non-listed)	139,167	16,500	184,546	133	3	65,643	10,000	136,651	208	7
Total	94,475	10,945	145,124	154	6	42,307	10,000	94,993	225	17

inventions still in use and as we have observed earlier perhaps for all of these the picture would change,[54] leaving only 11 patents, i.e., 12 percent of used patented inventions for which a net loss would be reported.

The outstanding characteristic of Table 14 is the wide variability in the dollar amounts reported gained or lost from the use of the patented inventions, especially the former—gains. In Table 14 we have kept patented inventions in current use separate from other used patents since for these net gain or loss is merely provisional. Had we gone back to these asignees two, three, or more years after, the net gains from all of these patents would have been greater, in some instances much greater, than what was true at the time of initial reporting. For all of these patented inventions in current use, having paid initial developmental costs, over the years to come until their final obsolescence the net returns would be progressively larger and larger. For those showing a loss, this picture would be apt to change in subsequent years.

Of the total reporting a specific amount, 55 or 60 percent reported net gain for a patented invention still in use. The mean gain per patent was about $567,000. It should be observed, however, that this mean is the mean of a highly skewed distribution. The median of this distribution is only $25,000. That is one-half of these patents reported a net gain at the time of reporting of $25,000 or less and one-half more than $25,000. The standard deviation emphasizes the wide variability—the range in amounts earned per patent being from $1,000 to $15,000,000.[55]

The 6 patents also in current use for which a net loss was reported, show an average net loss of about $94,000. These amounts are also quite variable as may be judged from the median, the standard deviation and the coefficient of variability—though not as variable as those showing net gains.[56]

If these amounts have any validity their greater significance must be seen in the fact that these gains are going to continue and the range

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[54] This presumption is strengthened by the fact that for these 6 patented inventions showing a net loss the length of time that they have been in commercial use is 98.0 months as compared with a mean of 146.5 months for the 57 patented inventions for which a net gain was reported. These two means are statistically significantly different from one another. The observed difference between the two means is nearly 15 times the standard error of the difference.

[55] This is palpable evidence why the number of patents as such are no measure of inventiveness in any meaningful sense.

[56] This comparison can be made in terms of the coefficient of variation which relates the standard deviation to the mean. The C. V. is 154 for patents reported with a net loss and 366 for those reported with a net gain.

and variability in yields per patent would continue to increase as variability in the length of time that these patented inventions would remain in use becomes progressively a part of the end product. Considering the future potential of these inventions it would not be unreasonable to assume that if we could follow this cohort of inventions until they all become obsolete, that the mean return per patent could easily be twice what it is and possibly four times. That is, since the most profitable inventions which yield many millions, possibly even billions, would remain in use over decades. Therefore, the mean ultimately could easily have a magnitude of the order of 10^6 or $2\,(10)^6$.

For only 12 percent of the patents for which this information is supplied is there a net loss reported, for patents no longer in use. For these net loss shown separately in Table 14, the mean is about $14,000, with a median of $10,000 and a standard deviation of near 13,000, giving a C.V. of 92.[57]

With respect to our specialized interest in this interim report, the average return or net loss per patent for corporations of different size in general the smallest corporations have the lower mean. Thus for patents in current use the mean for large (listed) corporations is about $800,000 while that for the smallest corporations is $140,000. But this type of analysis could easily become circular, for if a "small" corporation struck rich with an invention which turns into a bonanza, in a short time such a corporation would no longer be a small corporation—so we would expect this sort of inverse association. Otherwise, considering the large standard deviation, it is not possible to arrive at any meaningful generalization.

The most significant impression one gets from figures summarized in Table 14 is the tremendous potential that Americans might be getting from the operation of their patent system, with little concrete realization. It is time that we try to understand it and learn perhaps how its contributions can be enhanced instead of being squandered through ignorance and misconceptions. Considering the future po-

[57] The relative variability for the different categories of patents depicted in Table 14 might be likened to a fusillade from all types of firearms used since 1700. The group last discussed are the few which misfire which would drop near the spot of firing. If one were to measure the distance, variability of bullets in the first second after firing the variability would be comparatively small, but as time goes on this variability would increase tremendously. This is what would be expected among the patented inventions still in use as to their net returns over subsequent years until they all become obsolete eventually. Except in the case of firearms time would be measured in seconds or fractions of seconds, in the case of patented inventions it would be measured in decades. Therefore, our analysis shows only the initial stage of this phenomenon.

tential of the patented inventions still in use it would not seem far-fetched to assume an ultimate mean income of $2,000,000 per patented invention put to commercial use. This would mean better than one million per patented invention.[58] On this basis the aggregate earning per patent for the 30,000 or so patents acquired by corporations, might equal or may well exceed $30 billion. To validate this we need more extensive and better quantified studies of economic contribution of patented inventions. The Patent Utilization Study has demonstrated feasibility of this approach, what we need is resources and cooperation of private enterprise to establish beyond reasonable doubt the massive benefits which our society derives from the operation of the patent system.

COMMENT

by Harry R. Mayers

Before publication in the Journal, *papers are reviewed and suggestions made by members of the Editorial Committee intimately concerned and competent in the aspects of the subject matter discussed therein. We are publishing the following comments by Harry R. Mayers, a member of that committee, which we think will be of interest to our readers on "Patterns of Commercial Exploitation of Patented Inventions by Large and Small Corporations."*

If I had to hypothesize a rationalization of the results of this study, I should do so in the following terms.

The very smallest patent-owning company is probably quite newly founded and may indeed have been founded on the very patents which it now holds. These very possibly apply to a single product line and cover various aspects of the only product being manufactured by the

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[58] Some question might be raised how this guestimate was arrived at. It is assumed, of course, in the absence of any contradictory evidence, that the average amount reported for the 93 patented inventions would not be greatly different from the average of all patented inventions with an average commercial life span corresponding to the 93 patents under consideration. In projecting from this observed base to ultimate net return the most important assumption made is the length of time that these inventions reported in commercial use would continue in such use. Secondly that patented inventions which have already made up for their developmental cost would have only a net plus return from here on out for as long as they remain in use and later become adopted by other corporations when the patent protection terminates. The guestimate is a speculative figure as it stands, to be sure, but can be made less so by additional follow-up studies.

company. Accordingly, percentage of use of patents tends to be high.

As the company grows and prospers, its first added inventions are in terms of improvement to its original product and these also tend to go into use, presumably without completely superseding the original or basic invention. Accordingly, the original patents tend to be continued in use over a long period of time.

As the company grows still larger and acquires an engineering staff, it begins to seek alternative products, which it tends to patent concurrently with their development. Some of these are failures, hence the patents on them fall in the unused category. However, the proportion of unused patents remains small because the company's financial limitations prevent its engaging in highly speculative ventures or in purely speculative patenting.

When the company enters the large or strongly based category, its capacity for risk-taking increases. At a certain size it can diversify its risks and rely with some confidence on the theory that failures will be offset by success in other areas of endeavor. At about the same time it sets up a full scale patent program which in the light of priority problems and the occasional need for seeking foreign patent protection, may lead it to patent its even more speculative developments. The result is that a considerably larger proportion of its patents are "unused."

Finally, as it attains largest size, its patenting program may on a diversification theory include seeking patents on inventions rated primary, secondary, speculative, and tertiary, where the third name class is what its name suggests and where the fourth class represents inventions of unpredictable patentability as well as of speculative usability. These last two classes obviously yield a high proportion of unused patents, with the occasional successes hopefully paying the cost of all the rest.

On the basis of such knowledge as I have of the industrial scene, I believe that the foregoing represents at least a crudely approximate model of the way things really happen.

On the matter of the "reported value" of patents, I think that the responses to inquiry will always yield somewhat inflated results. To the extent that replies are made through the groups which procure patents, there is certain to be reluctance to report any patent as devoid of value, because to do so may be thought to imply an error in judgment as to its procurement. This is, of course, not an absolute rule, but it is one which will predictably impart a significant bias to the data. For this reason, my own inclination would be to depreciate rather than enlarge the values assigned.

Patent Policies of Other Governments

MARY A. HOLMAN*

OTHER INDUSTRIALIZED NATIONS have been facing problems similar to those in the United States on the disposition of patented inventions originating from government-financed R&D. A brief investigation of the government patent policies in other countries is of interest for comparative purposes. Despite the Executive Order of President Kennedy,[1] the controversy over government patent policy will probably continue. The Order provides for many exceptions and qualifications to the general rule that contractors will usually be permitted to retain titles to patented inventions resulting from government-financed R&D. As is well known, the government generally acquires patent rights to inventions made by government employees.[2]

It is important to emphasize that the effect of government patent policy on incentives to invent, to disclose new technology, and to innovate differs among countries.[3] There are three main reasons for differences in the impact of government patent policy. First, the amount and direction (i.e., whether most of the research is basic or applied) of government-financed research and development vary greatly between countries. Secondly, patent laws and the incentive effects of patent protection are not the same in all countries. Patent laws of some nations contain provisions for compulsory licensing; these provisions are absent in the patent laws of other countries. Thirdly, political, legal, and economic institutions are to a greater or

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[1] U.S., President, 1960-1963 (Kennedy), *Memorandum to Heads of Departments and Agencies and Statement of Government Patent Policy,* October 10, 1963.

[2] U.S., President, 1945-1953 (Truman), Executive Order No. 10096, *Providing for a Uniform Patent Policy for the Government with Respect to Inventions Made by Government Employees and for the Administration of Such Policy,* January 23, 1950.

[3] Selection of the countries discussed in this paper is in part arbitrary. Letters were written to officials in the patent offices, or similar institutions, of industrialized European countries, Australia, Canada, and Japan. The patent policies of the governments discussed in the article are those for which information was supplied. Supplementary information was kindly given to me by Mr. Philip Jordan, Committee on Science and Astronautics, U.S. House of Representatives.

lesser extent dissimilar. An investigation of these differences is obviously beyond the scope of this article.

The amount of research and development work sponsored by foreign governments compared with that of the United States gives some insight into the importance of the disposition of patent rights resulting from government-financed R&D. Table 1 presents research and development expenditures of selected industrialized countries and the relationships of such spending to their gross national products. The table also shows the division between research and development supported by government and by industry. Caution should be used in interpreting the data because different methods of collection and different definitions used by the various foreign countries do not permit close international comparisons. Although the data are the best currently available, the reliability of some of them is questionable. The data are based on unofficial and unpublished estimates made by personnel in the National Science Foundation. The data are, however, useful as indicators of the magnitude of investment in R&D.

Research and development sponsored by government is greater than that financed by industry for seven of the countries: Australia, Canada, Germany, Italy, Norway, United Kingdom, and United States. Private R&D exceeds that of government for four countries: Japan, Netherlands, Sweden, and Switzerland. R&D expenditures as a percent of

TABLE 1

RESEARCH AND DEVELOPMENT EXPENDITURES OF SELECTED COUNTRIES AND THEIR RELATIONSHIP TO GROSS NATIONAL PRODUCTS
(Millions of U. S. Dollars)

Country	Year	Expenditures			Percent of GNP
		Government	Industry	Total	
Australia	1958-1959	76	7-12	83-88	0.6
Austria	[a]	10-12	N.A.	N.A.	N.A.
Canada	1959	154	97	251	0.7
Germany (West)	1959	382[b]	339	721	1.3
Italy	1959	53	47	100	0.3
Japan	1960-1961	175	327	512	1.3
Netherlands	1959	25	98	123	1.6
Norway	1957	23	4	27	0.6
Sweden	1959	58	126	184	1.5
Switzerland	1961	27	70	97	N.A.
United Kingdom	1958	895	442	1,337	2.3
United States	1960-1961	9,220	4,490	14,040	2.8

[a] Data are for a year in the late 1950's.
[b] Does not include military research.
N.A.—Not available in Office of Economic and Statistical Studies, National Science Foundation.
Source: These data were drawn from a variety of sources and are the best currently available in the Office of Economic and Statistical Studies, National Science Foundation. Some of the data are based on unofficial and unpublished estimates.

gross national product range from a high of 2.8 percent for the United States to a low of 0.3 percent for Italy.

AUSTRALIA[4]

The majority of patented inventions resulting from government-sponsored research and development in Australia originate from activities of government employees working in three main groups: (*1*) government departments; (*2*) corporate bodies established under Commonwealth legislation; and (*3*) universities. Among the government departments, the Department of Supply is the most important. That Department undertakes R&D to strengthen the national defense of Australia. Two main corporate bodies undertake research activity, the Commonwealth Scientific and Industrial Research Organization and the Australian Atomic Energy Commission. The functions of the former include scientific investigations designed to promote primary and secondary industries in Australia. The latter engages in research activities associated with the development of uranium and atomic energy. The Australian National University at Canberra is the only university entirely financed by the government. Its research and development activities are directed toward medical studies, physical sciences, and projects on the Pacific Ocean and its resources.

As a general rule, the Australian government follows the common law principle of granting to an employer inventions made by an employee in the course of employment. The Department of Supply has specific regulations providing that patented inventions made in the course of assigned duties become the property of the government. A similar provision was put into the Science and Industry Act, which established the Commonwealth Scientific and Industrial Research Organization.

Australia has no established government or quasi-government organization to direct the development and commercial exploitation of patented inventions owned by the Commonwealth. The particular department or authority under which the patented invention originated handles this activity.

AUSTRIA[5]

The Austrian Patent Act of 1950 provides that an employer has the right, unless there is a previous commitment to the contrary, to obtain

[4] Correspondence with Australian Patent Office, August 21, 1962.
[5] Correspondence with the Austrian Patent Office, July 5, 1962.

patent rights to, or a license to use, any patented invention made by an employee. This law regulates patented inventions developed by government employees. The Austrian Patent Office indicates that very few patent applications of this nature are filed.

CANADA

About 80 percent of federal funds for research and development work in Canada go to government installations. The remaining government research and development funds go to educational institutions and to business firms under government contracts.[6]

In Canada the government allocates most of its intramural research and development funds to national defense programs, agricultural activities, the development of atomic energy, and the National Research Council. Almost all extramural funds are spent by business firms in the areas of transportation equipment and electrical industries.[7]

The majority of patented inventions resulting from government-sponsored research and development in Canada come from activities of government employees. Title to these patented inventions is assigned to the government, under the provisions of the Public Servants Inventions Act of June 10, 1954. Part I, Section 3, of that Act states that title to an invention made by a public servant, acting within the scope of his assigned duties, and with facilities or financial aid supplied by the government, is to be vested in the government.

Although there is no statutory provision, the usual policy of the Canadian government is to take title to all inventions made in the course of a research and development contract, when the government pays for the entire project. In the case of a shared-cost contract, the contractor usually grants the government a royalty-free license and agrees to license other firms at a reasonable royalty rate.[8]

On October 31, 1947, the Canadian government granted a charter to Canadian Patents and Development, Ltd., a subsidiary of the National Research Council. The original purpose of Canadian Patents and Development was to handle patent licensing matters of the Council. Canadian universities, government departments, and provincial re-

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[6] Canada, Dominion Bureau of Statistics, *Federal Government Expenditures on Scientific Activities, Fiscal Year 1958-59* (Ottawa: The Queen's Printer and Controller of Stationery, 1960), pp. 17-18.

[7] Canada, Dominion Bureau of Statistics, *Industrial Research-Development Expenditures in Canada, 1959* (Ottawa: The Queen's Printer and Controller of Stationery, 1961), p. 20.

[8] From the files of the Committee on Science and Astronautics, U.S., House of Representatives, August, 1962.

search councils now use the services of that organization. The National Research Council of Canada was established in 1917 to foster industrial and university research by means of grants and scholarships. At that time, almost no research was undertaken by industry or the universities. Between 1925 and the beginning of World War II, the Council instituted and developed laboratories of its own. During that war, almost all of the resources of the Council were devoted to war research. After the war, the Council resumed and expanded multiple-directional research.[9]

The Canadian Patents and Development Corporation is principally a promotional agency. It assesses the value of patented inventions and disseminates information about their availability to Canadian industry. In some instances, however, the Corporation undertakes further development work on patented inventions that appear to hold strong commercial potential. When Canadian Patents and Development owns a patented invention in a field where there are no Canadian firms, or where no Canadian firm is willing or able to accept development risks, the Corporation licenses foreign concerns. The Corporation grants both exclusive and nonexclusive licenses on the patented inventions in its portfolio, and it usually charges royalties. Royalty rates vary, as do the time periods for which firms are licensed.[10]

Income received from royalties and licensing fees accounts for most of the revenue of the Canadian Patents and Development Corporation. This income amounted to 191 thousand Canadian dollars and 180 thousand Canadian dollars during 1961 and 1960, respectively. After operating expenses, the Corporation enjoyed a net profit of 92 thousand Canadian dollars and 22 thousand Canadian dollars for the same years. This small net profit has been used to eliminate the deficit that had accumulated from expenditures for further development work on patented inventions. In 1961, the deficit was wiped out and replaced by a surplus of only 15 thousand Canadian dollars. The deficit was eliminated, however, at the expense of a curtailment in development activities.[11]

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[9] Canada, Committee of the Privy Council on Scientific and Industrial Research, *Review of the National Research Council, 1961* (Ottawa: The Committee, 1961), pp. 10-16 and p. 21.

[10] Archie M. Palmer, *Administration and Utilization of Government-Owned Patent Property,* Contract NASA-177, National Aeronautics and Space Administration, Washington, D. C., December 23, 1960, p. 69. (Processed.)

[11] Canada, Committee of the Privy Council on Scientific and Industrial Research, *Forty-Fourth Annual Report of the National Research Council of Canada, 1960-1961* (Ottawa: The Committee, 1961), pp. 38-41.

THE GERMAN FEDERAL REPUBLIC[12]

The German Patent Law of July 25, 1957 governs the disposition of patent rights arising from the research work of government employees in the Federal Republic of Germany. The law covers the rights of all employees, not exclusively those of the government. According to this legislation, an employee who makes an invention in the line of duty is required to *report* the invention to his employer. In the government, the appropriate government agency is allowed to claim title to the invention or it can abandon patent rights. When the employee is permitted to retain patent rights, and when royalty income is subsequently earned, the employer may legally require a participation in the income. There is no specific statutory provision in Germany that *requires* the federal government to take title to an invention originating from the development work of public servants.

Professors and scientific research assistants in colleges and universities are not required to report their inventions, even if the inventions originate from government-financed R&D. University professors, however, must permit the government to use the patented inventions. Under some circumstances, the government can also demand and receive a share in any income resulting from these patented inventions. In Germany, universities are government organizations; yet they enjoy an academic freedom that sets them apart from other government organizations.

ITALY[13]

Titles to patented inventions developed by employees of the Italian government go to the state. This provision was set forth in Patent Legislation, Royal Decree No. 1127, June 29, 1939. The Italian government reserves the same rights as a private employer when a patented invention is made in the fulfillment of assigned work.

The departments and agencies of the government have no clearly defined policy on patent rights or inventions originating from research contracts between the government and private industry. Generally, the question of patent rights is settled in the individual contracts. The assignee usually handles the development and exploitation of patented inventions, either directly or by means of licensing agreements with third parties.

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[12] From the files of the Committee on Science and Astronautics, U.S., House of Representatives, August, 1962.

[13] Unofficial correspondence with the Italian Patent Office, September 9, 1962.

JAPAN[14]

The Japanese government finances research and development activities within its own governmental departments and also by means of contracts with private enterprises. Space technology is the most important research activity conducted by private enterprise on behalf of the government. The Ministry of Welfare supports private research for improvement of hygiene for mothers and children. Also the Ministry of Education contracts with private academic groups. Within the government departments, the more significant areas receiving funds for research and development activities are the following: atomic energy; chemistry; medicine, particularly for studies on tuberculosis; agriculture; forestry; and fisheries.

Article 35 of the Japanese Patent Law of April 1, 1960 prescribes that an employer, including the government, has a right to the title of a patented invention developed by an employee. In some instances, the government does not take title to these inventions. When the government does take title to an invention developed by an employee, it usually is in exchange for an adequate compensation. Terms and conditions specified in each contract govern the disposition of patented inventions originating under research and development contracts of the Japanese government. As a rule, the government does not acquire titles to patented inventions made by contractors. Rather, the rights are retained by contractors.

THE NETHERLANDS[15]

The Dutch government follows a policy of taking titles to all government-employee inventions developed in government enterprises, such as the Department for the Maintenance of Dikes, Roads, and Bridges and the Department of Telephone and Telegraph. With inventions arising from research work performed by personnel in universities and from contracts with private firms, the Dutch government usually permits titles to patented inventions to remain with contractors or universities. In most instances, the government does not even reserve the rights to nonexclusive royalty-free licenses. There is a provision whereby the government can provide funds for university and private research work with the stipulation that patented inventions arising from such activity will become the property of the government. In practice, however, no such condition is ever made.

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[14] Unofficial correspondence with the Japanese Patent Office, July 24, 1962.

[15] From the files of the Committee on Science and Astronautics, U.S., House of Representatives, August, 1962.

NORWAY[16]

Almost all organized research in Norway is conducted by state universities and academies, and by special official or quasi-official research institutes. In some fields, research councils have been established under the sponsorship of particular ministries or government departments. Of the various agencies of the Norwegian Government, the Ministry of Industry conducts the greatest amount of research and development work. It undertakes technical research to improve the quality and efficiency of Norwegian industry.

In Norway, the state is in the same position as a private employer as far as the patent rights of employees of the official state institutes are concerned. There is nothing to hinder the government from acquiring title to a patented invention made by an employee of the state. Such acquisitions, however, do not occur frequently. The patent policy of research institutes with a quasi-official status is different. These institutes usually have contracts with employees specifying that the institute retains all patent rights to inventions. Government contracts with private enterprises for research and development activities are practically nonexistent in Norway.

SWEDEN[17]

With the exception of inventions vital to the national defense, the various government agencies have no definite or unified patent policy. Under Swedish national defense legislation, the state must retain all rights to defense-oriented patents. This law, however, affects few patented inventions.

Several years ago, a survey was taken in Sweden to discover the patent policies of government departments. Although a heterogeneous situation existed, it emerged that the majority of government agencies allow the inventor to retain patent rights to his inventions. The government agencies usually acquire licenses to use these patented inventions. In exchange for licenses to use government employee inventions, inventors are usually paid a compensation by the agency. One of the main principles of Swedish law governing inventions developed by state employees is that adequate compensation should be paid to the inventor for use of his patented inventions.

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[16] Correspondence with the Norwegian Patent Office, July 19, 1962.

[17] Correspondence with the Swedish Patent Office, September 2, 1962. Also from the files of the Committee on Science and Astronautics, U.S., House of Representatives, August, 1962.

SWITZERLAND[18]

Based on a Federal Act of September 30, 1954, the Swiss government finances scientific and technical research to "fight social crisis and to provide employment." The Swiss government is required to give financial support for research work to nonprofit organizations, primarily academies and universities, research departments of technical institutes, and other scientific institutions. Most of the research and development financed by the Swiss government has been in the fields of medicine, mechanical and electrical engineering, and chemistry and physics.

The Swiss Federal Act of June 30, 1927, specifies the rights of the government to inventions made by government employees. The Swiss government has a right to free licenses for the exploitation of employee inventions. In almost all instances, however, the employee-inventor retains property rights to his inventions.

It is the general policy of the government to reserve neither patent rights nor licenses for the use of patented inventions developed from contract research and development. However, if income subsequently accrues to the patent owner, the government may ask for a partial reimbursement for the contract funds.

UNITED KINGDOM

The British government finances over 65 percent of the research and development work undertaken in that country. Of the state-financed research, about one-half is performed within government organizations and about one-half is contract activity with industry.

Before the implementation of recommendations made by an interdepartmental committee to study the patent policies of the various departments in 1944, the British government had no clearly defined policy for the disposition of patent rights resulting from research conducted by government employees. Generally, however, the departments permitted the employee-inventor to retain rights for the commercial exploitation of his patented inventions. The government reserved the right of free use of the inventions for government purposes. The most important exception to this usual practice was the policy of the Department of Scientific and Industrial Research. That Department acquired title to patented inventions developed by employees and granted licenses to firms to commercialize the inventions. Immediately after World War II, the patent policies of the departments changed;

[18] Correspondence with the Swiss Patent Office, July 27, 1962.

the government began to acquire all the patent rights in inventions made by its employees.[19]

There are no special statutory provisions covering the acquisition of patent rights of inventions that arise from British government contracts with private firms. However, when the government supplies all funds, contracts usually contain a standard clause granting titles to resulting patented inventions to the State. Research organizations supported by private and public funds are generally permitted to dispose of patent rights in the manner the organizations deem most practical. The research organizations can commercially exploit the patented inventions directly or through the facilities of the National Research Development Corporation. Universities also receive public financial support for research and development activities. Universities do not usually claim interest in resulting inventions and all patent rights remain with the inventor. The inventor can exploit the patented invention himself, sell or license it to a private company, or pass the responsibility of development and commercialization on to the National Research Development Corporation.

The British Parliament established the National Research Development Corporation on July 30, 1948. The Corporation provides facilities for the development and exploitation of patented inventions originating from government funds, as well as of other inventions whose commercialization is in the public interest.[20] The Corporation does not own research, development, and production facilities of its own. Rather, it must arrange to have the patented inventions in its portfolio developed and commercialized. When the Corporation acquires titles to inventions that do not originate from public research, it must assess the inventions and deem that they have not been developed and exploited and that it is in the public interest that they be developed and commercialized. Although the majority of patented inventions privately submitted to the Corporation do not merit sponsorship, about one-half of the patents held by the Corporation come from the private sector of the economy. Consequently, a significant proportion of development expenditures is allocated to the further development of patented inventions submitted by private individuals and organizations.[21]

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[19] Palmer, *op. cit.*, pp. 51-52.

[20] Great Britain, National Research Development Corporation, *An Introduction to the National Research Development Corporation* (London: M. G. Press, 1961), p. 1.

[21] K. Grossfield, "Inventions as a Business," *The Economic Journal,* LXXII (March, 1962), p. 13.

On June 30, 1961, the National Research Development Corporation held 1,022 United Kingdom patents and patent applications in its portfolio. In addition, it owned 2,367 overseas patents and patent applications. License agreements in the United Kingdom totaled 495, on the same date. There were 48 foreign licensing agreements, primarily with United States firms. The activities of the Corporation can be divided into two main categories: (*1*) exploitation of patented inventions resulting from government-sponsored research, primarily through licensing arrangements; and (*2*) development of patented inventions considered essential to the public interest.[22]

The Corporation usually grants nonexclusive licenses. The Corporation regards it to be in the public interest to prevent the monopolization of patented inventions, particularly when the inventions originate from government-financed research. It recognizes, however, that nonexclusive licenses might not work in practice. Nonexclusive licensing might reduce the commercial attractiveness of some inventions and completely preclude their commercialization. The Corporation grants exclusive rights when a business firm can establish that a substantial amount of capital investment must be made to commercialize the invention. In addition, the firm must show that protection for the large investment is insufficient without an exclusive license, and that the firm has adequate facilities to produce enough of the finished product to satisfy the probable demand. Whenever possible, the Corporation limits exclusiveness—granting two licenses rather than one.[23]

The purpose of the development function of the Corporation is to bring a patented invention to a stage of development that convinces industrial firms that the invention is sufficiently valuable to be used. This might require construction of pilot plants or extensive experimental research. By June 30, 1961, the National Research Development Corporation had financed about 40 development projects. Between fiscal years 1955 and 1961, annual expenditures for development projects increased by more than 600 percent, rising from 113 thousand pounds to 812 thousand pounds. Accumulated development expenditures amounted to slightly more than 3 million pounds by June 30, 1961.[24]

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[22] Great Britain, National Research Development Corporation, *Report and Statement of Accounts for the Year 1st July, 1960 to 30th June, 1961* (London: Her Majesty's Stationery Office, 1961), pp. 2-3 and pp. 7-11.

[23] National Research Development Corporation, *An Introduction to the National Research Development Corporation, op. cit.*, pp. 9-10.

[24] Great Britain, National Research Development Corporation, *Report and Statement of Accounts for the Year 1st July, 1960 to 30th June, 1961, op. cit.*, pp.

As yet the possibility of earning income in excess of costs from development activities is small. The Corporation does not compete with private industry, and it only undertakes development work on inventions that industry does not find sufficiently promising to justify necessary costs and anticipated risks. When development projects are successful, the Corporation receives income from recovery of development charges and also from royalty payments. The royalty payments, however, are temporary—limited to the lives of the patents. Inevitably, some of the development projects are not successful, for instance, because of a change in technology in a particular industry. These projects never produce returns. Consequently, income earned from successful projects must be sufficient to cover accumulated interest on borrowings and to repay the principal on successful, as well as unsuccessful projects. Statements of accounts of the National Research Development Corporation indicate that payments for interest to finance long-term risk ventures are almost twice the received revenue.[25]

The law requires the National Research Development Corporation to balance its outgoing expenses with the income it receives. After more than a decade of operation, however, the Corporation has not achieved self-sufficiency. By June 30, 1961, the Corporation had accumulated an excess of expenditures over income of almost 4 million pounds.[26] The income of the Corporation comes mainly from royalties received. A highly fluctuating income, however, is obtained from the outright sale of patented inventions. Only one-third of the inventions assigned to the Corporation are licensed. Many of its inventions arise from defense research and hold only very limited commercial potential. Between 1953 and 1960, about 9 percent of the patents assigned to the National Research Development Corporation were revenue-bearing. During the period from 1953 to 1960, over one-half of the income received by the Corporation arose from two patented inventions. Furthermore, it is believed that not more than 16 percent of the patented inventions assigned to the Corporation in the future will yield royalties sufficient to cover administrative costs. This means that the Corporation probably will incur losses on 84 percent of the patents to be assigned to it[27]

4-5; and Great Britain, National Research Development Corporation, *Report and Statement of Accounts for the Year 1st July, 1959 to 30th June, 1960* (London: Her Majesty's Stationery Office, 1960), pp. 8-9.

[25] Grossfield, *op. cit.*, pp. 19-20.

[26] Great Britain, National Research Development Corporation, *Report and Statement of Accounts for the Year 1st July, 1960 to 30th June, 1961, op. cit.*, p. 9.

[27] Grossfield, *op. cit.*, pp. 15-18.

SUMMARY

The patent policies of other governments are a mixture between the title and the license policies. As in the United States, several foreign governments employ a combination of both policies. The governments of Australia, Austria, Italy, Norway, and the United Kingdom generally follow a title policy. With the exception of a few inventions vital to the military security of Sweden, the license policy exists in Sweden and Switzerland. In Canada, the Federal Republic of Germany, Japan, and the Netherlands, both policies are used. Unlike the United States, some foreign governments can demand a participation in any royalties that might be earned from patented inventions arising from government-sponsored research and owned by private individuals and organizations.

Only two governments, the Canadian and British, have chartered quasi-governmental corporations to administer patented inventions originating from government-financed research and development work. The main activities of these central administration organizations are to disseminate information about the patents they hold and to encourage the commercial use of the inventions through licensing programs. These corporations, however, sponsor some further development work on the more promising patented inventions that they hold. Development projects are usually undertaken in the public interest and only after it is evident that private business firms are not willing to accept the risks associated with development. Both organizations have incurred financial deficits.

Despite differences in patent laws and great differences in the relative importance of government-financed R&D, it is striking that the experiences of other governments with patents arising from government-sponsored research and development activities are so similar to those in the United States. The governments of Sweden and the United Kingdom even conducted investigations to determine the patent policies actually being followed by ministries and departments. The same thing has happened in the United States—investigations sponsored by both the executive and legislative branches of the government. During the 1940's, the National Patent Planning Commission and the Attorney General undertook comprehensive surveys to determine the patent policies followed by the various government agencies. A little over a decade later, the Senate Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, and The Patent, Trademark, and Copyright Research Institute (formerly Foundation) of The George Washington University, under contract with the Interagency Study Group, conducted similar investigations.

STUDENT PAPERS

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Antitrust and the Exploitation of Patents: The Interaction of Patent Licensees and Licensors

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SUMMARY

PATENT LICENSING MAY BE THE MEANS of enabling commercial use of otherwise idle inventions. Licensing sometimes provides the only possible opportunity for an inventor to gain reward for his contribution. However, the practice of licensing necessitates commercial interchanges often giving rise to novel applications of the antitrust laws. Patentees and prospective licensees should consider their respective relationships carefully before invoking the antitrust laws in situations which may further confuse the required standards of commercial conduct.

"THE PATENT MONOPOLY HAS FROM THE BEGINNING occupied a unique role in our system of private enterprise,"[1] and its unique

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[1] *The Patent System: Its Economic and Social Basis,* study No. 26. Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, U.S. Senate, 86th Cong., 2nd Sess., 1960, p. 5.

role in the area of antitrust often produces apparent conflicts of basic values.[2]

As the owner of industrial property, a patentee should be entitled to exercise his property right in good faith.[3] By holding a statutory monopoly,[4] the patentee may make, use and sell the subject matter of the patent, and for a period of seventeen years, he has the right to exclude all others from the making, using or selling of the invention within the United States.[5] His remedy for any unauthorized manufacture, use or sale is by civil action for infringement[6] and may include court granted injunction[7] and damages.[8]

The special feature of the patent grant is the exclusionary right,[9] and the patentee may dispose of this right as a form of property.[10] He may, therefore, sell or assign the entire or part of the patent right to another.[11] Alternatively, a patentee may retain the exclusionary right and permit another exclusively to make, use and sell the invention;[12] or he may share his right with others through the use of unconditional or conditional non-exclusive licenses.[13]

The practice of licensing has become well established as a method of deriving private reward in return for contribution to technological progress.[14] While a patentee may let his property lie idle, as he pleases,[15] it is in the public interest to achieve use of the property by

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[2] Compare: S. Chesterfield Oppenheim, "Patents and Antitrust: Peaceful Coexistence?" *Michigan Law Review,* Vol. 54 (1955), p. 199; *Antitrust Problems in the Exploitation of Patents,* Staff Report Subcommittee No. 5 of the House Committee on the Judiciary, 84th Cong., 2nd Sess., 1956; Oppenheim, "Antitrust in the 1960 Decade," *PTC J. Res. & Ed.,* Vol. 5, No. 3 (1961), p. 250.

[3] Hartford-Empire Co. v. United States, 323 U.S. 386 and 324 U.S. 570 (1945); Consolidated Fruit-Jar Co. v. Wright 94 U.S. 92 (1876).

[4] Zenith Radio Corp. v. Radio Corp. of America, 121 F. Supp. 803 (D.C. Del., 1954), p. 805. "Two constituent property elements, of distinct source, nature, and divisible content inhere in every patented invention. One is the property in the invention itself—the right to make, use and sell the patented object personally or through others—the second is property in the monopoly—the right effectively to prohibit others from practicing the invention or profiting therefrom without the owner's consent."

[5] 35 U.S.C. 154, 271.

[6] 35 U.S.C. 281.

[7] 35 U.S.C. 283.

[8] 35 U.S.C. 284.

[9] *Supra,* note 5.

[10] 35 U.S.C. 261.

[11] *Ibid.,* Ellis, *Patent Assignments,* 3rd Ed. (1955).

[12] Waterman v. Mackenzie, 138 U.S. 252 (1891).

[13] DeForest Co. v. United States, 273 U.S. 236 (1927); Ellis, *Patent Licenses,* 3rd Ed. (1958); *Patent Licensing,* Practicing Law Institute (1958).

[14] United States v. General Electric Co., 272 U.S. 476 (1926).

[15] Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U.S. 405 (1908);

investment of capital and the creation of new and useful products through the competition of invention.[16]

Particularly when the patentee cannot manufacture the patented product, license devices can be used to benefit the patent owner and the public. Whether or not the patentee attracts risk capital for a new industry, licensing affords an opportunity to obtain some immediate return for investment in research and development. In markets which are difficult to enter, royalties through patent licenses or assignments may be the only feasible form of monetary return. Reasonable assurance of reward in the light of market analysis, in return for the public disclosure of a useable and commercially practicable invention, is an important consideration in the decision to expend money in the obtaining of a patent rather than practicing the invention in secret.[17] It is through such disclosure that duplication of inventive effort is reduced and inspiration given to new lines of research and product development.[18]

In addition to the benefit of public disclosure and immediate use, the license practice often enables better market service and provides additional product competition.[19] Production by a single monopolist is likely to be at a lower level and at higher prices than would prevail in a competitive industry.[20] Thus, there can be provided an assurance of product supply at fair market value and further incentive toward product improvement and development. All possible opportunities can be exploited, if the patentee enables others to commercially utilize the disclosed technology.[21]

Yet there are limits to the exercise of patent rights. Though having legal attributes of personal property, the courts have consistently asserted that the patentee "receives nothing from the law which he did not have before, and that the only effect of his patent is to restrain others from manufacturing, using, or selling that which he has invented . . . ."[22] Thus the patent is a franchise conditioned by a public

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Report of the Attorney General's National Committee to Study the Antitrust Laws, (1955), pp. 229-31 (Hereinafter cited as *Report.*)

[16] *Report,* pp. 224-5.

[17] L. James Harris and Irving H. Siegel, "Evolving Court Opinion on Patent Licensing: An Interaction of Positive Competition and the Law," *PTC J. Res. & Ed.,* Vol. 5, No. 2 (Summer 1961), pp. 103-113.

[18] *Supra,* note 1.

[19] *Supra,* note 17, p. 111.

[20] *Supra,* note 1, p. 7.

[21] *Ibid.,* See also TNEC Final Report, Sen. Doc. No. 35, 77th Cong., 1st Sess., 1941, pp. 36, 269.

[22] Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 510-511.

purpose that no other laws be violated in the utilization of the protected invention.

> A patent by its very nature is affected with a public purpose. As recognized by the Constitution, it is a special privilege designed to serve the public purpose of promoting the 'Progress of Science and Useful Arts.' At the same time, a patent is an exception to the general rule against monopolies and to the right of access to a free and open market. The far-reaching social and economic consequences of a patent, therefore, give the public a paramount interest in seeing that the patent monopolies spring from backgrounds free from fraud or other inequitable conduct and that such monopolies are kept within their legitimate scope.[23]

In the attempt to utilize the license device as a means for monetary reward, an individual patent owner necessarily initiates an interaction of negotiation and commercial exchange with companies in present and potential competition.[24] Unless the patentee has an established relationship with one company, he necessarily will contact as many potential licensees as is practicable in order to "sell" his invention to any one or more of them, depending on the commercial nature of the invention and the relative monetary returns of a single exclusive license or several non-exclusive licenses.

When a patentee does elect to negotiate and enter into contractural relationships concerning licenses, there are many legal consequences to be considered. Those considerations which relate to the antitrust laws of the United States are provided with some established guidelines, virtually all of which define the patentee's limits in his utilization or transfer of patent rights, whether he acts individually[25] or in combination with others.[26]

Yet there is a related dilemma with respect to the antitrust significance of the conduct of potential and existing patent licensees, and very few judicial interpretations can be found which will enable a proper analysis and perspective for determination of sound guidelines of conduct to be used by commercial enterprises confronted with a decision of whether or not to accept a patent license. Moreover, many commercial and economic considerations must first be placed in focus

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[23] Precision Co. v. Automotive Co., 324 U.S. 806, 815-16.

[24] Joseph Rossman, "Development of Procedures and Standards," *PTC J. Res. & Ed.*, Vol. 5, Conference No. (1961), pp. 44-5.

[25] Automatic Radio Mfg. Co. v. Hazeltine Research Co., 339 U.S. 827 (1950); United States v. Vehicular Parking, Ltd., 54 F. Supp. 828 (D. Del. 1944); Kobe, Inc. v. Dempsey Pump Co., 198 F. 2d 416 (10th Cir. 1952), cert. den. 344 U.S. 837 (1952).

[26] United States v. Line Material Co., 333 U.S. 287 (1948); Standard Oil Co. v. United States, 283 U.S. 163 (1931); United States v. National Lead Co., 332 U.S. 339 (1947).

before reaching constructive and useful legal guidelines for conduct by members of any given industry.

The Patent Value and the Nature of the Patent Owner

It is perhaps significant that the impact of the antitrust laws and the close scrutiny of conduct has been primarily on patent owners.[27] Others were affected when their activities were complementary to and a direct result of the commercial activities of the patent owner.[28] It would be instructive, however, to consider the activities and nature of prospective and existing licensees and the nature of their response, quite apart from any conduct demanded of them by a patent owner.

In the absence of a broader scheme of monopolization, the economic and technical value of the offered patent can be quite important and controlling of the conduct of the prospective license "purchasers." The subject matter of the patent may be useful in one or many lines of commerce, and it may be of considerable importance in establishing or securing a competitive advantage. It may concern a significant technological breakthrough, or it may involve a trivial matter possessing little or no competitive importance. Sound business policy requires a thorough analysis of the value of the industrial property, and the proposed conduct resulting from business decisions based on the analysis will normally form the intent and purpose often significant to the antitrust laws.[29]

Equally, the position of the patent owner can be of importance. He may be a sole inventor seeking a monetary reward or personal prestige in return for his time and expense, or the owner may be a giant in industry with extensive powers in buying and persuasion. The patent owner may be a competitor of the prospective licensees, or he may be a non-competitor seeking utilization of the patent in other market areas. Obviously the conduct of the potential licensees in the industry will be determined to some extent by the position of the seller of the patent rights.

The nature of the industry's response to the patentee's approach in negotiation for licenses may also depend on many other factors, such as the general business policy of each individual company, the relative size and competitive power of each company in any related line of commerce, and each company's own patent position with respect to the patent position of its competitors.

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[27] *Supra*, notes 25, 26.

[28] United States v. United States Gypsum Co., 333 U.S. 364 (1948).

[29] Standard Oil of New Jersey v. United States, 221 U.S. 1, 75 (1911).

CONDUCT DEFINED

When the patentee and the licensees do adopt a license agreement or common position, certain established guidelines are available, and these include the price fixing cases,[30] the package licensing cases,[31] the tying cases,[32] the patent interchanges,[33] and the *Hartford-Empire*,[34] *Besser*,[35] *Talking Pictures*,[36] and *Univis*[37] decisions.

Of the price fixing cases, the *Gypsum*[38] case is quite pertinent to firms considering patent licenses. *Gypsum* involved a conspiracy violation between United States Gypsum, the patent owner, and the other members of the industry, the licensees. All of the licenses contained substantially identical conditions, including price fixing provisions.

> Even in the absence of traditional . . . prohibition of the Sherman Act, it would be sufficient to show that the defendants . . . acted in concert to restrain commerce . . . under patent licenses in order to organize the industry and stabilize prices. That conclusion follows despite the assumed legality of each separate license, for it is familiar doctrine that lawful acts may become unlawful when taken in concert. . . . The rewards which flow to the patentee *and his licensee* from the suppression of competition . . . are not reasonably and normally adapted to secure pecuniary reward for the patentee's monopoly. (emphasis added.)[39]

The "planned common course of action" to eliminate price competition denounced in *Gypsum* represents one of the dilemmas in responding to license offers. Thus a strong competitor, or even an individual with a strong patent, may offer licenses subject to price conditions, or other conditions which may appear to be in excess of the

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[30] United States v. General Electric Co., *supra,* note 14; United States v. Line Material, *supra,* note 26; Sola Electric Co. v. Jefferson Electric Co., 317 U.S. 173 (1942); United States v. United States Gypsum Co., *supra,* note 28; United States v. New Wrinkle, Inc., 342 U.S. 371 (1952); Newburgh Moire Co. v. Superior Moire Co., 327 F. 2d 283 (3rd Cir. 1956); Tinnerman Products, Inc. v. George V. Garrett Co., 185 F. Supp. 151 (E.D. Pa. 1960).

[31] Automatic Radio Manufacturing Co., Inc. v. Hazeltine Research, Inc., *supra,* note 25; American Securit Company v. Shatterproof Glass Corp., 268 F. 2d 769 (3rd Cir. 1959), cert. den. 361 U.S. 902.

[32] International Salt Co. v. United States, 332 U.S. 392 (1947); International Business Machines Corp. v. United States, 298 U.S. 131 (1936).

[33] Standard Sanitary Mfg. Co. v. United States, 226 U.S. 20 (1912); Standard Oil Co. (Indiana) v. United States, 283 U.S. 163 (1931); United States v. General Instrument Corp., 87 F. Supp. 157 (D.N.J. 1949); Baker-Cammack Hosiery Mills v. Davis Co., 181 F. 2nd 550 (4th Cir. 1950).

[34] Hartford-Empire Co. v. United States, 323 U.S. 386 (1945).

[35] United States v. Besser Mfg. Co., 96 F. Supp. 304 (E.D. Mich. 1951); Aff'd. 343 U.S. 444 (1952).

[36] General Talking Pictures Corp. v. Western Electric Co., Inc., 305 U.S. 124 (1938).

[37] United States v. Univis Lens Co., 316 U.S. 241 (1942).

[38] *Supra,* note 28.

[39] *Id.,* pp. 544-545.

patent right. Even without a positive analysis of the value or validity of the patent, the potential licensee may be aware of the patentee's strong policy toward expensive infringement litigation. To avoid a disadvantage from manufacture, it may be commercially valid to accept a license on price conditions, but competing lower priced products will put the potential licensee out of business unless others accept licenses with similar provisions. And if the patentee is a non-manufacturer, no one will benefit from the public disclosure unless the licenses are accepted. It is at this point that in any normal business discussion with the patentee, or possibly with other manufacturers, the language takes on the additional meaning of conspiracy with others to violate the antitrust laws, even if decisions are made independently.[40] Circumstantial evidence of isolated arms-length discussions may be sufficient to show overall conspiracy.

Where no express conditions are attached, but the number of licenses are limited, difficulty also arises. Thus, in the *American Cyanamid* cases,[41] the patentee and the limited number of licensees were charged with conspiracy violations by adopting price uniformity and accepting licenses with knowledge of the invalidity of a non-adjudicated patent, thereby foreclosing competition in the patented product to the remainder of the industry. Moreover, even where a sound relationship is established, mere preliminary advice requested by an experienced patentee and given in good faith by a licensee, either on questions of infringement or possible other licensees, may be sufficient to circumstantially show conspiracy in a veto power[42] or an agreement on who and when to sue for infringement. While the latter is not yet *per se* unlawful, it may be a part of a series of abuses similarly proven to establish a violation.

> Thus, while the Court has clearly condemned a restriction requiring the consent of the non-exclusive licensee before the patentee may grant a license to another, a restriction . . . requiring joint approval of the patentee and the non-exclusive licensee before an infringement suit can be brought, has been condemned only as a part of a host of abuses, the total of which were found to be in violation of the Sherman Act. . . .[43]

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[40] "Likewise we reject, as a question of law, the courts' inference that the attitude of suspicion, wariness and self-preservation of the parties negated a conspiracy." United States v. Singer Mfg. Co., 371 U.S. 918, 137 U.S.P.Q. 808, 815 (1963).

[41] American Cyanamid Co., CCH Trade Reg. Rep. ¶15,537 (FTC Dkt. 7211, 1961); United States v. Charles Pfizer & Co., Trade Reg. Rep. ¶45,061 (Case 1622).

[42] United States v. Besser, *supra,* note 35; Clapper v. Original Tractor Cab Co., Inc., 116 U.S.P.Q. 316, (S.D. Ind. 1958); Oral Argument before Supreme Court, United States v. Singer Mfg., 31 *Law Week,* 3359-60 (1963).

[43] United States v. Singer Mfg. Co., 133 U.S.P.Q. 439, 467 (S.D.N.Y. 1962), rev'd., 371 U.S. 918, 137 U.S.P.Q. 808 (1963).

Moreover, such consultations prior to licensing may be used to circumstantially show unlawful contractual restrictions on the patentee's freedom of action. While legal guidelines do exist in this area,[44] it is evident that preliminary discussion with subsequent "conformance" by the patentee or the licensee may be suspect when the effect is a restraint of trade.

> . . . Whether the conspiracy was achieved by agreement, by tacit understanding, or by acquiescence . . . coupled with assistance in effectuating its purpose is immaterial.[45]

If the potential licensee has monopoly or near monopoly power, acceptance of a license even without express conditions, together with active marketing, may result in a finding of a violation of Section 2 of the Sherman Act.[46] While until now only the purchase of the exclusionary right has been put to task in Justice Department and F.T.C. cases,[47] the purchase of a license certainly may result in a precarious position for the licensee, particularly with respect to conspiracies to monopolize[48] and to private claims of injury.[49] Moreover, if the patent is questionable as to its validity, but the courts judge it obviously invalid and obtained in bad faith, the licensee, by not challenging the patent's validity, may be deemed to be part of an "evil scheme to create and maintain a monopoly by an invalid patent,"[50] particularly if the licensee is aware or should have been aware of the surrounding facts.[51]

To further complicate this dilemma, the fact may be that failure to accept a license by a company will, to its detriment, actually result in

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[44] United States v. Besser, *supra,* note 35; McCullough v. Kammerer Corp., 166 F. 2d 759 (9th Cir. 1948); United States v. Krasnov, 143 F. Supp. 184 (E.D. Pa. 1956), Aff'd. 355 U.S. 5; *Report,* p. 241.

[45] United States v. Singer, 371 U.S. 918, 137 U.S.P.Q. 808, 815-16; for example, during negotiations the manufacturer may comment on a desire that the patent not be indiscriminately licensed and make an intra office memorandum to that effect. Subsequent inaction by the patentee to license others may be interpreted as a "restriction" on the patentee and acquiescence not expressly set forth in the license agreement.

[46] "In order to fall within §2, the monopolist must have both the power to monopolize, and the intent to monopolize." United States v. Aluminum Co. of America, 148 F. 2d 416 (2nd Cir. 1945). Purchase of a license may be evidence of intent.

[47] United States v. Singer Mfg. Co., *supra,* note 43; Hartford-Empire Co. v. United States, *supra,* note 34; United States v. Krasnov, *supra,* note 44.

[48] United States v. Carter Products, Inc. 135 U.S.P.Q. 259 (S.D.N.Y. 1962).

[49] Kobe v. Dempsey, *supra,* note 25; Hartford-Empire Co. v. Glenshaw Glass Co., 54 U.S.P.Q. 185 (W. D. Pa. 1942).

[50] Clinton Engines Corp. v. Briggs & Stratton Corp., 123 U.S.P.Q. 191 (E.D. Mich. 1959).

[51] *Supra,* note 41; see also Justice White's concurring opinion in United States v. Singer, 371 U.S. 918 (1963).

an increase in the potential monopoly power by the patentee, because an infringement suit may be excessively costly and burdensome to the company, or the failure to manufacture the patented product will result in substantial lost business to the "better mousetrap" firm.

If the potential licensee obtains an exclusive license, cooperation and power or control may be sufficient to bring Section 2 of the Sherman Act into play by a dissatisfied third party.[52] In any event, whether the license is exclusive or non-exclusive, the proposition that this constitutes an "asset" acquired by one corporation from another under Section 7 of the Clayton Act[53] has been asserted, and the burden of proof for a violation of the Clayton Act is substantially less than is required, for example, under Section 2 of the Sherman Act.

As is becoming readily apparent, many innocent acts resulting from normal business exchange in negotiation and investigation may become part of a series of "acts" which circumstantially show obvious violations of the antitrust laws. Thus it may be "obvious" that a patent owner and his licensees are acting together, in violation of the Sherman Act, to "boycott" others from participation. This can be more readily shown if the licensees also own patents in the related line of commerce.[54] The result may be determined to be a patent interchange, or "pool," between competitors, in part with implied licenses, to the exclusion of other competitors.

Private Claim from Interaction of the Patentee and Industry

Not all of the interaction in license offers and negotiations produces results favorable to all parties. Indeed, there are instances of private claims of damage by the patentee which have developed from interaction in the trade and offers for licenses.[55] Since sound business policy does require a thorough analysis of the patent, conflict can arise from the conduct surrounding the related inquiries.

It has been held that mere consultation of the industry by an infringer of whether to take a license or resist a patent is not in itself

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[52] United States v. Besser, *supra,* note 35; United States v. Carter, *supra,* note 48.

[53] For a thorough analysis, see Les J. Weinstein, "The Application of Section 7 of the Clayton Act to Patents, Copyrights and Trademarks," *PTC J. Res. & Ed.,* Vol. 5, No. 4 (1961), pp. 328-339; United States v. Lever Bros., 31 *Law Week* 2547 (S.D.N.Y. 1963); as to acquisition of a patent holding company's assets, see Smith-Corona Marchant v. American Photocopy Equipment Co., 137 U.S.P.Q. 308 (S.D.N.Y. 1963).

[54] United States v. General Instrument Corp., *supra,* note 33.

[55] Bulldog Electric Products Co. v. Westinghouse Electric Corp. 162 F. 2d 994 (2nd Cir. 1947); Kinnear-Weed Corp. v. Humble Oil & Refining Co., 214 F. 2d 891 (5th Cir. 1954), cert. den. 348 U.S. 912 (1955).

conspiracy,[56] but it has also been asserted that it is dangerous for "several companies, acting jointly, to agree not to accept licenses from . . . an outside inventor. . . .[57] When the patentee is a competitor, the consultation may result in parallel action, and any further activities may imply a "concerted refusal to deal," not necessarily limited to the offered patent.

Moreover, when licenses are not readily accepted by the industry, a particularly injured patentee may charge one or more of the companies with infringement, and an actual controversy may arise for adjudication under the Declaratory Judgment Act.[58] When actual suit is brought, others of the alleged infringers may want to join in the suit to share the high cost of litigation. In the past such joint suits have not been questioned, and apparently, the cost of patent infringement litigation for both the patentee and the alleged infringers is substantially reduced by such a joint action. The patentee cannot join the others without proper service or their consent to be joined.[59]

In *Aberdeen Hosiery Mills Co., Inc. v. Kaufman,*[60] for example, the patentee sent letters to over 600 members of the industry, inviting them to take license instead of risking being sued when their customers asked for the patented product. As a result, a self-styled investigating committee was organized, and the committee invited members to join together for the purpose of investigating the patent. Monetary assessments were made to defray costs and pay for litigation against any member. Following the investigation, 102 members jointly brought a declaratory judgment action, and the court retained jurisdiction by finding that the letters were "properly" construed as threats to sue, and that it was "possible in one action to avoid 102 separate suits in 16 different states."

But does such a joint suit further show evidence of a "concerted refusal to deal," particularly when the patentee first caused the actionable controversy to arise by charging infringement.[61]

Perhaps some guidance can be derived from the cases broadly classified as agreements between competitors, exemplified by the collective

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[56] Titcomb v. Norton Co., 124 U.S.P.Q. 257, 265-7, (D. Conn. 1959).

[57] *Patent Licensing,* Practicing Law Institute (1958), pp. 128-129.

[58] Kerotest Mfg. Co. v. C-O-Two Fire Equipment Co., 342 U.S. 180 (1952); 28 U.S.C. 2201.

[59] Amerio Contact Plate Freezers, Inc. v. Belt-Ice Corp., 130 U.S.P.Q. 315 (W.D. Wash. 1961).

[60] 96 U.S.P.Q. 133 (S.D.N.Y. 1952).

[61] "One cannot so brashly initiate a controversy by such extensive threats of litigation as were here involved and then avoid the risk of judicial adjudication by mere nonaction." Lances v. Letts, 115 F. 2d 916, 917 (2nd Cir. 1940).

exclusive-dealing agreements,[62] the "bottleneck" cases,[63] and particularly the collective-boycott, or concerted refusal to deal cases.[64] However, it may become important to distinguish those offenses which are restrictive of trade with no legitimate end, the *per se* cases, and those fact situations which do not in fact reduce competition in any manner contemplated by the antitrust laws. Complex questions of what constitutes an illegal combination or conspiracy necessarily follow.

> The proposition . . . that a 'boycott' by others or even one person . . . is now . . . a *per se* violation of §1 of the Act, and that no inquiry need be made in such a case as to the substantiality of the restraint imposed by the boycott . . . appears, at first glance, to be supported by the Supreme Court. . . . On analysis it seems that the boycott itself was not condemned as an unreasonable restraint of trade, . . . but rather the court condemned either what was sought to be accomplished by the concerted refusals to deal or what was the necessary result thereof. . . . The 'purpose' of the accused agreement, i.e., the result sought to be achieved, is decisive in determining liability to a party claiming to be injured by reason of the claimed violation. . . .[65]

As to the reasonableness of joint suits in patent cases, it is of significance that

> the public interest requires that the threat of an invalid patent be removed whenever its enforcement is sought whether or not an active contestant of the patent's validity would be entitled to equitable relief in its own right.[66]

In the first instance, it is important to properly define the nature of the refusal to deal. While certain fact situations may disclose obvious illegal and coercive tactics in restraint of trade, application of the "established principles" in these situations may tend to confuse the issues. Thus, it would seem advisable to determine if, in itself, the refusal to accept a patent license, either alone or jointly with others, constitutes a violation of the antitrust laws and if such refusal is in contemplation of judicially testing the validity of the patent, whether the bringing of a joint declaratory judgment suit, or the establishment of a joint litigation fund, is violative of the antitrust laws.

Instances of joint suits are not rare, particularly since Rule 20 (a), *Federal Rules of Civil Procedure* permits the several joining of parties

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[62] Standard Mfg. Co. v. United States, *supra*, note 33.

[63] Associated Press v. United States, 326 U.S. 1 (1945).

[64] Fashion Originators Guild v. F.T.C., 312 U.S. 457 (1941); Klor's v. Broadway-Hale Stores, 359 U.S. 207 (1959); Radiant Burners, Inc. v. Peoples Gas Light & Coke Co., 364 U.S. 656 (1961).

[65] Interborough News Co. v. Curtis Publishing Co., 127 F. Supp. 286, 300 (S.D.N.Y. 1954), Aff'd. 225 F. 2d 289 (2nd Cir. 1955).

[66] Bulldog Elec. Prod. Co. v. Westinghouse Elec. Corp., 162 F. 2d 997.

when there is any question of law common to all.[67] In the *Central Hide* case, originally four plaintiffs brought a declaratory judgment action, but by subsequent stipulations or amendments, the number of plaintiffs was increased to thirty. The *National Hairdressers*[68] suit concerned a "class" action brought in Delaware for the benefit of 5,000 members of the association, while a New York District Court permitted the *New York Clothing Manufacturers Exchange*[69] class action for members of the Exchange. Other examples of such joint action are *Davis Co. v. Baker Cammack Hosiery Mills, Inc.*[70] and *Triumph Hosiery Mills, Inc. v. Alamance Industries.*[71]

It is reasonably clear that the mere refusal to accept a license by a non-dominant individual company is not an actionable wrong, nor is it a crime as defined by the Sherman Act. While the individual company may freely infringe the patent, thereby reducing the patentee's sales and perhaps materially affecting interstate commerce, the patentee's remedy is in the patent laws for infringement. Even though such acts are antagonistic to the patent laws, this is apparently not the kind of purpose protected by the antitrust laws. It is significant that even wilful patent infringement is not a crime.[72] This is particularly true if the patentee is not a manufacturer or competitor, where nothing is lost except the "exclusive right to make, use and sell." Thus the mere instigation of a valid declaratory judgment action by one company even with subsequent independent joinder by others should not affect the result.

In cases where several manufacturers consult as to the propriety of purchasing licenses, several points should be established, including the intent to create an unlawful restraint, the deprivation of individual

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[67] Central Hide & Rendering Co., Inc. v. B-M-K Corp., 109 U.S.P.Q. 308 (D. Del. 1956).

[68] The National Hairdressers & Cosmetologists Association, Inc. v. The Philad Co., 41 F. Supp. 701 (D. Del. 1941); Aff'd. *per curiam,* 129 F. 2d 1020 (3rd Cir. 1942); 58 U.S.P.Q. 465 (D. Del 1943).

[69] New York Clothing Manufacturers Exchange, Inc. v. Shikler, 87 U.S.P.Q. 393 (E.D.N.Y. 1950).

[70] 83 U.S.P.Q. 56 (M.D.N.C. 1949), Aff'd. in part 85 U.S.P.Q. 94 (4th Cir. 1950).

[71] 128 U.S.P.Q. 471 (M.D.N.C. 1961), Aff'd. 132 U.S.P.Q. 414 (4th Cir. 1962). An interesting variation is Redman v. Stedman Mfg. Co., 115 U.S.P.Q. 282, (M.D.N.C. 1957) where the Underwear Institute, of which almost all knitting companies were members, became interested in the patents and appointed a committee of experts to investigate the patents. This resulted in an agreement between the patentee and trustees named by the Institute wherein the trustees took over the patents and commercialized the patents and granted licenses. This arrangement was dissolved, however, when the Institute was confronted with the possibility of suing some of its own members.

[72] Kinnear-Weed v. Humble, *supra,* note 55.

freedom to deal, the conduct effective to bring about the restraint, and the nature of the restraint.

The particular facts would of course establish whether or not the manufacturers gave up their individual freedom to deal. Common courses of action, as joint litigation, should not be considered as enough to prove deprivation of freedom. Moreover, the refusal to deal may involve a refusal to accept a license, a refusal to manufacture or sell the patented product, or both. Clearly, a joint refusal to purchase the products manufactured by the patentee would constitute a *per se* violation of the Sherman Act.[73] It is difficult, however, to consider that a mere joint consultation and individual refusal to manufacture infringing products *without* a license would violate any laws. The patentee is presumptively entitled by law to the exclusive right to make, use and sell the patented product. As stated by one judge:

> . . . Since the patent laws subject an infringer to an action for an injunction and damages, an agreement to refrain from infringement is beyond the reach of the Clayton Act.[74]

This of course assumes no broader scheme in which the patented product is by joint agreement not manufactured, when the primary purpose is to disparage the patented product or block the initiative of newcomers and new techniques into the industry.

An actionable wrong may also result where the refusal to purchase a license is on joint agreement to refuse unless the license is given at terms favorable to the group. Such may involve coercive economic pressure on the business of the patentee, particularly if his income is derived solely by licenses, and is analogous to the patent interchange cases involving joint economic pressure. However, the latter involves a restraint on the patented product while the former may involve only a restraint on licensing. This is perhaps the reverse of the *Fashion Originator's Guild* facts, for here, the manufacturers are refusing to "copy" a "dress" belonging to the patentee, unless the patentee lets them copy it at reasonable terms. Such a concept would appear to be the antithesis of the legal nature of exclusionary patent property.

While the licensing activities of a patent holding company may constitute monopolization or include agreements in restraint of trade, it does not necessarily follow that the licensing activities also constitute a type of trade or commerce which may be restrained, within the meaning of the Sherman Act.[75] Moreover, the offers of license by patent

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[73] Radiant Burners v. Peoples Gas Light, *supra,* note 64.

[74] Baldwin-Lima-Hamilton Corp. v. Tatnall Systems Co., 169 F. Supp. 1, 120 U.S.P.Q. 30 at 53 (E.D. Pa. 1958), Aff'd. 268 F. 2d 395 (3rd Cir. 1959), cert. den. 361 U.S. 894 (1959).

[75] United States v. New Wrinkle, *supra,* note 30.

holders can be legitimate if reasonable under the circumstances.[76]

A monopoly conferred by a patent is the power to exclude others from making, using and selling the patented invention. Mere ownership of such right would not appear to be trade, nor would the offers to license, i.e., the guarantee of immunity to a suit for patent infringement. Yet licensing contracts, and the combined power to control patent licenses may be used as instruments to restrain trade, particularly where the restraint is not ancillary to the patent right and is used in an offensive manner.

While normally settlement of litigation is recommended, settlement of patent controversies can run afoul of the antitrust laws, particularly when the patent may be deemed invalid and used as a means to monopolize to the detriment of the public. Every possible opportunity to attack the validity of a patent is provided, and for a competitor to withdraw from attack can bring the competitor into the scrutiny of the F.T.C. and the Department of Justice.[77]

Judicial Indications

There is some judicial expression which indicates that alleged "anti-competitive" acts by present or potential licensees may not be as strictly interpreted as would similar activities by patentees. Thus, in *Hope Basket Co. v. Product Advancement Corp.*,[78] a declaratory judgment action, a counterclaim for wrongfully inducing other licensees to breach their license contracts was dismissed. The licensees were said to be justified in ceasing payments and having the question of further liability judicially determined. As a good faith "test case" such justification was a defense to the counterclaim.

In another declaratory judgment action,[79] the plaintiff was not prevented from seeking adjudication of the patent simply because it may have violated the antitrust laws.

> It is the . . . patent, not its own business practice, that plaintiff has placed in controversy by bringing this suit . . . [I]ts business is certainly not 'immediate' to the issue of validity or invalidity of the patent.[80]

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[76] Davis Co. v. Baker Commack Hosiery Mills, Inc., *supra,* note 70; "Though the grant of an exclusive license is not per se a violation of the antitrust laws, it may be an instrument by which an unlawful restraint of trade or a monopoly is created." Benger Labs. Ltd. v. R. K. Laros Co., 135 U.S.P.Q. 11, 18-19 (E.D. Pa. 1962), Aff'd. 137 U.S.P.Q. 693 (3rd Cir. 1963).

[77] United States v. Singer, *supra,* note 43, American Cyanamid Co., *supra,* note 41.

[78] 89 U.S.P.Q. 99 (6th Cir. 1951).

[79] Vanity Fair Mills, Inc. v. Cusick, 110 U.S.P.Q. 222 (D.N.J. 1956).

[80] *Id.,* 224.

Similarly, plaintiff's alleged unclean hands in yet another declaratory judgment action did not prevent a court inquiry into patent validity.[81] And in *Kinnear v. Humble,*[82] the claim for damages for violation of Section 2 of the Sherman Act by the alleged infringer was dismissed, because, if the evidence sustained infringement, all damages would be available through the patent laws.

Conclusion

History discloses that industry has been prodded "into undertaking . . . research and into developing improvements because of the threat of competition. . . . Thus, paradoxically, monopoly may evoke competition. The threat of patent monopolies may create a sort of competition."[83]

However, the technical development-oriented patent "monopoly" laws and the restrictive business-oriented antitrust laws do often meet in adjudication for a joint interpretation. But many issues have not yet been passed on, and in many of those which have been decided, the language of the opinions makes it clear that antitrust interpretation remains in a fluid condition. Yet the very fluidity of the antitrust laws often leads to novel applications apparently not contemplated by either the patent laws or the antitrust laws. Among these are included many incidents relating to the interaction of patentees and potential licensees. Eliminating the practice of licensing is not the answer, because this practice is often necessary for a proper commercial growth.

Yet in these cases, the patent concept of reward becomes seriously threatened, particularly where the charge of antitrust violation arises solely from incidents of dissatisfaction in patent exploitation by either the patentee or by members of the industry. Only a reasonable approach toward the application of antitrust law to patent property will prevent the confusion which adds little to the public welfare. Moreover, a presumption that parties act in bad faith, whenever patents are involved, is not consistent with a free enterprise patent system. It is essential for those concerned to clarify their positions, rather than compromise to avoid immediate controversy.

> Complacency in avoiding litigation . . . or docile acceptance of . . . consent settlements, will tend to create the very peril of undue interference with the freedom of lawful private enterprise. . . .[84]

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[81] W. E. Plechaty Co. v. Hackett Engineering Inc., 111 U.S.P.Q. 234 (N.D.Ohio 1956).

[82] *Supra,* note 55.

[83] J. Frank, concurring, Picard v. United Aircraft Corp., 128 F. 2d 632, 643 (2nd Cir. 1942).

[84] S. Chesterfield Oppenheim, *PTC J. Res. & Ed., supra,* note 2 at pp. 111-12.

The Plight of the Jepson Claim

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SUMMARY

A "JEPSON CLAIM" MAY MEAN MANY DIFFERENT things to many different people. This claim form presently rests on the horns of a dilemma; one horn representing the beneficial purposes which such a claim is uniquely capable of serving, the other representing the uncertainty of interpretation resulting from the broad spectrum of judicial construction as to the metes and bounds of this type claim. A proper subject of inquiry is whether such interpretative latitude is within the statutory limits defined by 35 U.S.C. 112 and, if not, what steps can be taken to restrict its usage to permissible limits without sacrificing its beneficial qualities. Although this problem represents a relatively small corner of the patent field, reasonable certainty in claim interpretation, as a broad concept, is fundamental to public confidence in any patent system, particularly the present U. S. system of examination.

INTRODUCTION

IT IS THE PURPOSE OF THIS PAPER to investigate the web of judicial opinions rendered regarding the so-called Jepson claim and to submit several remedies which might help to alleviate the apparent disharmony and confusion presently existing in this area of patent law.

This treatment does not extend to judicial construction of Jepson claims in infringement suits since such construction generally depends to a large extent on the subject matter involved, the degree of the alleged infringement and other equities not directly related to pure claim form.[1] It is submitted, however, that a more definite claim form in this area would alleviate or eliminate at least some of the present ambiguity in infringement cases and benefit all parties concerned by adding a much greater degree of judicial certainty in claim construction. This uncertainty, however, is not exclusive with the federal courts of general and appellate jurisdiction dealing with patent in-

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[1] See, for example, decisions cited in Stringham, Patent Claims, Vol. I, §§ 5612, 5620 (1939).

fringement, but extends to the Court of Customs and Patent Appeals (C.C.P.A.), the Patent Office Board of Appeals and the everyday prosecution within the Patent Office where the form of the claim is directly controlled in ex parte prosecution before the claim is thrust upon the public in the form of a patent grant. This treatise is limited to these latter areas exercising such direct control.

Ex Parte Jepson[2]

In 1917, a Primary Examiner submitted an application to Assistant Commissioner Clay for instructions as to proper claim form. A representative claim read:

> In an electrical system of distribution of the class wherein a variable speed generator charges a storage battery and when the battery becomes sufficiently charged a voltage coil becomes effective to regulate the generator for constant potential, the combination with said voltage coil of a coil traversed by current flowing to the battery which is acted upon by decreasing battery current to reduce the potential maintained constant by the voltage coil.

The examiner objected to the claim because he felt that "under the decisions, the introductory phrase did not with certainty constitute a limitation of the claim."[3] Moreover, the examiner feared that such a claim form, in apparatus claims, might leave it open to the patentee to contend that the structure in the preamble is or is not a limitation of the invention, as he may find convenient. Antithetically, applicant contended that old elements should not be catalogued with emphasis equal to the new and that a clear line of demarcation between what was old and what was new enhanced the form of the claim by particularly pointing out what was new. Assistant Commissioner Clay agreed with the applicant and thus was born the now famous Jepson claim.

The Basic Problem Involved

The Patent Act of 1952 requires that each applicant conclude his specification with one or more claims "particularly pointing out and distinctly claiming the subject matter which . . . applicant regards as his invention."[4] The quoted language has been in all patent Acts in this country since 1836 and its requirements are clear. The demand for specificity is made necessary by the fact that all persons having

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[2] 1917 C.D. 62.
[3] *Id.*, at 69-70.
[4] 35 U.S.C. 112 (1952).

any relationship to a patent should be properly apprised of the limits of the patented invention and thereby guided in their actions relating to the patent. It would undoubtedly discourage invention if a zone of uncertainty were created in which enterprise and experimentation could enter only at the risk of infringing claims.[5]

In satisfying the statutory requirement, a claim should give the inventor protection which is commensurate with his invention and which is not so restricted in coverage that it fails to protect against infringers who make use of his contribution yet are not within the scope of the claim language. However, if the scope of a claim extends beyond the actual contribution of the inventor, the patentee is held to have overextended his monopoly and the claim is invalid. Thus, the famous decision in *Lincoln Engineering Co. v. Stewart-Warner Corp.*[6] held void a claim to a combination of several elements because the Court found that the invention was only in one of the elements, the remaining elements having no new function. But, it is not always clear to the inventor at the time of filing whether his real invention lies in the element or the combination to which it is intimately associated. Faced on one hand with the prospect of an invalid combination claim and on the other with the prospect of only the limited coverage of an element or sub-combination which also may be old except in the particular combination, it is natural that applicant would seek a claim which could be construed to cover either the combination or the sub-combination as future circumstances may dictate.[7] Experience has shown that the Jepson claim has provided at least a partial solution to the applicant's dilemma. But, it is submitted that this solution has led to a far greater dilemma in the tribunals, the Patent Office and among

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[5] On the other hand, it is settled that no particular claim form is necessary provided the meaning of the claim is clear. Brown v. Guild, 90 U.S. 181 (1874). For a recent example of the extremes sometimes reached in permissible claim form, see Ex parte Squires, 133 U.S.P.Q. 598 (1961) where the Patent Office Board of Appeals allowed a claim reciting simply, "A font of numerals as shown in Fig. 1." The case is noted in 31 *George Washington Law Review* 530 (1962).

[6] 303 U.S. 545 (1938). In the recent case of Holstensson v. VM Corp., 139 U.S.P.Q. 401 (6th Cir. 1963), an entire patent was held invalid for overclaiming, notwithstanding a recognition that the patent, in part, contained "patentable invention."

[7] Also, the inherent uncertainty of such a claim might lead the examiner to one conclusion of claim scope which would overlook some of the more pertinent art which might be used to limit the invention. Applicant could elect to prosecute claims to both the combination and the sub-combination but this leads to the possible danger of a restriction requirement and a later judicial finding of double patenting. The problem of double patenting in this situation is discussed in some detail in Rosenberg, "Double Patenting," 45 *Journal of the Patent Office Society* 34 (1963).

the general public. More importantly, it should be realized that a claim which has more than one possible interpretation does not "particularly point out" the invention.[8]

Analysis of the Jepson Decision

In the *Jepson* decision, Assistant Commissioner Clay first reviewed the statutory history of the requirement that applicant "particularly point out and distinctly claim" his invention and reviewed the decisions involving claim form. It was his opinion that the courts sometimes read elements into and out of a claim to delineate the claim boundaries so as to conform to what the court believed the patentee really invented. Further, although it is hazy in the opinion, he apparently reasoned that since the courts must decide what is really the invention anyway, it was the function of the examiner simply to see that there could be no misunderstanding as to what part of the structure was old and what was new. He felt that it was the court's function, and not the examiner's, to undertake to control the elasticity of the language of the claim. Thus, where the inventor adds a new element to a known combination of old elements, the claim should be drawn by placing the old elements in the preamble and the new element in the body of the claim along with its relationship to some or all of the old elements. In such a claim, the "something new" is the additional element and the court, not the examiner, must decide how much of the old structure is necessary to make the invention complete.[9] It is submitted that Assistant Commissioner Clay, in this reasoning, misconstrued the statutory function of the Patent Office and that it is this misconstruction which is the root of the present plight of the Jepson claim.

The statute requires that a claim particularly point out and distinctly claim the *invention,* not merely what is *new.* When a claim

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[8] It is ironic, also, to note that the uncertainty of claim interpretation in these claims does not always work to applicant's advantage. The court may determine that his Jepson claims are drawn to a combination rather than the intended sub-combination and, hence, direct infringement of the sub-combination may not be found. Cf., Ex parte Krupp, 68 U.S.P.Q. 223 (1945).

[9] Assistant Commissioner Clay stated: "the placing in the preamble of those parts of the structure which are admittedly old makes it doubly certain that they are not of the essence in the invention, whether or not they must necessarily be present in order to make the function or structure of the invented apparatus complete. This latter question the courts must be left to decide." 1917 C.D. at 70 Also, the question was posted as to "whether it is not more the duty of the Office to see to it that patents point out the nature of the invention than . . . to have the claim worded so as to limit the elasticity with which the courts may hereafter construe the claim." *Id.* at 63.

is examined by the Patent Office and finally permitted to issue in the form of a patent grant, it is the duty of the Patent Office to insure that the claim conforms to the statutory requirement that it define the invention. It is the duty of the courts to insure that the Patent Office has properly carried out its statutory function. If the decision as to *how much* of the claimed structure is needed to define the invention is left solely with the courts, the public and the potential licensee can only guess as to what they are prohibited from doing or as to what they are permitted to do until there has been a final decision on the matter by an appropriate tribunal. This only serves to compound the present, inherent uncertainty of judicial review of the question of what is invention and substantially reduces the effective utilization of the expertise of the Patent Office. While it is true, as was noted in *Jepson,* that courts sometimes reconstruct claim language to do violence to the actual language, this must be considered an exception wrought by the equities of the particular case and should not be relied on as a basis to support a rule which renders claim interpretation uncertain from its very inception. It seems rather surprising that the unequivocal statutory requirement of particularity could be reduced to this level of uncertainty. Moreover, the problems inherent in such a statutory construction are particularly detrimental to the examination system of patent applications. For if the examiner need not first decide what are the metes and bounds of the claims, how can he determine what prior art is required to meet the claim and to what limits his search should properly extend?

A peculiarity should be noted at this point. In cases following the *Jepson* decision the statement is frequently made that the claim form in question was approved by the Board of Appeals in *Ex parte Jepson.* Sometimes this statement is accompanied by the reason applied in *Jepson* that such claim form clearly separates the old from the new and should therefore be encouraged. Then begins the judicial struggle to determine if the preamble limits the claim in question. Nowhere is the basic rationale of *Jepson* questioned or investigated to determine its correctness.

Another peculiarity of *Jepson* is best exemplified by a question. Why was applicant anxious enough to go to appeal to get a particular claim form? The answer seems obvious—the particular claim form was very flexible since it was capable of several different interpretations as to what elements were claimed as part of the invention. It should be noted that this same flexibility was recognized and opposed by the Primary Examiner in the *Jepson* case.

Pre-Jepson Practice

The earlier cases dealing with claim form primarily involved claims having elements recited in the body of the claim which were only inferentially or indirectly included as part of the claim. However, as early as 1910, the Patent Office Board of Appeals was faced directly with a case which was a harbinger of problems yet to come. In *Ex parte Stimpson*[10] the examiner sought to require the applicant to change the introductory phrase of his claim from "In a . . ." to "A . . ." The Board of Appeals rejected the applicant's argument that this requirement would change the claim to cover the whole structure recited whereas it was his intention to cover merely the last seven lines of a seventeen line claim. The Board then required applicant to positively claim any element to which it was necessary to refer to define other elements of the invention, citing *Ex parte Dodge*[11] as authority. Thus, until the decision in *Ex parte Jepson,*[12] the rule was apparently firmly implanted that any element mentioned in a claim had to be positively included in the claim[13] although it was at least recognized that introductory clauses used solely to establish the class of an invention were permissible since they did not define any element.[14]

Practice Following Ex Parte Jepson

Although there is nothing to be found in the *Jepson* decision to positively indicate whether the claim there were considered to be drawn to the combination or the subcombination, the decisions following this decision were clear that such form defined a combination.[15] This conclusion was probably based to a large extent on the presence of the phrase "the combination with" which linked the preamble and the improvement clause or body of the claim. Thus, the pure Jepson form, like the pre-Jepson form, has offered little uncertainty in view of these decisions. Unfortunately, however, the problem does not end there.

Many variations of the basic Jepson form began to crop up and the courts began referring to any claim having a preamble as a Jepson claim; it is the divergent interpretations of these variations which

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[10] 1910 C.D. 223.
[11] 1906 C.D. 439.
[12] 1917 C.D. 62.
[13] Ex parte Vincke, 1901 C.D. 124; Ex parte Dodge, 1906 C.D. 439.
[14] Ex parte Casler, 1900 C.D. 5 (1899).
[15] Ex parte Belcher, 58 U.S.P.Q. 34 (1942); Ex parte Witzel, 8 U.S.P.Q. 325 (1931); Ex parte Lennon, 140 U.S.P.Q. 67 (1963).

have created the present problems in this area. These variations are replete with different degrees of intermingling of elements in the preamble with elements in the body of the claim and the tribunals are not clear as to when the elements of the preamble are limitations and when they are merely environmental or a statement of intended use. While there are no accurate and clear-cut classifications which will neatly catalog the numerous variations of the Jepson form, a review of the decisions seems to indicate three general forms:

> (*1*) Where the preamble is simply a single phrase consisting of only a few words which establish the class of the invention but do not recite any elements.[16] Examples of this form are, "A ball mill lining composed of . . ." and "A pump comprising. . . ."
>
> (*2*) Where the preamble is an introductory phrase containing environmental elements such as "In a pump having a casing . . .," and where the body of the claim does not refer back to the elements in the preamble.[17]
>
> (*3*) Where there is a rather lengthy preamble similar to (*2*) and where there *is* reference back to the elements in the preamble.[18]

The decisions are largely consistent in holding groups (*1*) and (*2*) to be subcombination claims merely having introductory phrases to show environment or intended use. Exceptions to this rule are rare and are generally based on an *ad hoc* determination. The logical reason for judicial acceptance of these groups of claims is that it permits the court to have a better understanding of the claimed elements by establishing the environment in which the elements constituting the invention are located rather than simply reciting a conglomeration of elements forming an unnamed device. And, this improved understanding is not undermined by having to determine what elements in the claim are actually claimed as the invention. In group (*1*), for example, the introductory phrase "A pump . . ." does not define an element but merely establishes the class of the invention. In group (*2*) there are elements recited in the preamble, but there is a clear line between these environmental elements and the elements located in the body of the claim which define the actual invention.

In group (*3*), however, the decisions are not consistent and it is this

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[16] Eg., In re Benner et al, 174 F2d 938, 82 U.S.P.Q. 49 (1949); In re Sebald, 268 F2d 430, 122 U.S.P.Q. 527 (1959).

[17] Eg., In re Hack, 245 F2d 246, 114 U.S.P.Q. 161 (1957); In re Rockwell 150 F2d 560, 66 U.S.P.Q. 215 (1945).

[18] Eg., Ex parte Feissel, 131 U.S.P.Q. 252 (1958); In re Dean, 291 F2d 947, 130

variation of the pure Jepson claim which reaps the harvest yielded by the dormant seeds of uncertainty sowed by Assistant Commissioner Clay in the *Jepson* decision and it is only this group of claims which will be investigated further.

It is frequently stated in decisions by the C.C.P.A. that the general rule is that introductory clauses are not limitations.[19] However, there are a significant number of decisions which do not follow the general rule[20] and, in perusing the claims in suit, it is difficult, if not impossible, to distinguish the exceptions from the rule. In 1951, in deciding *Kropa v. Robie,*[21] the C.C.P.A. reviewed 37 cases where it had faced the question of whether an introductory clause limited its claim. Among the 37 cases, the great majority held that the clause was not limiting although these holdings were based on several diverging theories as were the decisions which held the clause to be limiting. The court apparently concluded from its review that the introductory clause was not limiting unless it "was considered necessary to give life, meaning and vitality" to the claim.[22] Even though this decision reviewed a maze of divergent opinions and then concluded by applying the "life and meaning" test, the obvious nebulosity in such a standard still left claim interpretation relatively uncertain until there had been a final judicial determination of the matter. And, as will be seen, the "life and meaning" test, if it ever existed as a standard, was short-lived.

While it would seem that after such a tedious and thorough review of its previous decisions by the C.C.P.A. the "life and meaning" test would become a general standard in measuring a Jepson claim, the court apparently did not feel that *Kropa* established any binding precedent beyond the facts in that case. In the later case of *In re Harmon,*[23] for example, the C.C.P.A. found the preamble not to be limiting because the portion of the claim following the preamble was a "self-contained description of a structure not depending for completeness upon the introductory clause."[24] Although this test is very similar to the *Kropa* test and the court cited *Kropa* to support this conclusion, this test had been previously established in *In re Beplate*[25] and only

U.S.P.Q. 107 (1961).

[19] Eg., In re Rockwell, *supra,* note 17; In re Lamb, 146 F2d 277, 64 U.S.P.Q. 241 (1944).

[20] Eg., In re Harris, 107 F2d 623, 43 U.S.P.Q. 413 (1939).

[21] 187 F2d 150, 88 U.S.P.Q. 478 (1951).

[22] *Id.,* at 152, 88 U.S.P.Q. at 481.

[23] 222 F2d 743, 106 U.S.P.Q. 101 (1955).

[24] *Id.,* at 745, 106 U.S.P.Q. at 103.

[25] 77 F2d 506, 25 U.S.P.Q. 386 (1935).

referred to in *Kropa*. Similarly, in *In re Hack*[26] the court held the preamble was not limiting because it was an expression of intended use. The Patent Office Board of Appeals recently held a preamble to be limiting because "certain terms" in the preamble were referred to in the body of the claim.[27]

If these cases were not enough to dispel any thoughts of the "life and meaning" test becoming a general standard, this criteria as well as other "tests" were expressly laid to rest in *In re Dean*.[28] In that case, decided in 1961, a claim in suit read, in part:

> In a camera having a shutter mechanism including (elements) . . ., a shutter timer device . . . comprising: a pair of electro-responsive devices adapted to be individually coupled to said (shutter mechanism elements). . . .

It is seen that the "elements" of the shutter mechanism are mentioned in the preamble and referred to in the body of the claim. The Board of Appeals had relied on the various tests of *Kropa* and held the preamble to be limiting. The C.C.P.A. reversed because it felt that the adaptation phrases such as "for use with" and "adapted to" did not operate to include the shutter mechanism elements even though they were recited in the body of the claim. The court rejected the application of any "tests" and applied a "common sense interpretation" to hold that the claims were drawn only to the timer sub-combination. It will be noted that "common sense interpretation" should be about the same as deciding which elements in the claim are necessary to give "life and meaning" to the claim. However, this test of *Kropa* was categorically rejected along with any other tests previously applied. The "common sense interpretation," presumably, could also include some elements mentioned solely in the preamble and exclude other elements in the body of the claim as part of the invention. Also, this type interpretation gives absolutely no guides as to how another claim of the same general type is to be limited except by the common sense of the individual who is interpreting. Since the "common sense interpretation" may vary with the individual when an element is intermingled throughout the preamble and the claim body, even the limited certainty of a nebulous standard was, in effect, rejected. This case permits reference back to the preamble by adaptation clauses although permissible reference backed by other functional rhetoric is yet undecided and must depend on the common sense of the particular inter-

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[26] *Supra*, note 17.
[27] Ex parte Feissel, *supra*, note 18.
[28] 291 F2d 947, 130 U.S.P.Q. 107 (1961).

preter of the particular claim in question. It is not surprising, therefore, that at least one commentator, after reviewing *Dean,* felt that legislative action on claim form was in order.[29]

In two recent cases,[30] the C.C.P.A. has solidified its position of deciding the appropriate weight to be accorded a preamble solely on an *ad hoc* basis and without establishing any discernable guidelines.

Conclusion

Before proceeding further, an interesting query should be investigated. Why have the courts permitted this troublesome variation of the Jepson form to become, and to remain, a legal thorn in their sides? It is believed obvious that the courts, were they so inclined, could simply refuse to get to the difficult question of whether the preamble is limiting by holding the claim indefinite and nonstatutory because the form of the claim inherently raises such a question and obviously cannot be said to define the invention with particularity. The most plausible answer to the question seems to be that the courts are concerned about the applicant's dilemma in deciding how to incorporate some flexibility into his claim in the face of the unequivocal statutory language. While the applicant is usually sure what he has done in the way of advancing the art, he may not be sure of the proper boundaries of his achievement until it has been subjected to the rigors of commercial application and competition. The applicant, in prosecuting his invention, obviously cannot argue flexibility since this is the very antithesis of particularity and specificity. So, in trying to justify his claim form, applicant must adopt the argument that it is more desirable to claim the environment along with the actual invention for clarity of understanding, or because the form of the claim separates the old from the new and does particularly point out his invention. This position, however, is believed to be one forced upon the applicant by the statutory language rather than merely a preference of one claim form. The fact that applicant would choose a claim embodying one arrangement of elements rather than another which theoretically defines exactly the same invention is clearly an insufficient reason to justify the uncertainty created by this claim form. Of course, applicant has a valid argument that environmental elements are an

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[29] Note, 30 *George Washington Law Review* 380, 385 (1961).

[30] In re Sinex, 309 F2d 488, 135 U.S.P.Q. 302 (1962) and In re De Napolis et al, 302 F2d 768, 133 U.S.P.Q. 556 (1962). Cf., Ex parte Lennon, 140 U.S.P.Q. 67 (1963), a very recent case where the Board of Appeals expressly applied the "common sense interpretation" of In re Dean, *supra,* note 28.

aid to interpreting the claim language, particularly when the claim is drawn to highly technical or complex subject matter and the court has no particular expertise in the field.

The legal coin also has another side. The primary purposes of the statutory demand for specificity, outlined earlier, are very important to the whole patent system. It is imperative to the proper functioning of the present U. S. examination system that the examiner know what the invention is purported to be when the search of the prior art is being made. It is equally imperative that those contemplating acts in reliance on a patent or those constrained to act for fear of infringing a patent know to what limits the patent grant extends. Without a substantial degree of certainty as to what is being claimed, the value of a patent is substantially diminished unless and until it has been subjected to judicial inquiry and construction. Abundant uncertainty in this area makes an unhealthy combination with the existing uncertainty inherent in the difficult and elusive concept of what constitutes invention.

Thus, there is a balance of the applicant's desire for anticipatory flexibility and the public's desire for specificity. Congress presumably weighed the various factors of the conflicting interests and, by adopting the language of 35 U.S.C. 112, determined that the need for specificity was paramount. It is difficult to rationalize the myriad of different judicial interpretations of the Jepson claim with this legislative mandate. While it is questionable whether any claim which recites elements admittedly not part of the invention satisfies the strict statutory requirements, it would seem that the judicial acceptance of any test or standard of interpreting such claim should be adopted only when it is clear that claims of the same general character will be interpreted with reasonable certainty as to content. If certainty of interpretation is reasonably assured, the applicant is at least given some lexicographical freedom as well as limited flexibility. More importantly, the statutory language and purpose are complied with to the ultimate benefit of the public in its ability to interpret such claims with reasonable certainty and to rely on this interpretation with confidence.

It is submitted that neither the "life and meaning" test of *Kropa v. Robie* nor the present "common sense interpretation" of *In re Dean*, particularly the latter, comply with the letter or the spirit of 35 U.S.C. 112.

Suggested Remedies

It would appear, for reasons mentioned, that the Jepson claim has a place in the patent field and is capable of serving useful functions

if properly bridled. As was mentioned also, certainty must be the goal of any suggested tack to alleviate the present Jepson claim situation. Below are listed several suggested remedies which vary in form and method of application and which, hopefully, would provide uniformity in interpreting a Jepson claim if, perchance, they were adopted.

I. Retain the present "common sense interpretation" but let any element which is questionable be presumed to be part of the invention rather than the environment. The examiner could be required to state in the first action any elements he holds to be questionable and, hence, presumed to be part of the invention. The applicant could overcome the presumption by a satisfactory showing that the element was clearly and positively part of the environment as recited. Such a showing, of course, would operate to preclude a later assertion of undue flexibility under the doctrine of file wrapper estoppel. This method would eliminate some of the existing inconsistency in claim interpretation since any questionable element could be positively included as part of the invention. This method, however, would probably serve to prolong slightly the prosecution of a few cases. Also, a person looking at a patented claim would not know which elements had been found to be questionable during the prosecution of the application and which elements had been successfully argued as non-limiting by applicant. However, it should be easy, in most cases, to judge whether an element is simply questionable or not and, since the answer would be available in the file of the case, this method would be an improvement on the present situation of unbridled confusion. This method emphasizes what should be the basic maxim in any method of interpreting a claim—it is not important whether an element, by a selected method of interpretation, is included as part of the environment or part of the invention provided that similarly claimed elements in another claim of the same general type will be included in the same group when the selected method is applied. Thus, the presumption could just as easily operate to include the questionable element with the environment provided it always operated the same way. However, the former presumption seems more logical if for no other reason than the fact that the element is mentioned in the claim and therefore more apt to be part of the invention.

II. Require the applicant, if he adopted the form of placing environmental elements in the beginning of a claim, to separate clearly the preamble from the body of the claim as by a semi-colon and appropriate language such as ". . .; a valve comprising. . . ." In addition, it should be an absolute rule that there can be no reference in the body of the claim to the elements in the preamble. This would permit applicant to add what environment he feels will aid in understanding the claim yet clearly distinguishes the environment from the actual invention.

III. The most drastic remedy would be to require applicant to separate the non-positively recited elements in a claim by brackets or similar devices. This, of course, would put an additional burden on the applicant if he chose the Jepson form but it would permit greater freedom than the other methods by permitting the inclusion of environmental features throughout the claim where such features were deemed desirable. There would be no question as to which elements applicant was claiming as his invention.[31]

It should be noted that the suggested remedies could be adopted individually or in any combination and if all three were concurrently adopted, applicant would have a wider choice of format. If a particular claim did not reasonably adapt itself to the chosen format for some unforeseen reason, the examiner could require applicant to choose another. The applicant, of course, would have the remedy of petition if the requirement was unjustified.

Remedies I-III could be promulgated, if desired, by the Commis-

[31] In an attempt to illustrate how this method would operate, it will be applied to a claim recently before the CCPA in In re Rohrbacher et al, 284 F2d 531, 128 U.S.P.Q. 117 (1960). "A cooling liquid pump (for engines having parallel rows of liquid cooled cylinders and) comprising an elongated pump casing (adapted to extend between said rows of cylinders and to be secured at the opposite ends thereof to the liquid cooling cavity walls of said rows of cylinders), said casing being formed . . . said casing ends being formed to provide outlet ports opening laterally of said casing through one of the side walls of said casing (and being adapted to provide communication between said discharge chamber and the cooling liquid cavities within said cavity walls of said rows of cylinders), said one of said side walls. . . ." This case is illustrative of the confusion existing in this type claim. It is not clear whether simply the pump is claimed or whether the combination of a pump attached to an engine is claimed. It is interesting to note that the CCPA reversed the Board of Appeals and held the claim to be drawn to the pump subcombination and therefore allowable. However, when the patent was issued by the Patent Office, it was issued in Class 123—Internal Combustion Engines.

sioner by amendment to the Patent Office Rules of Practice with proper notices to the Patent Bar. It is believed that no further statutory authorization would be required for the Commissioner to adopt such proposals than the requirement for particularity and specificity in 35 U.S.C. 112.

It is earnestly submitted that the present plight of the Jepson claim is intolerable, particularly at a time when the present United States system of examination is under increasing attack because of the alleged general lack of certainty in patents issuing from the Patent Office. It is imperative that some acceptable solution to the problem be found.

REVIEWS AND ANNOTATIONS

Recently Published or Reported Material Relating to the Research Institute's Work

BOOKS, PAMPHLETS AND PERIODICALS

Barrett, Michael F., Jr., "Military Law and Justice Developments," *Federal Bar News,* Vol. 11, No. 1 (January 1964) pp. 25-29.

"What happens when a member of the Military or a civilian employed by a Military Department develops an invention which would otherwise be patentable except for national security? What financial rewards are made for such accomplishments? This month we are pleased to have a column submitted by the Patents Division, Office of the Judge Advocate General of the Army, which may offer some insight into these questions."

Bauer, Charles P., "Trademarks in Packaging," *The Trademark Reporter,* Vol. 53, No. 9 (September 1963) pp. 865-870.

"Today, if the trademark attorney, either in private practice or as an employee of a company, wishes to do an effective job for his client, he must be fully prepared to advise his client in the fields of marketing and packaging. It is for this reason that you must be concerned with bills like S. 387. Furthermore, any federal control and regulation of your labeling and packaging practices must affect the trademarks which appear on such labels. Unfortunately, you and your clients have not asserted yourselves with legislation such as this with the result that these bills become law virtually by default because there is no strong opposition."

Benoit, John E., "Foreign Filing and Secrecy Orders," *American Patent Law Association Bulletin,* December 1963, pp. 470-479.

"The regulations governing the filing of patent applications in foreign countries are set forth in 35 USC 184-186. While these sections of the statute do not in themselves appear to contain any ambiguities, the use of Secrecy Orders by the Patent Office has added complications not specifically covered by the regulations. The following article is directed to the problems arising from this dual consideration."

Bisgaier, Henry G., and Monroe E. Price, "Quality Control and the Antitrust Laws in Trademark Licensing," *The Trademark Reporter,* Vol. 53, No. 12 (December 1963) pp. 1130-1168.

"This comment will analyze the provisions and background of the Lanham Act to determine what types of trademark licensing transactions Congress intended to sanction, and also will examine the economic and social goals of trademark licensing to discover whether more satisfactory alternatives to widespread licensing are available. Finally, since anticompetitive repercussions may offer the most serious obstacles to adoption of expansive trademark licensing, the applicability and effectiveness of antitrust laws to licensing transactions will be explored."

Browne, Richard C., "Post-Prosecution Amendments to Applications," *The Trademark Reporter,* Vol. 53, No. 12 (December 1963) pp. 1118-1129.

"Several recent unpublished decisions in trademark application proceedings point up the need for a reconsideration and clarification of Patent Office policy regarding entry of amendments to applications after initial jurisdiction has passed from the Trademark Examiner.

"While the decisions referred to are principally 'Patent Office Communications' and hence, unpublished, they bring together a group of prior reported decisions by the Commissioner of Patents, the Trademark Trial and Appeal Board, the Court of Customs and Patent Appeals and the District Courts in which the role of 'review proceedings' in trademark cases has been fashioned.

"Drawn into focus by this problem of Patent Office policy are three rules set down in the Rules of Practice in Trademark Cases. The first concerns discovery by the Trademark Trial and Appeal Board of unresolved *ex parte* issues in *inter partes* cases, presumably after *ex parte* prosecution has been concluded; the second concerns the entry of amendments to an application involved in a proceeding; and the third concerns 'reopening' of the prosecution of applications which have been involved in decided appeals."

Daddario, Emilio Q., "Effects of Government Patent Policy on Research and Development," *Journal of the Patent Office Society,* Vol. 45, No. 10 (October 1963) pp. 663-672.

". . . to discuss a subject which is growing in importance—the ownership and use of ideas and the processes and products growing out of them. The constantly increasing government activity in research and development has focused attention on our policies affecting patents. . . .

"A second major argument used by title enthusiasts is that the Government needs title to these patents in order to insure widespread access to the new technological knowledge which has been produced in the course of the contract. No one has yet suggested, however, a means by which such knowledge would be disseminated more quickly or more efficiently by virtue of Government ownership. . . .

"Let me point out that in the first four years of operations on the part of the Space Agency involving thousands of prime and subcontractors, NASA has received just over one thousand disclosures by commercial contractors, and until July 31, has filed for patents on only fifty-one. By way of comparison, the Navy Patent Organization in the single fiscal year period of 1963, received 1,654 disclosures from Navy-sponsored research. In the case of one large aircraft manufacturer for one year, 734 invention disclosures were received from employees, 129 patent applications filed, and 109 patents issued. It seems hard to argue in the face of this type of evidence that disclosure of any technological information is going to be speeded up by a title policy. . . .

"The argument that a license policy encourages incentive, I think, is true as a consequence of human nature, and the same applies to the contention that few firms are going to bother with developing an invention commercially unless they can do so on an exclusive basis for a period of time. This is a built-in element of our profit system and to deny it is to be economically unrealistic."

Dalsimer, Philip T., "Intention to Use—A Proposal, (Pro)," *The Trademark Reporter,* Vol. 53, No. 10 (October 1963) pp. 975-983.

"Twenty-five years of personal experience have led me to the conclusion that some method of filing applications for trademarks, prior to their actual or token use, would be highly desirable. It is a natural concept to desire the right to file a claim. It is a reasonable concept to be able to file and to get some priority right on which to base a business enterprise."

de Guevara, Alberto L., "Socialized Medicine and Its Effect on Trademarks," *The Trademark Reporter,* Vol. 53, No. 12 (December 1963) pp. 1109-1117.

"By force of recent developments within the past year concerning the pharmaceutical industry, especially in the Latin American area, the title and subject matter of this paper seem a most appropriate topic at this time. What is meant in this concept of 'Socialized Medicine' is the production and sale of drugs without

any trademark, and, in some cases, without company identification in an effort to reduce prices to the general public by eliminating or substantially reducing promotion and other similar or related expenses. The subject has been a favorite topic among politicians for many years but, oddly enough, has seldom if ever been viewed in its proper legal concept. This then is the purpose of this paper to consider the subject juristically outside the political arena."

de la Sierra, Jose, Jr., "Trademarks in Mexico – Registration, Maintenance & Renewal," *Journal of the Patent Office Society,* Vol. 45, No. 11 (November 1963) pp. 779-783.

"In the twenty years which have passed since the present Mexican Law of Industrial Property came into effect, it has become increasingly obvious that certain provisions of the Law dealing with trademark registrations are being widely misinterpreted. Experience has shown that this misinterpretation is common, not only outside Mexico, but within the Republic itself and has led to serious damage to trademark rights, including the cancellation of numerous Mexican registrations.

"It is the purpose of this study to set forth clearly the concepts of the Mexican Industrial Property Law which are believed to be most misunderstood."

Dienner, John A., "Protection of Industrial Designs," *Journal of the Patent Office Society,* Vol. 45, No. 10 (October 1963) pp. 673-685.

"1. Declare by federal statute that unfair dealing in respect of devising, dealing in, using and selling industrial designs or embodiments thereof shall be regarded as unfair competition, and shall be subject to injunction and the award of damages upon proper showing by the injured party.
"2. Establish an office for the registration of new and ornamental industrial designs according to procedure established by the Registrar.

(*a*) With examination for novelty only;
(*b*) With the issue of a certificate which shall set forth the date of filing, and the date of issue of the certificate;
(*c*) No grant is involved; merely a disclosure; an identification of the design, the date of priority and date of issue;
(*d*) Limit the period of claim on the part of the registrant to a period of fifteen years after the issuance of certificate."

Dykman, Harry T., "Authorization and Consent Clause—What Does It Do?" *Journal of the Patent Office Society,* Vol. 45, No. 11 (November 1963) pp. 784-790.

". . . there should be no reasonable doubt that anyone manufacturing an item for delivery to the United States Government is immune from suit for patent infringement for such manufacture."

Eaton, William W., "Plans of the Department of Commerce for the Patent Office," *American Patent Law Association Bulletin,* October-November 1963, pp. 431-438.

This is an address given by Dr. Eaton, Deputy Assistant Secretary of Commerce for Science and Technology, at a dinner for Patent Office personnel held in the Sheraton Park Hotel by the American Patent Law Association in October, 1963.

Einhorn, H., "The Enforceability of Patent Claims Encompassing Some Inoperative Species," *Journal of the Patent Office Society,* Vol. 45, No. 10 (October 1963) pp. 716-720.

"A survey of the cases in this field shows that verbal obeisance is customarily paid to the Black Letter Law that the inclusion of inoperative species in a claim is fatal. Closer examination of most of these cases, however, leads to the conclusion that this often-stated rule is mere gratuitous dictum for the patents have been held to be invalid over the prior art."

Goldberg, George, "Copyrights and the Public Interest," *American Bar Association Journal,* Vol. 50, No. 1 (January 1964) pp. 56-58.

"In July, 1961, the Register of Copyrights issued a report on general revision of the Copyright Law which proposed to lengthen the copyright period beyond the present statutory maximum of fifty-six years. Mr. Goldberg explains why such an extension is desirable. . . ."

Gutmann, R., "A New System of Annuities," *Journal of the Patent Office Society,* Vol. 45, No. 12 (December 1963) pp. 849-852.

". . . an invention which is protected by a patent for which the patentee would no longer pay maintenance fees, could be used by anyone upon payment to the patentee of royalties up to the end of the legal life of the patent."

Handler, Milton, "Recent Antitrust Developments," *University of Pennsylvania Law Review,* Vol. 112, No. 2 (December 1963) p. 159.

Based on a lecture before the Association of the Bar of the City of New York in June 1963. It charts and analyzes the previous twelve month output of antitrust decrees. Section I is devoted to the White Motor Company case, section II to the Brown Shoe

Company case, section III to fair trade, and section IV to the Robinson-Patman Act. The following are among the author's conclusions: "In antitrust, the instrument of adaptation and change is the rule of reason as Brandeis envisaged it—a rule that considers 'the facts peculiar to the business to which the restraint is applied' and requires a 'factual showing of illegality' save where the restriction is inherently pernicious and incapable of economic justification . . . . Antitrust is pragmatic. It is a jurisprudence of the facts—and if the facts are correctly found (a big if, to be sure), the results will take care of themselves."

Hauptman, Gunter A., "Publication Instead of Filing," *Journal of the Patent Office Society,* Vol. 45, No. 11 (November 1963) pp. 733-740.

"The Patent Office spends much valuable time examining the scope of claims used for 'offensive' purposes when the patent issues. Since many patents are not used as weapons, similar 'defensive' protection outside the Patent Office would substantially reduce its load. Publication gives the invention owner many of the advantages that he expects to gain from a defensive patent."

"The Impact of the Antitrust Laws on the Exploitation of Patents, Trademarks and Copyrights, Particularly as Illuminated by Recent Developments," January Stated Meeting, *American Patent Law Association Bulletin,* January-February 1964, pp. 36-75.

Mr. Laurence I. Wood: "[T]he panel's assignment today is to trace the developments in this field since the publication in 1955 of the Report of the Attorney General's National Committee to Study the Antitrust Laws. . . .

"My particular portion of this afternoon's program is to report on recent developments in the application of the patent misuse doctrine."

Mr. Les J. Weinstein: "I would like first to discuss with you . . . the Clayton Act, and specifically Section 7 of the Clayton Act."

Mr. Sigmund Timberg:

"1. The first trouble area is that of the extent to which price-fixing conditions may be incorporated in patent license agreements. . . .

"2. The second troublesome area with which I am going to deal is that opened up by the Singer case, 374 U.S. 174, decided by the Supreme Court during its last term. . . .

"3. This is the Government's onslaught against territorial exclusivity arrangements both in trademark licenses and in franchise distributorship agreements. . . .

"4. . . . He is going to be faced by the constant necessity

of interpreting or determining the relevant market within which an alleged restraint of trade or monopolization takes place. . . ."

Jackson, Roy V., "'Fact Works': Copyrightability and Infringement," *Journal of the Patent Office Society,* Vol. 45, No. 12 (December 1963) pp. 833-848.

"It would seem that the application of the law of copyright to fact works has reached a stage at which an effort should be made to formulate a basis [sic] legal rationale for reconciling opinions that are only apparently divergent and for choosing between decisions that are in actual conflict. (A further and timely motivation arises from the increasing use of copyright to protect useful articles as approved in *Mazer v. Stein,* and from the pendency of new industrial design legislation based on copyright principles.) Whether such a project is practicable may be doubtful, but there follows an attempt to define the elements in a work that should be essential if copyright is to exist, and the principles that should govern a finding of infringement."

Kaul, Donald A., "Trademarks and Trade Names in Patent Applications," *Journal of the Patent Office Society,* Vol. 45, No. 11 (November 1963) pp. 754-778.

"Most of the problems occur because of an overlapping and intermingling of the various aspects of the subject. One aspect of the subject is addressed to whether or not a trade term meets the statutory requirement of disclosure. Another aspect concerns the use of trade terms in patent claims and whether such use conforms to the formal requisites of claims. Still another aspect is addressed to properly identifying the trade marks and trade names that are used in patent applications. Finally, there is the aspect of the subject concerning the property rights in such trade terms and whether or not use of the terms in a patent application diminishes these property rights. This article will discuss each of these aspects separately to try to give a further insight into the subject."

Kent, Cecil C., "Trade Marksmanship," *Journal of the Patent Office Society,* Vol. 45, No. 10 (October 1963) pp. 721-728.

"This article will therefore discuss briefly some ways to discover immediately protectable, and relatively well protectable, trade marks in the wide and fertile middle ground between original marks like MURINE, or KODAK on the one hand, and PERFECTION or SHREDDED WHEAT on the other."

Lewyn, Thomas M., and Stephen Mann, "Some Thoughts on Policy and Enforcement of Section 7

of the Clayton Act," *American Bar Association Journal,* Vol. 50, No. 2 (February 1964) pp. 154-157.

"In the light of the latitude and discretion afforded the anti-trust law enforcers by recent Supreme Court decisions, particularly in the Brown Shoe Company case, it is becoming increasingly important for the Bar and the business community to know the Government's guidelines of enforcement and litigation. The authors urge the Government to formulate and announce an open enforcement policy as to the merger provisions of the Clayton Act."

March, Arthur A., "Intention to Use – 1938-1963, (Con)," *The Trademark Reporter,* Vol. 53, No. 10 (October 1963) pp. 984-989.

"Twenty-five years ago legislation was proposed to create rights in a trademark based upon a statement of an intention to use the mark. The proposed legislation was fully considered then – and dropped. The consequences of abrogating a fundamental principle of our law of trademarks are the same now as they were then. But, today, similar legislation is again proposed."

Maxon, David A., "Don't Throw Out the Computers," *American Bar Association Journal,* Vol. 50, No. 3 (March 1964) p. 254.

"Answering claims that the value of computers to lawyers is questionable, Mr. Maxon outlines the principles by which their utility must be judged, and declares that they hold the possibility of being useful to the profession both in predicting the odds of particular judicial decisions and in retrieving legal research. In any event, he concluded, computers should not be abandoned by lawyers simply because law is inexact."

McDonnell, J. P., "Certiorari to and the Constitutional Status of the Court of Customs and Patent Appeals," *Journal of the Patent Office Society,* Vol. 45, No. 10 (October 1963) pp. 704-715.

"Although the majority opinion in the recent Supreme Court case of Lurk v. United States states that no position is intimated on the Supreme Court's jurisdiction to grant certiorari in patent and trademark appeals from the Court of Customs and Patent Appeals, it is submitted that the effect of this case is such that certiorari now lies in all patent and trademark appeals from the C. C. P. A. as an inherent result of the positions taken by the majority and concurring opinions in establishing the constitutional status of the C. C. P. A. For this and other reasons discussed hereinafter, the potential impact of the decision on the patent and

trademark law may be significant."

Nunn, Leslie G., Jr., "New Matter in a Chemical Patent Application," *Journal of the Patent Office Society,* Vol. 45, No. 10 (October 1963) pp. 686-703.

"A chemical application may not require disclosure of each of these features, so it is relatively easy to overlook disclosure of a material feature or detail which will be new matter if corrected by amendment.

"Decisions of patent tribunals and Courts involving these various factors are discussed under the appropriate headings below. If these decisions are read with the following questions in mind:

(*1*) Does the amendment in question seek to add nonconforming material matter to the disclosure?

(*2*) Can the decision be based on evidence or on extra-scientific intuition?

The answers to these questions may help in understanding the rule as it applies to chemical cases and how to avoid penumbral regions of the rule which have given difficulties in the past."

Osborne, John C., "Intention to Use—The Canadian Experience," *The Trademark Reporter,* Vol. 53, No. 10 (October 1963) pp. 963-974.

"We are meeting together this morning for the purpose of studying the desirability or otherwise of introducing into the United States legislation and provisions designed to permit the protection of trademarks on the basis of intention to use such trademarks without requiring actual use as a condition precedent. Since we have had for a number of years legislation in Canada that is relevant to this question, you have been good enough to give me an opportunity to explain the Canadian approach to the problem and evaluate, as far as I am able to do so, the results that have been achieved up to this time."

"The Patent Office – Can Its Disposal of Applications be Speeded Up?" *American Patent Law Association Bulletin,* October-November 1963, pp. 408-430.

This was a panel discussion held at the Sheraton Park Hotel on the occasion of the Annual Meeting of the American Patent Law Association on October 9, 1963. "The First Assistant Commissioner Edwin L. Reynolds, George Hyman, A. C. Marmor, and John Upham reviewed aspects of the subject. The meeting was then divided into four groups to discuss the subjects individually. At the end of these group discussions the meeting was re-assembled as a unit and reports were received from each group."

Robertson, Louis, "Dependent Claims Based on Background Definitions," *Journal of the Patent Office Society,* Vol. 45, No. 12 (December 1963 pp. 828-832.

"The advantages of such a claim system from the standpoint of safety of protection is that each such claim includes the entire novelty, the entire language which distinguishes that which is new from that which is old within the intended scope of that claim. None of the novelty is incorporated only by reference."

Patent Procurement and Exploitation, Protecting Intellectual Rights, BNA Incorporated, Washington, D. C., 1963, 346 pages.

This is a "complete record of the lectures and papers presented at the Southwestern Legal Foundation's First Annual Institute on Patent Law" held in Dallas, Texas, on March 21 and 22, 1963. A paper by Judge Giles S. Rich of the United States Court of Customs and Patent Appeals "tells how the 1952 Act came to be written, who wrote it, and the relationship between the actual authors and the Congress.

"In another discussion, Virgil E. Woodcock, past president of the American Patent Law Association, defines 'The Well-Drafted Claim' in several Statutory classes and expresses the belief that 'if you persistently try to apply the time-effort factor, you may eventually write a claim the Supreme Court will hold valid.'

"Ralph R. Browning, Chairman of the Patent, Trademark & Copyright Section of the State Bar of Texas, reviews 'Current Problems in Patent Prosecution in the Patent Office.'

"Another major address, by Howard I. Forman, Patent Attorney and Lecturer at Temple University, deals with the impact of the Government's patent policies on the economy and the American patent system.

"Other topics covered in Patent Procurement and Exploitation are patent litigation and interferences, recent developments in patent law, rights in trade secrets that are not secret, licensing patent rights and technical information, and effective foreign patenting. Rounding out this book are two seminars containing valuable information on domestic and foreign patent exploitation." The book is indexed.

Wade, Worth, *The Corporate Patent Department, Its Organization—Administration—Functions,* Advance House, Ardmore, Pennsylvania, 1963, 139 pages.

This is a manual of information on the subject matter referred to in the title. The contents are organized into three sections, one on "Organization and Administration," another on "Functions of the Patent Department" and a third on "Services

for Other Departments." There is an Introduction and also an Appendix of sample materials. The chapters are very brief and are written in non-technical language. Several uncomplicated charts are included. There is much useful information in this book and it can be read quite rapidly.

Webster, Geoffrey C., "Republic of South Africa – New Trademarks Act," *The Trademark Reporter,* Vol 53, No. 9 (September 1963) pp. 887-899.

"A new Trademarks Act was passed in the Republic of South Africa on June 21, 1963, being Act No. 62 of 1963. It comes into operation on a date to be proclaimed and it is anticipated that this date will be January 1, 1964, by which time the Trademarks Regulations (now in the course of preparation) will have to be promulgated. A brief commentary on the major innovations is set out below."

Whittredge, Robert B., "Recent Developments in Federal Trademark Statutes and Rules," *The Trademark Reporter,* Vol. 53, No. 9 (September 1963) pp. 871-886.

"1. 'Housekeeping Amendments' to the Lanham Act."

"[Discussed] are the more important of the Housekeeping Amendments, but there are still others."

"2. National Stamping Act Amendment."

"The purpose of [the] trademark-oriented amendment to the National Stamping Act was to facilitate identifying the sources of gold and silver articles which carried quality stamps."

"3. Drug Amendments of 1962."

"The statute that is known as the Drug Amendments of 1962, or the Kefauver-Harris Drug Antitrust Act contains, in the midst of a variety of provisions for tightening up controls on many facets of the drug industry, a few troublesome trademark provisions which take the form of amendments to the Federal Food, Drug and Cosmetic Act (21 U.S. C. 351 *et seq.*)."

NOTES

PTC Journal Cover

The cover of *The Patent, Trademark, and Copyright Journal of Research and Education* has been redesigned to communicate better to the public its broad cultural content. In the upper left corner appears a symbolic design in the form of a man's head. A wave sign extending from the head suggests the creative person. A sunburst, surrounding the head, has been modified for contemporary design. A point of the sunburst of darker hue is directed toward the word "idea," which completes the design.

Rich in meaning, the word "idea" conveys the type of subject matter our studies in industrial and intellectual property deal with. Intellectual property has been defined as "intangible creations of the mind, including inventions, useful 'know-how,' technical and ornamental designs, and literary, art and other products of man's ingenuity." "Idea" also communicates the knowledge that must be applied in our research and the knowledge resulting in our findings. Additionally, "idea" helps to interpret the meaning of the wave sign extending from the man's head.

The new color scheme of the Research Institute's publication, which is reflected in this *Journal's* cover, is gold, black and gray. We also would like to bring to the attention of our readers certain new stylizations which have been incorporated in this *Journal* such as setting titles in the upper right margins.

Judge Rich Kettering Award Recipient

The Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education for 1963 will be presented to Judge Giles S. Rich of the U. S. Court of Customs and Patent Appeals. As the 1963 recipient, Judge Rich will receive an appropriate citation and medal on the evening of June 18th, 1964 at the eighth Annual Public Conference of The PTC Research Institute to be held at the Shoreham Hotel in Washington, D.C.

Judge Rich has been one of the leading draftsmen of the Patent Act of 1962 and an outstanding leader in the development and reform of the patent law. Since Judge Rich's appointment to the Court of Customs and Patent Appeals by President Eisenhower in 1956, he has

written many important decisions in what are considered landmark cases.

The Kettering Award is an annual presentation by The PTC Research Institute in honor of the late Dr. Kettering. Last year's recipient was Dr. Joseph W. Barker.

"Inventor of the Year Award" Planned

The PTC Research Institute is planning to honor a journeyman or professional inventor who has made a significant patented invention or inventions even though he may not have had wide public notice. The "Inventor of the Year Award," to be presented annually, will affirm the Research Institute's special interest in the accomplishments of creative people by providing a university forum for recognition. The award will not be limited to an inventor's contribution in any one year, but will be given for any or all of his patented inventions to date.

The award program is not necessarily intended to honor the great invention. It will afford an opportunity to recognize the relatively unknown dedicated inventor who overcomes obstacles and expends his resources to produce an invention or inventions. In this way, the country will come to know what invention means and will become acquainted with inventors who carry on despite the doubts of others.

High level scientists, engineers, and patent specialists are being invited to serve on the Board of Awards.

Clinic-Seminar to Explore Corporate Patent Department Problems in Depth

The Research Institute is planning a series of Clinic-Seminars as part of its educational activities, on "Development, Management, and Use of Patents and Related Property Rights." The Clinics will surface policies, procedures, and problems that need further exploration and determine areas where more light is needed by the patent profession. This professional course will deal in depth with growth and frontier problems; it will seek the principles and broad public policies underlying them; take account of all the laws involved; and serve as an instrument for better understanding of the scope and application of the law of the patent and related systems.

The first Clinic will be held in the fall of 1964 and will be devoted to MANAGEMENT POLICIES AND PROBLEMS OF CORPORATE PATENT DEPARTMENTS. A limited number of topics will be chosen to be explored in depth from the following: the

relation of the patent department to the corporate organization; management of the patent department; the functions of the patent department; establishing patent policy; patent department budget; invention records procedure and control; prosecution of applications; assignment and licensing of industrial property; processing unsolicited ideas; trademark management; borderline problems of patents, trademarks, and copyrights; working with other sections of the company; and the relation of the patent lawyer to outside business executives, scientists, and engineers.

The participants will receive work materials in advance of the Clinics. The sessions will be divided into small groups to permit informal discussion and exchange among the participants. It is expected that actual company situations will be reviewed and opinions on appropriate action would be exchanged. Most of the individuals attending will be experienced practitioners and the results should afford the profession new insights, useful perspectives, and the advantages of varied actual experience.

The Clinic will be conducted on the campus of The George Washington University. As more detailed information is available, it will be noted in the publications of the Research Institute.

PTC Journal Papers Chosen for Watson Award

H. Fredrick Hamann and Mary A. Holman have recently been awarded the second Robert C. Watson Award for two papers that were published in the *Journal*. "An Appraisal of the Atomic Energy Field After 20 Years of the Patent Title Policy" by H. Fredrick Hamann appeared in Vol. 6, No. 3. "The Utilization of Government-Owned Patented Inventions" by Mary A. Holman appeared in Vol. 7, No. 2 and was concluded in Vol. 7, No. 3.

The Award is sponsored by the American Patent Law Association. This year's judges were the Honorable Giles S. Rich, Professor S. Chesterfield Oppenheim, and Dr. E. H. Volwiler.

Mary A. Holman and H. Fredrick Hamann each received a certificate and a check for $250.00 for their papers.

Digest on Trademarks Distributed

"The Trademark, A Modern Asset" is the title of the latest *Digest* published by the Research Institute. It contains a summary of the Research Institute's work on trademarks in Latin America, Great

Britain, and the Middle East, includes information on foreign licensing and on United States antitrust laws in foreign transactions.

The *Digest* is intended to provide a non-technical summary of the results of the Research Institute's studies including news of its educational activities for the busy executive, government officials, educators, and laymen generally, as well as those with a professional interest in the patent and related fields.

Taxation of the Foreign Licensor in Canada

HUBERT J. STITT*

JOHN A. GAMBLE**

THE DEVELOPMENT OF THE PROFIT POTENTIAL in the Canadian market has in the past proven a natural extension of many successful domestic U.S. enterprises. Since license agreements provide a convenient and common method of exploiting that market, their taxation in Canada should be of considerable interest to U.S. business. This article

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Editor's Note:

This article is the second report of a series of studies being conducted by John F. Creed, a member of the Research Staff of The PTC Research Institute, dealing with the taxation of the foreign licensor in certain selected non-U.S. jurisdictions. The series naturally breaks down into three study groupings:

1) Australia, Canada, United Kingdom and India.
2) The Common Market countries.
3) Japan.

At a later time other non-U.S. jurisdictions will be included in the series.

While the studies will be involved principally with income taxation, other taxes will also be covered where they have a material impact on the foreign licensor. Particular attention will be paid to the taxation of U.S. licensors in the various jurisdictions, and in this connection an analysis of the pertinent U.S. double taxation treaties will come into play.

The studies will be undertaken by men who, through training and experience, are tax experts in the respective jurisdictions. In presenting their studies, they will strive to walk the path between undue technicality and over-simplification.

The first report in the series "Taxation of the Foreign Licensor in Australia" prepared by John K. Connor was published in Volume 8, Number 1 (Spring 1964) issue of this *Journal.*

explores the basic Canadian tax concepts as applied to foreign licensors, and by way of background outlines the taxation of local licensors in that country.

General Scheme of Canadian Taxation

The Canadian Income Tax Act[1] imposes a tax at graduated rates on the worldwide taxable income of residents[2] and on the taxable income of nonresidents if such income emanates from employment in Canada or from a business carried on there.[3] Under Part III of the Income Tax Act certain payments credited by residents to nonresidents are subjected to a designated flat rate of tax, commonly referred to as a "withholding tax."

Capital gains escape the imposition of Canadian taxation. As will be seen later, this is a relevant exemption with respect to taxation of income from industrial property rights.

From the foregoing, it is evident that a comprehension of the terms residence, carrying on business, payments under Part III and capital gains is fundamental to this study.

Residence

Since Canadian taxation is imposed upon the worldwide taxable income of a Canadian resident, the foreign licensor will normally attempt to limit his activities in Canada to avoid resident classification. An individual is deemed to be a resident of Canada if he sojourned there for a period of 183 days or more in a taxation year.[4] It is a question of fact whether a sojourn of less than 183 days will in any particular case constitute residence[5] and, as stated by the Supreme Court of Canada, "the graduation of degrees of time, object, intention, continuity and other relevant circumstances . . ." must be considered.[6] It is possible that a resident of a foreign country may also be considered a Canadian resident.

Although the word "resident" applies to corporations as well as to natural persons,[7] the underlying tests are dissimilar. A corporation is considered to be resident in the country where its central control

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[1] Unless otherwise indicated, statutory references throughout this article are to the Income Tax Act, R.S.C. 1952, c. 148 as amended.

[2] Sections 2 (1) and 3.

[3] Sections 2 (2) and 31.

[4] Section 139 (3) (a).

[5] *Beament v. M.N.R.*, 6 D.T.C. 1183.

[6] *Thomson v. M.N.R.*, 2 D.T.C. 812 at p. 815.

[7] *Egyptian Delta Land and Investment Company Limited* v. *Todd*, (1929) A.C. 1.

and management is actually exercised.[8] Control is ordinarily considered to be exercised at the place where a company's board of directors meet,[9] although on occasion the courts will disregard this criterion if the board does not in fact control the company, and will deem the company's residence to be located where the actual as distinct from ostensible control exists.[10] If a corporation is incorporated in Canada and carries on business there, it is deemed for Canadian tax purposes to be a Canadian resident.[11]

Dual residence is possible with corporations as it is with individuals.[12] This could be the result if, for example, control and management of a corporation is exercised more or less equally from two countries.

Carrying on Business

In the sense that the test of "residence" may in practice govern time spent by individuals in Canada and the degree of corporate control exerted there by foreign licensors, the concept of "carrying on business" may well regulate the level of Canadian activity on their part. If the activities of the nonresident in Canada are sufficient to constitute carrying on business, then, in the absence of treaty protection, the taxable income reasonably attributable to such activities will be taxed at full Canadian personal or corporate rates, as the case may be.[13] As discussed later, the relevant statutory provisions have been modified by treaties with certain countries, and a United States enterprise, for example, is taxed only on Canadian business income attributable to a permanent establishment located in Canada.

Although the term "business" is not specifically defined in the Act, it is stated to include ". . . a profession, calling, trade, manufacture or undertaking of any kind whatsoever and includes an adventure or concern in the nature of trade but does not include an office or employment."[14] Additionally, a nonresident is deemed to carry on business in Canada if such person

> "produced, grew, mined, created, manufactured, fabricated, improved, packed, preserved or constructed, in whole or in part, anything in Canada whether or not he exported that thing without selling it prior to exportation, or solicited orders or offered anything for sale in

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[8] *De Beers Consolidated Mines Ltd. v. Howe,* (1906) A.C. 455.
[9] *American Thread Company v. Joyce,* 6 T.C. 163.
[10] *Bulloch v. Unit Construction Company Limited,* 38 T.C. 712.
[11] Section 139 (4a).
[12] *Swedish Central Railroad Company Limited v. Thompson,* 9 T.C. 342.
[13] Sections 2 (2) and 31 (1) (a).
[14] Section 139 (1) (e).

> Canada through an agent or servant whether the contract or transaction was to be completed inside or outside Canada or partly in and partly outside Canada."[15]

The case law interpreting what constitutes carrying on business in Canada is extensive, but as stated in the following excerpt from one of the leading cases:

> "It would be first of all nearly impossible and secondarily wholly unwise to attempt to give an exhaustive definition of when a trade can be said to be exercised in this country. The only thing we have to decide is, whether, upon the facts, it can be said that this company is carrying on a profit earning trade in this country."[16]

Where contracts of sale are involved, one test that has consistently been relied upon is the place at which the offer is accepted.[17] In the final analysis, the foreign licensor with extensive activities in Canada should ascertain whether a business is being carried on there by analyzing the particular facts in relation to the pertinent statutory provisions and case law.

Income of Nonresidents Taxable Under Part III

Part III[18] of the Act imposes a tax on specified classes of income paid or credited to nonresidents "from" Canada. (Income "from" Canada is to be distinguished from income earned "in" Canada.) This tax is a flat percentage of gross payments without the deductions and exemptions ordinarily permitted in calculating taxable income. Thus, if substantial expenses are attributable to a particular licensing agreement, the tax incidence under Part III may be greater than that under the other parts of the Act although the applicable tax rate is less.

Capital Gains

A fundamental principle of Canadian taxation is that capital gains are not subjected to tax. Thus, a potential foreign licensor may be motivated to consider the possibilities of an outright sale of a particular right if such a sale would result in a nontaxable capital gain.

The test as to whether the profit on a sale or like disposition of property can be regarded as a trading – that is, taxable – receipt has been expressed as follows:

> "Now, the principle I think is very clear and has been established by many cases. The appreciation of an article, the subject of property, whether it is the property of an individual or whether it is the

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[15] Section 139 (7).
[16] *Erichsen v. Last,* 4 T.C. 422, 425.
[17] *Crookston Bros. v. Furlado,* 5 T.C. 602, 615.
[18] Sections 106-110.

> property of a company, is not taxed as such; but it is taxed if the realization of that appreciation forms part of a trade, because then the trade is taxed, and this is an item in the trade."[18a]

Each case must be decided on its own facts. The recipient's whole course of conduct in relation to the property disposed of and any similar property which he has dealt with in the past must be considered in order to ascertain whether the appreciation realized is income from property or from a business. It should be noted that the term "business" is defined to include a single transaction if it is an "adventure or concern in the nature of a trade."[19] Factors relevant to this determination include the intention of the taxpayer in holding the property, the number of similar sales made by the taxpayer, and the relationship between the particular transaction and the taxpayer's normal business.[20]

Taxation of Canadian Residents on Royalty or Similar Payments

Imposition of Tax

Where a taxpayer *resident* in Canada derives income in the form of royalties or similar payments under agreements licensing patents, trademarks, copyrights and similar rights, such revenue will ordinarily be taxable as income from property.[21] If, however, the taxpayer's pursuit of such revenue constitutes an act of business or an adventure or concern in the nature of trade, the profits so derived could be classified as business income. Once the taxable income is calculated, the distinction between income from property and business income is normally of little significance, as income from both sources is taxed at equivalent rates. If, however, the receipt is classified as income from property the capital nature of the income producing property is more likely to be preserved, and this may prove important if the property is ultimately sold or disposed of at a gain.

Income or Capital Receipt

For payments made in connection with the transfer of industrial property rights to qualify as non-taxable capital receipts, these conditions must be met:

1) The transaction must effect a "sale" of the rights.
2) The transaction must *not* have occurred in the ordinary course of a business carried on by the transferor.

[18a] *Collins v. Firth-Breanley Stainless Steel Syndicate,* 9 T.C. 520, 564.
[19] Section 139 (1) (e).
[20] *M.N.R. v. Taylor,* 56 D.T.C. 1125.
[21] Section 3 (b).

3) The price must *not* be dependent upon the use of or production from the property rights.

With respect to the first condition, an absolute assignment of industrial property rights for a valuable consideration clearly affects their sale.[22] And in general, the exclusive and perpetual licensing of such rights will be similarly construed.[23] In the case of a patent, it is sufficient that the exclusive license extend for the remaining term of the patent.[24] The grant of non-exclusive rights,[25] or of exclusive rights for a limited period of time,[26] does not constitute a sale of the licensed property.

The standards applied in determining whether or not the second requirement is met were discussed earlier in the general section on capital gains.

The third condition for a non-taxable capital gain is specifically imposed by Section (6) (1) (j) of the Income Tax Act, which provides that there shall be included in taxable income "amounts . . . that were dependent upon use of or production from property." (Property is broadly defined to include intangible property, such as patents, etc.)[27] Thus a receipt that would otherwise be a capital item is converted to income under that section. A case in point would be an arrangement calling for the payment of royalties based on the sales of products manufactured by the licensee under the licensed patent.

The mere fact that the sales price is payable by installments of *fixed* amounts will not render the profit taxable income.[28] On the other hand, if the sales price is basically dependent upon the use of property, the fact that there is an agreed maximum price will not prevent the profit from being deemed taxable income.[29]

Status of Know-How

There is a dearth of Canadian precedents dealing with the tax status of know-how. For purposes of study, the essential question

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[22] It should be noted that the courts frequently do not discuss specifically whether a "sale" has occurred, but rather whether all substantial rights to the property were transferred.

[23] See *M.N.R. v. Paris Canada Films Ltd.*, 16 D.T.C. 1338, dealing with motion picture film rights.

[24] *442 v. M.N.R.*, 11 D.T.C. 435.

[25] *Rustproof Metal Window Company Limited v. C.I.R.*, (1947) T.R. 337; *Peat Business Systems Limited v. M.N.R.*, 51 D.T.C. 341.

[26] See, *M.N.R. v. Paris Canada Films Ltd.*, *supra* n. 23 (Second issue).

[27] Section 139 (1) (ag).

[28] *Benard v. M.N.R.*, 50 D.T.C. 428.

[29] *Ross v. M.N.R.*, 50 D.T.C. 775.

would seem to be whether, and in what circumstances, know-how qualifies as property that may be used *in* Canada (thereby giving rise to Canadian source income taxable under the ordinary rules or under Part III in the case of nonresidents not carrying on business in Canada), or that may possibly be sold in a capital transaction.

The English and Australian precedents are hardly conclusive of the question. In the leading case of *United Aircraft Corporation v. F. C. of T.*,[30] decided by the High Court of Australia in 1943, it was held that there could be no property in unpatented technical data licensed by a United States corporation to an Australian licensee.[31] On the other hand, dicta in the recent English case of *Rolls-Royce v. Jeffrey*[32] indicates that property does exist in secret processes, formulae and inventions, as distinct from mere by-products of engineering science and data of a non-secret character.

A very recent Canadian case, *Technical Tape Corporation v. M.N.R.*,[33] appears to side with and in fact expand the dicta in the *Rolls-Royce* decision. In *Technical Tape Corporation,* the question was whether contingent payments made by a Canadian company to a United States licensor were subject to the 15% withholding tax under Part III of the Act as royalty-type payments for the use of property. The subject matter of the license was broadly designated as technical assistance, research and secret information and "know-how." No patents were involved.

Relying upon the *Rolls-Royce* case, the court ruled that the licensed rights, collectively termed "know-how," were undoubtedly property for Canadian tax purposes. Accordingly the contingent payments were held subject to the withholding tax.

Since this case was decided by the Canadian tax forum of first instance, the Tax Appeals Board, it would be premature to view it as definitive of the tax status of know-how. In general, however, it

Problems of Foreign Licensors

Nonresident Licensors Carrying on Business in Canada

As stated earlier, a nonresident is liable to income tax upon all income derived from any business carried on in Canada.[34] Although

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[30] 68 C.L.R. 525.

[31] For a more detailed discussion of the English and Australian tax cases dealing with know-how, see J. K. Connor, "Taxation of the Foreign Licensor in Australia," *PTC J Res & Ed.*, Vol. 8, No. 1 (Spring 1964), pp. 31-35.

[32] (1962) 1 All E.R. 801 (H.L.); (1961) 2 All E.R. 469 (C.A.)

[33] 64 D.T.C. 428.

[34] Section 31 (1).

can be said that the case finds much more support than contradiction in the limited number of earlier Canadian precedents.
royalties received under a license or payments on the sale of a patent or similar property may very well, under the principles discussed above, constitute the profits of a business, nevertheless, it does not necessarily follow that, because the patents or other property licensed or sold are situated in Canada, the business is being carried on *in* Canada. For example, royalties received outside of Canada by a foreign company under a patent license registered and executed outside Canada would not appear to constitute income from business in Canada if no further activity takes place there. Thus, a licensor may under the principles of Canadian tax law be deemed to be carrying on business by retaining the rights to further exploitation of a patent or trademark, but nevertheless the profits from this business may be profits from a business *with* Canada as opposed to a business *in* Canada. In such circumstances, the licensor will be liable to tax under Part III of the Act, as discussed later.

Different considerations will apply if the licensor performs duties or services in Canada under an obligation contained in the license. Where, as is frequently the case, a manufacturer performs technical services in Canada under a patent license, the performance of those services may constitute the carrying on of business in Canada, with the result that at least a portion of the royalty profits may be subjected to full Canadian tax.[35] Unless protection can be claimed under a double taxation convention, a licensor would be well advised to separate and apportion his profits attributable respectively to the performance of technical services and to the rights granted under the license. Alternatively, an effort could be made to ensure that all technical services are performed outside Canada.

Taxation of Nonresidents on Income from Property Part III of the Act

Rents, Royalties or Similar Payments

Under the provisions of Part III of the Canadian Act a resident of Canada must deduct tax at the rate of 15% on rents, royalties or similar payments paid or credited to a nonresident for the use of property in Canada.[36] This 15% withholding tax applies to royalties payable under a patent, trademark or know-how license. Royalties paid in respect of copyrights are, however, expressly excluded from

[35] Sections 2 (2) (b) and 31 (1).
[36] Section 106 (1) (d).

the provisions of Part III,[37] and are not taxed to a nonresident not carrying on business in Canada.

Amounts paid as rental or royalties for the use of motion pictures or films or video tapes that are reproduced or used in Canada are given separate treatment, being subject to a withholding tax of 10%.[38]

Where the rents or royalties can reasonably be attributed to a business carried on by the nonresident licensor in Canada, then the nonresident will *not* be subject to the withholding tax thereon but to ordinary income tax.[39] If the expenses incurred by the licensor in earning the royalties are substantial, a comparison of the withholding tax based on 15% of gross income and the ordinary corporate tax imposed on net taxable income is called for. The federal corporate tax rate is 21% on the first $35,000 of taxable income and 50% on taxable income in excess of $35,000.[40] There is, in addition, imposed on every nonresident corporation carrying on business in Canada a tax of 15% on the amount by which net income (after regular corporate taxes) exceeds the increase in capital investments for the year.[41] While the tax on the profits from carrying on a business in Canada is imposed at rates that are higher than the rate of withholding tax, the higher rates may in a given case be preferable because expenses reasonably attributable to earning the royalties will be deductible in computing the taxable income of the company. Such deductions are not allowed for the purpose of calculating the 15% withholding tax.[42]

Any person paying or crediting to a nonresident a royalty liable to the withholding tax must make the appropriate deduction and forthwith remit the amount deducted to the Canadian revenue authorities.[43] The payor who does not withhold will be personally liable to payment of the tax, although he may recover it from the recipient of the royalty by deductions from later payments.[44] Tax must be withheld from all royalties paid to nonresidents unless application is made that tax need not be withheld on the grounds that the royalties con-

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[37] Section 106 (1) (d) (A).

[38] Section 106 (2).

[39] Section 805 of the Income Tax Regulations.

[40] Section 39—these rates include Old Age Security Tax of 3%.

[41] Section 110B. Capital investment is generally defined as the aggregate of:
(1) the undepreciated capital cost of depreciable property, and
(2) the cost of land (other than land held for sale), less
(3) certain amounts owing on the purchase price of these two categories of property.

[42] Section 108 (1).

[43] Section 109.

[44] Section 109 (5).

stitute income which may reasonably be attributable to a business carried on by the nonresident in Canada. Where the Canadian revenue authorities are satisfied that the royalties can be so attributed, they will permit payment without any deduction.[45]

Royalties Distinguished from Technical Service Fees

The withholding tax must be deducted from any payment which is a "rent, royalty or similar payment." Such a payment will include a payment for the use in Canada of property or an invention, or for the use or sale in Canada of any "property, trade name, design or other thing."[46] The provisions should therefore include the purchase price on the sale of property rights if the price is dependent upon the quantity of production under the rights.[47]

Interesting problems arise when payments for technical services are involved. The words "rent or royalty" would not seem appropriate to payments made in consideration for services rendered. Furthermore, the history of the relevant legislation seems to indicate that technical services were not intended to be covered by Part III.[48] Exclusion of technical service fees from withholding would be consistent with the fact that where technical services are rendered by a nonresident in Canada, the profit from the fees will normally, in the absence of treaty relief, be taxable as a profit from carrying on a business in Canada.

Difficult problems of construction arise when periodic payments are made under an agreement which grants the right to use property and provides that the grantor shall provide technical services. The problem came before the courts in the case of *Warsh & Co. Ltd. v. M.N.R.*,[49] where a Canadian manufacturer of dresses paid monthly sums to a U. S. company in consideration for the right to use all the styles and patterns of the U. S. company. The Canadian company claimed that the payments were at least in part for services rendered by the U. S. company, and that to this extent it was not required to withhold. The services consisted of advice as to styles, fabrics, market conditions and similar matters. The court found it impossible to distinguish between the right to use dress designs and information and

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[45] Income Tax Regulations Section 805 (2)

[46] Section 106 (1) (d) (i)-(iii).

[47] *Ross v. M.N.R.*, 50 D.T.C. 775.

[48] In Section 96 of the Income Tax Act, 1948, there was express reference in subsection (1) (f) to "management, technical, professional or other services." The repeal of this subsection in 1949 would, therefore, seem to justify the conclusion that fees for technical services are not included under Part III. See also *Warsh & Co. Ltd. v. M.N.R.*, 62 D.T.C. 247, p. 250.

[49] 62 D.T.C. 247.

advice in relation thereto. It regarded the services as complementary and incidental to the license and, accordingly, as not meriting separate payment. The entire payments were, therefore, held to be royalties liable to deduction of a 15% withholding tax.

Thus, in order to ensure that technical service fees are not liable to deduction on payment, and that accordingly they shall be free from Canadian income tax if they are not derived from a business carried on in Canada, it would be advisable to provide for a separate consideration for the performance of services.

Management Fees

The deduction of a withholding tax under Part III of the Act was extended to management fees by Bill C-95, which was given Royal assent on December 5, 1963. The duty to withhold applies to "a management or administrative fee or charge" paid or credited to nonresidents after June 13, 1963.[50] This amendment was introduced as a result of the Canadian Government's concern as to the use of management and similar fees to reduce Canadian taxes on profits of foreign-owned Canadian subsidiaries. Prior to the enactment, a foreign company could charge management fees to its Canadian subsidiary and thereby avoid with respect to such fees the 50% corporate tax (on earnings above $35,000) and the 15% withholding tax imposed on dividends. It should be noted that in general the amendment does not impose the 15% tax on management fees paid to an unrelated party, nor on like fees paid to a related party in reimbursement of specific expenses incurred by it in performing services for the Canadian payor.[51]

The new law is relevant to the tax position of a nonresident licensor since it may possibly be interpreted to include certain payments for technical services, although these are not specifically set out in the section. It should be noted, however, that the Department of National Revenue recently issued an Information Bulletin regarding management or administration fees in which no mention is made of technical service fees as such.[52]

It would seem that if the Minister of National Revenue had intended that the term "management or administrative fees" should cover payments for technical services, he would have expressly included them in the amendment. An aid to the interpretation may be had from past

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[50] Section 106 (1) (a) and (1c).

[51] Section 106 (1c) and Bulletin cited n. 52.

[52] Department of National Revenue Information Bulletin No. 23 dated January 27, 1964.

legislation. The 1948 Income Tax Act expressly provided for the imposition of a 15% withholding tax on payments for, *inter alia,* "management, technical, professional and other services, information or advice and know-how."[53] This provision, which was subsequently repealed and until now has had no successor, clearly shows that the legislature considered that there was a distinction between management fees and technical service fees.

In the absence of any judicial interpretation, the correct view would seem to be that technical service fees, properly so-called, are not covered by the new provision because they have no connection with the administration or management of the Canadian payor, even where payor and recipient are related parties. Nevertheless, licensors will be well advised to ensure that technical service fees are not in any way connected with the performance of management or administration functions.

The Effect of Double Taxation Conventions

A nonresident licensor may be able to claim exemption from Canadian tax if there is a Double Taxation Convention in force between Canada and the country in which the licensor is primarily liable to tax. Canada has at the present time entered into conventions with sixteen countries, although not all have been ratified.[54] The United States, the United Kingdom, France, Germany, The Netherlands, Australia and New Zealand all have treaties in effect with Canada.

Occurring in many of the conventions are three provisions that may give relief to a nonresident licensor. The first, and most general, is that which exempts the industrial and commercial profits of the nonresident from tax if he does not carry on business in Canada through a permanent establishment situated there; the second gives exception from tax on capital gains; and the third relates to royalties payable to nonresidents. Not all of these exemptions apply in every agreement, and where they do apply the relief they afford may vary to some extent in each convention. In the discussion that follows, particular reference will be made to the convention with the United States.

Industrial and Commercial Profits

Article I of the convention with the United States provides that a United States enterprise will not be subject to Canadian income tax

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[53] Section 96(1) (f) of the Income Tax Act, 1948.

[54] The Canada-U.K. convention has been extended to some 29 English colonies and former colonies.

on its industrial and commercial profits, except insofar as those profits are allocable to a permanent establishment in Canada. Industrial and commercial profits are expressly defined to exclude royalties, management charges or gains from the sale of capital assets. Such items of income are taxed under the ordinary principles of Canadian law. It should be noted that where those principles would treat royalties as profits from a business then, notwithstanding that under Canadian law the profits of the nonresident will be treated as *commercial* profits, no relief will be available under the convention and tax will be assessed at the full rate.[55]

Technical service fees for services rendered by a corporate licensor would normally constitute commercial or industrial profits. It has been held in a United States case that remuneration for personal services can constitute commercial or industrial profits for purposes of the convention with Canada.[56] Therefore, a U. S. licensor receiving fees for technical services should be exempt from Canadian tax on such fees if he has no permanent establishment in Canada; and this should be so whether or not the services are performed in Canada. To ensure treaty protection, technical service fees should be segregated from royalty payments in the drafting of license agreements.[57]

Permanent Establishment

The convention with the United States contains a fairly extensive definition of the term "permanent establishment." It is defined to include:

> ". . . branches, mines and oil wells, farms, timber lands, plantations, factories, workshops, warehouses, offices, agencies and other fixed places of business of an enterprise, but does not include a subsidiary corporation. The use of substantial equipment or machinery within [Canada] at any time in any taxable year by an enterprise of the [United States] shall constitute a permanent establishment of such enterprise in [Canada] for such taxable year."[58]

The reference to use of substantial equipment or machinery contemplates use by contractors or builders who move such equipment from place to place as part of their normal operations. The Tax Appeal Board has held that subway and seaway construction equipment worth $600,000.00 qualified as substantial equipment.[59] In another

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[55] Possibly such payment might qualify for exception under Article XI, which sets a maximum rate of 15% on "non-earned income."

[56] *Consolidated Premium Iron Ores Ltd.*, 28 T.C. 127 (1957) aff'd. 265 F. 2d 320 (6th Cir. 1959).

[57] *Warsh & Co., v. M.N.R.*, 62 D.T.C. 247.

[58] Section 3 (f) of the Protocol.

[59] *No. 630 v. M.N.R.*, 59 D.T.C. 300.

case, the Supreme Court of Canada has ruled that "substantial" refers to substantial in size.[60] In that case the equipment consisted of samples of appliances ranging in value from $4,000 to $11,000. The Supreme Court considered that the reference to substantial equipment or machinery was intended to apply only to machinery and equipment such as is used by contractors or builders. In the same case it was held that if the machinery was to constitute a permanent establishment it must be used for the purpose for which it was created. The mere display of the appliances or samples did not involve their "use" in Canada.[61]

The mere storing of goods in a warehouse in Canada does not constitute a permanent establishment unless some control is exercised over the warehousing facilities by the nonresident, or unless the nonresident has an agent who regularly fills orders from the stock of goods in the warehouse.[62] If a nonresident has a partner who has a permanent establishment in Canada, the nonresident will be considered to have the same permanent establishment.[63]

If the United States cases that have interpreted the meaning of the term "permanent establishment" are followed, an isolated transaction does not give rise to a permanent establishment. One such case has emphasized the importance of permanence, and that "establishment" implies the existence of an office or other place of business capable of carrying on the day to day business of the nonresident.[64]

If a foreign company receiving fees for technical services performed in Canada desires to avoid a permanent establishment there, it will be well advised not to maintain personnel permanently in Canada. At the very least, such personnel should not operate from their own permanent premises in that country or from premises of the licensee that are permanently allocated to them.

All the conventions entered into by Canada contain a provision exempting a nonresident from Canadian tax on commercial or industrial profits unless they are attributable to a permanent establishment. The extent of the relief generally follows the United States convention.

Gains from Sales of Capital Assets

The United States convention exempts from Canadian taxation

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[60] *Sunbeam Corporation (Canada) Ltd. v. M.N.R.*, 62 D.T.C. 1390.
[61] See also the lower court (Exchequer Court) opinion, 61 D.T.C. 1053.
[62] *Sunbeam Corporation (Canada) Ltd., supra*, nn. 60 and 61.
[63] *No. 630 v. M.N.R.*, 59 D.T.C. 300.
[64] *Consolidated Premium Iron Ores Ltd. v. C.I.R.*, cited n. 56.

gains derived in Canada from the sale of capital assets by a United States resident or a United States corporation, provided the seller has no permanent establishment in Canada.[65] Since at present Canada does not specifically tax capital gains, the nature of this relief as applied to U. S. persons is not immediately apparent. It can, however, prove helpful. It will be recalled that tax is imposed on payments for the sale of a capital asset such as a patent, even if on strict economic and accounting theory the sale is a capital sale, if the purchase price is dependent upon the use of or production from the property that is sold.[66] In such case, Canadian tax law is in effect taxing the gains from the sale of a capital asset; therefore, in these circumstances the vendor should be able to claim relief under the convention.

Capital gain exemptions are not contained in the majority of the conventions entered into by Canada. There is, however, similar relief in the conventions with Sweden, Germany and Finland.

Royalties

The conventions to which Canada is a party generally provide relief from Canadian tax on royalties paid to a nonresident licensor.[67]

Under the United States convention an exemption is provided for royalties paid for the right to use copyrights or the right to produce or reproduce any literary, dramatic, musical or artistic work, so long as the nonresident has no permanent establishment in Canada.[68] The withholding tax of 15% on royalties for industrial property rights such as patents, trademarks and know-how paid to a United States resident remains unaffected by the convention. Royalties for rights in connection with motion picture films are also expressly excluded from treaty protection.

The presumable reason that the convention does not give relief to royalties paid with respect to patents, trademarks and know-how is that Canada would suffer from a reciprocal arrangement with the United States. The licensing of such rights in Canada by U. S. residents has a much higher incidence than the corresponding licensing in the U. S. by Canadian residents.

Most of the other Canadian conventions give relief only in respect of copyright royalties. Many of the conventions do, however, expressly limit the Canadian tax on royalties for industrial property to

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[65] Article VIII.

[66] Section 6 (i) (j).

[67] The only convention which gives no relief for royalties of any kind is the South African convention.

[68] Article XIII C.

15% which is, of course, the rate of the present withholding tax.[69]

Non-Arm's Length Transactions

Because royalty and like fees provide a method whereby foreign interests can extract funds from controlled subsidiaries free of the double impact of Canadian corporate tax and withholding tax on dividends, the Department of National Revenue has recently adopted a policy of strict enforcement of the reasonableness test with respect to such payments. Both the Canadian Income Tax Act and the Canadian conventions contain provisions which permit the Department to reallocate unreasonable payments. Section 12 (2) of the Act provides that no deduction shall be made in respect of an outlay or expense except to the extent that it is reasonable under the circumstances. Thus, by so limiting the expense deduction to the Canadian taxpayer, a deterrent to such payments is created.

All Canadian conventions contain a provision whereby non-arm's length payments can be adjusted appropriately for the purpose of calculating the payor's Canadian tax liability. Under the United States convention, where a U. S. resident through its participation in the management or capital of a Canadian enterprise permits unreasonable amounts to be charged as royalties or technical service fees, the Canadian authorities are given the right to disallow unreasonable deductions to the payor.[70]

Provincial Tax

The discussion in this article has centered on liability under the Federal Income Tax Act. It should therefore finally be noted that the Canadian provinces have enacted their own corporate income tax acts. These acts are either modelled on the Federal Income Tax Act or give rise to the payment of tax as a percentage of the federal tax payable. Liability is dependent upon the existence of a permanent establishment within the province, and the tax is imposed upon that portion of a corporation's total income earned or deemed to be earned in the province. The federal act provides for a tax credit for provincial taxes, and, except for Quebec, Ontario, Manitoba and Saskatchewan, the credit is equal to the provincial tax.[71]

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[69] See e.g., Article VI of the U.K. convention and Article VIII of the German convention.

[70] Article IV.

[71] Corporate rates in those provinces are: Quebec—12%, Ontario—11%, Manitoba and Saskatchewan—10%. By reason of the credit against federal tax bestowed by Section 40 (1), these rates are effectively reduced to 2%, 2%, 1% and 1%, respectively.

Conclusion

As may be seen from the foregoing analysis, the impact of Canadian tax will vary with the method of operation adopted by the nonresident in licensing in Canada. Practical business decisions will, of course, ultimately dictate the form of operation that will prove most effective. Nonetheless, within the confines of those decisions it may frequently be possible by the careful drafting and execution of licenses to minimize Canadian taxation or to avoid unnecessary exposure to it.

What Should the Federal Government's Patent Policy Be?

BARKEV S. SANDERS*

SUMMARY

THE COMPARATIVE PRODUCTIVITY of private and government expenditures for R&D present important issues in the area of global economic competition. Empirical studies are practically non-existent. Such information as is available would suggest that in terms of economically significant patented inventions for civilian use the yield from federally financed R&D is negligible.

On the limited information at hand, the large federal outlays for R&D do not seem to warrant support based on "fall out" or "spin off" benefits to the civilian economy. If it has justification, it must be in terms of National defense, albeit at a high price as far as the civilian economy is concerned.

Large scale empirical studies are needed to ascertain the magnitude of the negative effect of these large federal R&D expenditures on the overall growth of the civilian economy, through their drain on scarce manpower in terms of scientists and engineers, and on their inflationary effect on costs of personnel and equipment, that otherwise would contribute to inventions and innovations of economic goods and services for the civilian sector of the economy.

We have in this interim report examined such data as we have at hand bearing on low inventive yield of federally financed R&D; subsequent papers will deal with other facets of this problem.

A WHITE HOUSE RELEASE of October 10th[1] on Federal Government's patent policy makes an analysis of some of the issues involved. A broad discussion, therefore, of what the government's patent policy

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Note: In the winter of 1963 after the release of the White House Memorandum referred to in this interim report, the research staff members were asked by the Executive Director of the Research Institute to submit a paper on "What Should the Federal Government's Patent Policy Be?" This and subsequent interim reports dealing with this topic are in fulfillment of this assignment.

should be would be particularly timely. In this interim report I propose to examine primarily the inventive productivity of federal versus industrial R&D expenditures in terms of commercially useful patented inventions.

The White House memorandum takes what would be considered a reasonable middle of the road position. Faced with complexities which often defy full analysis and proper appraisal of issues, it has become a mark of wisdom to adopt a middle of the course position—even though such an ambivalent position often may be based on incompatible and conflicting premises. In the opinion of this writer this is the case with regards to the Federal Government's patent policy set forth in the White House memorandum.

The significant portions of the memorandum to which we shall address ourselves are as follows:

1. "First, a single presumption of ownership does not provide a satisfactory basis for government-wide policy on the allocation of rights to inventions. Another common ground of understanding is that the *Government has a responsibility to foster the fullest exploitation of the inventions for the public benefit.*"[2]

2. "This statement of policy seeks to protect the public interest by encouraging the Government to acquire the principal rights to inventions in situations where the nature of the work to be undertaken or the Government's past investment in the field of work favors full public access to resulting inventions. On the other hand, the policy recognizes that the public interest might also be served by according exclusive commercial rights to the contractor in situations where the contractor has an established non-governmental commercial position and *where there is greater likelihood that the invention would be worked and put into civilian use than would be the case if the invention were made more freely available.*"[3]

3. and finally, "The attached statement of policy will be reviewed after a reasonable period of trial in the light of the facts and experience accumulated. Accordingly there should be continuing efforts to monitor, record and evaluate the practices of the agencies pursuant to the policy guidelines."[4]

This White House Memorandum was formulated to increase con-

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[1] A memorandum from the President addressed to the heads of the executive departments and agencies on Government patent policy: Office of the White House Press Secretary, Oct. 10, 1963.

[2] *Ibid.*

[3] *Ibid.* Emphasis added.

[4] *Ibid.*

sistency among the current mixed title and license policies pursued by different governmental agencies. At one end of this spectrum is the Defense Department, which in general has allowed the contractor to gain title to the invention, leaving to the government an irrevocable nonexclusive royalty free license throughout the world for any governmental uses. At the other extreme of this spectrum is the Atomic Energy Commission where work partly or wholly financed by the commission if it leads to any patentable invention the title of such a patent is acquired by the government and the contracting company acquires no unique rights whatsoever.

What Considerations Should Determine the Federal Patent Policy?

In the judgment of this writer the primary consideration for a governmental patent policy should be the responsibility of the government to foster the fullest exploitation of all inventions for the public benefit – a principle referred to specifically in the White House Memorandum of October 10th (see quotation 1 and also 2, the *underlined* portions especially). On this basis a governmental title policy would seem incompatible with this primary obligation, if the basic premise underlying our present patent law is still sound. Government ownership of patents is in essence a denial of the soundness of our patent laws. The essence of the patent law is the right of the owner or the inventor to exclude, for a limited time, all others from using the invention. Government ownership of title is a complete abrogation of this right to exclude, therefore completely incompatible with the basic principles underlying our patent laws.

It would seem, therefore, if we are prepared to adopt as the preeminent element of government policy the responsibility to foster the fullest exploitation of inventions – which the White House Memorandum accepts, then the first matter to consider is the comparative significance of government R&D expenditures in promoting inventiveness in general and the commercial exploitation of the resulting invention.

Comparative Inventive Productivity of Government-Financed R&D

The Patent Utilization Study at its very inception showed that unlike privately held patents, very few of the patented inventions held by the United States Government were put to commercial use. At

least that is what the inability to get concrete information on use seemed to suggest. Two subsequent studies carried out by other staff members of the Research Institute since, and focused entirely on patented inventions resulting from federally financed R&D have fully corroborated these initial impressions.[5]

A study of Federal patent policy was made by Professors Watson, Bright, and Burns for the Research Institute, and was financed by the General Services Administration.[6] These authors stress the preliminary and tentative nature of their study, within this caveat, their conclusions were:

"1. The findings of this support the conclusion that there seems to be no urgent reason to alter the patent policies now in operation. Both the license and the title policies are working reasonably well.

"2. No strong case can be made for a uniform patent policy. This conclusion follows from the differences among the R&D missions of the federal agencies, and from the different positions of business firms in their dependence, or lack of it, upon government R&D contracts.

"3. If a uniform license policy were adopted, the Atomic Energy Commission would be stripped of one of its powers to guide the progress of the technology of atomic energy. If a uniform title policy were adopted, the R&D programs of the Department of Defense would be hampered and perhaps disrupted.

"4. In the way in which it has been administered, the title policy of the *Atomic Energy Commission has probably been too rigid. Its patent policy has deprived the Commission of the fullest cooperation of industry.*

"5. The supposed dangers from the operation of the license policy of the Department of Defense are increased concentration in industry and the acquisition by private owners of inventions of some vital importance, such as those affecting the public health. That undue concentration would result from the license policy is a possibility so negligible that it may be disregarded. Should it occur, the second danger can be dealt with by existing law.

"6. *The National Aeronautics and Space Administration does not seem to have sufficient flexibility in accepting licenses."*[7]

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[5] Impressions, since the findings were based on a very small sample, with 16 patents in the entire sample, of which inventor replies were obtained from 13, and no assignee replies.

[6] Watson, D. S., Bright, H. F., and Burns, A. E., "Federal Patent Policies in Contracts for Research and Development," *PTC J. Res. & Ed.*, Vol. 4, No. 4 (Winter 1960), pp. 295-428, the entire issue.

[7] *Ibid.* p. 381. Emphasis added.

The authors also call attention to some quantitative relationships which have pertinence for our consideration now. They indicate, for instance, that within the period 1946-59, the federal government spent $37 billion in R&D, out of an estimated total of $70 billion.[8] They then indicate that the total number of patents that were issued in this interval was 527,000 and of these only about 32,000 or 6 percent could have originated from federal R&D contracts.[9]

In fairness to such a comparison some adjustments in the number of patents issued should be made. Assuming the 32,000 is correct, as the number of patents having resulted from federal R&D expenditures, the comparison should be made between this figure and the number and proportion of patents assigned on or before the date of issue to corporations. This number for the period 1946-1959 is 284,400. Thus corporations whose outlays for R&D were about 40 percent accounted for 284,400 patents and government with 53 percent of R&D expenditures accounted for 2,000.[10] This yields a ratio of 12 : 1 between corporate R&D expenditure per patent as compared to government expenditure for R&D per patent.[11] To be sure, it is possible that government R&D expenditures are more often for procurement, or are for activities, such as expenditures for basic research, which might give rise to few, if any, patents. It would be hazardous, therefore, to jump to any firm conclusion as to the real significance of this disparity, but whatever the underlying explanation, on the face of it the contribution of federal R&D to patented inventions is relatively small and should not be given much weight in developing a sound government patent policy.

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[8] This estimated total does not include expenditures of solo inventors in connection with their inventive activities. It only includes R&D expenditures by government, by corporations, colleges, and universities, and other organized groups.

[9] Watson, D. S., Bright, H. F., and Burns, A. E., *Ibid.*, p. 377.

[10] Patents issued to colleges and universities are not readily available, they are numerically too few to affect the relationship significantly. On the other hand the R&D expenditure of colleges and universities is not negligible.

[11] The R&D figures compiled by the National Science Foundation since 1953, indicate an aggregate of $88,370 million for the period 1954-1962 in fiscal years. *Reviews of Data on Research and Development,* NSF 63-40, Number 41, Sept. 1963. On the basis of this information the $88 billion total was distributed according to source of funds 62.4 percent federal government, 35.0 industry, 1.8 colleges and universities, and .8 other non-profit institutions. During the years 1953-62 inclusive 250,492 United States patents were issued to U. S. corporations. Patents issued to the U. S. Government within these years number 10,648. If we assume that patents resulting from federally financed R&D to constitute twice this number we have an estimated total of about 32,000 such patents. The proportional yield of patents on this basis per dollar works out to be 14 : 1 instead of 12 : 1.

Furthermore, as we have frequently demonstrated, the number of patents as such provides no direct measure of inventiveness, or more concretely economically significant inventions. On the basis of Patent Utilization Study 50 to 60 percent of the patented inventions issued to individuals and corporations find their way into commercial use, with very widely varying yields in terms of economic returns.[12]

In the Research Institute's Study of Federal Patent Policy a sample of patents resulting from federal R&D contracts given out by the Department of Defense were analyzed. These were patents for which the contractor had the title and the government an irrevocable nonexclusive royalty free license. The study sample consisted of 298 patents owned by 116 different manufacturing concerns and other organizations. A questionnaire with respect to each patent was sent to the title holding agency to obtain information regarding the sampled patent. Included in this information was the utilization status of the sampled patent. Of the 298 questionnaires mailed, replies were received for 143 patents. Of course, we have no way of knowing whether these patents for which questionnaires were returned were representative of the 298 patents included in the sample. We shall assume that they were for lack of any other alternative. Of the 143 patents with completed questionnaires 136 were said to be patents for which government had non-exclusive, irrevocable, royalty free license. Of the total of 143 patents 19, or 13 percent, were reported commercially used currently or at one time. Therefore, on the basis of this evidence the average quality of these patented inventions resulting from government-financed R&D contracts in which the title was allowed to remain with the contractor was much lower than patents issued to private corporations generated by privately financed R&D. The utilization of only 13 percent of the patented inventions resulting from government-financed R&D might be compared with about 60 percent for patents resulting from industrial R&D.[13]

If we take into consideration that in only 13 percent of the patented inventions resulting from federally financed R&D patents there is commercial utilization we get an equivalence ratio of at least 55 to 1; i.e.,

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[12]See Sanders, B. S., "Patterns of Commercial Exploitation of Patented Inventions by Large and Small Corporations," *PTC J. Res. & Ed.*, Vol. 8, No. 1. Also Sanders, B. S., Rossman, J. and Harris, L. J. "The Economic Impact of Patents," *PTC J. Res. & Ed.*, Vol. 2, No. 3 (September 1958), pp. 340-362. Finally, Sanders B. S., "The Upgrading of Patented Inventions and Their Use Here and Abroad," *PTC J. Res. & Ed.*, Vol. 7, No. 1 (Spring 1963), pp. 45-83, and No. 2 (Summer 1963), pp. 185-227.

[13]Even though a small proportion of patented inventions are put to commercial use, such use as there is, is on a very limited scale.

50 to 60 federally contributed R&D dollars are as productive in terms of commercially useful patents as one R&D dollar spent by the average private corporation. In arriving at this conclusion, we are, of course, assuming that the 143 patents for which questionnaires were returned constitute a representative sample of this group of patents. A similar assumption is made, to be sure, with respect to the 590 patents for which questionnaires were received from assignees as representative of all the assigned patents still in force in the Patent Utilization Study.[14] But even such a ratio of 55 to 1 fails to take full account of the true differential in appraising the economic contribution of these inventions.

As we have shown in prior interim reports, based on Patent Utilization Study findings, the economic returns from patented inventions put to commercial use differ very widely.[15] Unfortunately we have no data bearing on monetary yield of patented inventions resulting from government provided R&D. It is noted, however:

"Although only 19 patents out of the 143 had been developed for commercial use, a few more had been licensed, so that altogether 30 patents were covered under these two categories. However, of the 30 only 2 increased or are expected to increase commercial sales significantly and none had reduced product costs significantly. One of the commercially applied patents was said to have contributed to longer life of the equipment."[16]

It is also stressed that in the entire sample out of the 19 which were said had been put to commercial use there was only one instance in which the returns were reported as large. It is said:

"The reply of a large university, engaged in much R&D work, was this: 'The ..... patent, entitled ....., is perhaps an outstanding example of an invention that is made on government-sponsored research and development contracts and later proves to have significant commercial use. Many millions of dollars worth of commercial computers

[14] We are making other assumptions which are not completely true, such as the assumption that all patents assigned at the time of issue to private corporations result from R&D expenditures of these corporations. It should be observed further that we have used roughly the R&D outlays and the patents for essentially the same time period, though the patents issued in a given year could result only from R&D commitments of two, three or more years earlier. These are, however, relatively minor adjustments hardly worth going into, considering the margins of accuracy surrounding our data.

[15] Sanders, B. S., "Patterns of Commercial Exploitation of Patented Inventions by Large and Small Corporations, *PTC J. Res. & Ed.*, Vol. 8, No. 1 (Spring 1964), pp. 51-92. Also, Sanders, B. S., Rossman, J., and Harris, L. J., "The Economic Impact of Patents," *PTC J. Res. & Ed.*, Vol. 2, No. 3 (September 1958), pp. 340-362.

[16] Watson, D. S., Bright, H. F., and Burns, A. E., *Ibid.* pp. 324-25.

are now being manufactured using the teaching of this patent. . . .' "[17]

It would appear, therefore, that if we had information on comparative monetary yields from commercialization, in all probability the economic yield per used patented invention resulting from governmental R&D outlays would be much lower than that for private corporations, thus boosting further the 55 to 1 differential already obtained. It was taking into consideration these multiplicative differential factors that led this writer to venture the opinion at the Research Institute's Public Conference in 1963:

"But even when we say 'use,' after all, a patent can result in use of only a few thousand dollars or a million dollars. Therefore, if we could take this quantitative aspect [average monetary yield per patent] into consideration, I would say Dr. Watson's guess would be very conservative that from the standpoint of inventiveness ten government dollars are equivalent to one private dollar. [By considering propensity to patent and utilization rate we have already obtained 55 : 1 differential.] Its, I would say, 500 government dollars are equivalent from the standpoint of commercial inventive capacity to one industrial dollar expenditure."[18]

Therefore, whatever the underlying causes of the differential, as far as inventions of commercial value are concerned the measurable contribution from the federal R&D expenditures is small – in fact, it is conceivable that it might be even negative in the overall picture, as the present author has intimated in an earlier interim report. In that connection it was observed:

"Our analysis of the trend in the number of patent applications and the much sharper increase in R&D funds provided by the federal government in recent years in contrast with that supplied by corporations, suggests the possibility that the rapid increase in federal funds may have a depressant effect on the number of patentable inventions. There is now clear evidence (see footnote 29) that comparatively few patents result from federally financed R&D compared with that financed by industry. The sharp increase in federal R&D expenditures, making more dollars available to engage the limited supply of trained inventive manpower, leads to a sharper increase in wage rates in this sector of the economy and reduces the actual inventive man-years available to industry, albeit at a higher price. More important, perhaps, some

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[17] *Ibid.*, p. 342.

[18] *PTC J. Res. & Ed.*, Vol. 7, Conference Number, 1963, p. 53. More deliberate consideration of this differential leads me to believe that the earlier guestimate errs on the side of conservatism, that the true differential might be nearer to 1000 : 1 instead of 500 : 1.

of the best talent may be engaged in government financed R&D with little patentable output. The above possibilities are fraught with implications of national and international concern."[19]

The 13 percent patent utilization rate was for inventions resulting from government-financed R&D for which the contractor was allowed to hold the title. What about the utilization status of nearly 12,000 patented inventions for which the government itself holds the title?

The utilization level of these patented inventions for which government holds the title was studied by Dr. Holman.[20]

Dr. Holman sought information on utilization of patented inventions for which the government held the title. Information was solicited from inventors and licensees for different sub-samples of government-owned patents – no attempt was made to use interpenetrating samples to test the consistency of the information supplied by inventors and licensees for identical patents.[21] The results from these inquiries are summarized in Table 1, derived from the Holman Study.

While over 19 percent of the government-owned patented inventions that were licensed to commercial firms were reported utilized, it would be unwarranted to apply this rate to all U. S. owned patents. According to Holman, of the 11,674 government-owned patents only on 1,487[22] one or more licenses had been issued. Unless one assumes

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[19] Sanders, B. S., "American vs. Foreign Inventiveness," *PTC J. Res. & Ed.*, Vol. 5, No. 2 (Summer 1961), pp. 123-24. This same idea was reflected recently in an editorial of *The Wall Street Journal*, "A Choice of Advance or Retreat," Jan. 21, 1964, p. 12.

[20] Holman, M. A., "The Utilization of Government Owned Patented Inventions," Reprinted from *PTC J, Res. & Ed.*, Vol. 7, No. 2 (Summer 1963), pp. 109-161, and Vol. 7, No. 3 (Fall 1963), pp. 321-375. This study, submitted as doctoral dissertation to The George Washington University, was conducted under the auspices of the Research Institute. Dr. Holman undertook this study as the first recipient of the Thomas A. Edison Fellowship. Both Dr. Holman's study and the study of Watson, Bright and Burns followed closely the pattern developed in the Patent Utilization Study in obtaining specific information on sampled patents from assignees or licensees, and sometimes from inventors. As we have said, the Patent Utilization Study suggested a sharp differential in utilization between government owned patented inventions and those owned by corporations or private individuals.

[21] One expeditious way of doing this would have been to solicit inventor replies for patents included in the sample for licensee questionnaires.

[22] According to Watson, Bright and Burns, AEC alone, presumably had in 1960 or near the end of 1959 some 1350 licensed patents (see p. 380). If this figure was correct, there would be some doubt whether the figure of 1,487 given by Holman could be correct, as the total number of Federally owned patents with one or more licensees. (See Table 5, p. 143.) According to Table 5, 949 AEC patents were licensed in 1961 and not 1350. But this apparent inconsistency could not account to any extent for the wide discrepancy between the utilization rates of Federally owned patents reported by these licensees and that reported by in-

TABLE 1

Utilization Rate of government owned patents based on licenses and inventors replies.

Agency or Department owning the patent (1)	Licensee replies			Inventor replies		
	Number		Percent used	Number		Percent used
	Sample[1] (2)	Used (3)	(4)	Sample[2] (5)	Used (6)	(7)
Department of Agriculture	22	6	27.3	20	3	15.0
Atomic Energy Commission	80	11	13.7	38	6	15.8
Department of Defense	19	6	31.6	90	12	13.3
Other Agencies	8	2	25.0	10	2	20.0
Total	129	25	19.4	158	23	14.6

[1]The sample included 234 licensed patents, but only 129 responded. This represents 55% of the sample, the percentage ranging from 52% for Department of Agriculture owned patents to 63 for Department of Defense, Table 7, p. 148 of the source.

[2]The sample included 271 patents, usable response as to the utilization of the sampled patent was received for 158 patents, 58% of the sample, Table 6, p. 146 of the source.

Source: Holman, M. A., "The Utilization of Government Owned Patent Inventions," Reprinted from *PTC J Res. & Ed.*, Vol. 7, No. 2 (Summer 1963), pp. 109-161, and Vol. 7, No. 3 (Fall 1963), pp. 321-375.

the probability of commercial use being almost as common among unlicensed patents as among those that are licensed one can not reconcile the proportion of patents reported used commercially by licensees with that reported by inventors. If one were to assume that none of the unlicensed patents are utilized then the utilization rate of government-owned patented inventions would be about 2.5 percent. This is markedly and significantly lower than 14.6 percent, derived from the inventor replies on utilization of their patents owned by the government.

Dr. Holman makes no effort to highlight and explain this apparent discrepancy in utilization rates of government-owned patented inventions as reported by inventors and licensees.

She does give some evidence that sometimes government-owned patents might be used commercially without a license. This evidence,

ventors for Federally owned patents. These utilization rates can not be reconciled unless one assumes that the probability of being commercially used by firms is almost as high for federally owned patented inventions that are not licensed as those that are.

however, would not support the assumption that 5/6th of all government-owned patents which are commercially utilized are not licensed at all. Such an assumption, as we have said, would mean no appreciable difference in the utilization rate of licensed as against unlicensed patents. Her evidence would not support such an assumption as may be seen:

"It can be reasoned that the use of government-owned patented inventions without licenses is a common practice. *This, however, should not be interpreted to mean that unauthorized use is widespread in the sense that a large proportion of government-owned patented inventions are used without licenses.* Rather, it should be construed to mean that use without licenses by one or more firms, probably occurs on the vast majority of the 10 percent to 15 percent commercialized inventions."[23] The reference to "10 percent to 15 percent commercialized inventions," in the preceding quotation overlooks this sharp discrepancy in the utilization of patented inventions reported by licensees vis-a-vis inventors. The 10 to 15 percent is supported by the information reported by inventors, but it is much higher than the percentage that results from that reported by licensees. Question arises, who are these inventors and is it reasonable to assume that they have reliable information as to what if any commercial use is made of their patented inventions for which the government holds the title? In the Patent Utilization Study, where the inventors were in most instances employees of the companies to which the sampled patent was assigned, it was found that very often the inventor did not know the utilization status of the sampled patent. This is illustrated in Tables 2, 3, and 4, all based on the assigned patents in the Patent Utilization Study.

Table 2 indicates the proportion of inventors responding who said that they did not know the utilization status of their sampled patent. In this Table we have associated the inventor's relation to the assignee and his response with respect to the utilization status of the sampled patent.

Table 2 show that of all the 671 inventors who returned a completed questionnaire about 17 percent said they did not know whether their patented invention was being used or not. An additional 2 percent failed to make any statement. We assume these inventors likewise did not know the utilization status of their invention. That is, nearly one-fifth of these inventors indicated they did not know the utilization

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[23] *Ibid.*, p. 335. Emphasis added. Where a federally owned patent is used by a private corporation without any license, it is extremely improbable that the inventor would have such information.

TABLE 2

Utilization status of assigned patented inventions reported by inventors associated with the inventor's relation to the assignee.

Preliminary

Utilization status	Inventor's relationship to assignee							
	Employees of assignee							
	Policy making		None-policy making		Others[1]		Total	
	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Current use	101	45.5	149	35.3	12	44.5	262	39.0
Past use	37	16.7	81	19.2	6	22.2	124	18.5
Future use	3	1.3	6	1.4	--	----	9	1.3
Don't know	26	11.7	84	19.9	6	22.2	116	17.3
Unanswered	4	1.8	6	1.4	2	7.4	12	1.8
Never used	51	23.0	96	22.7	1	3.7	148	22.1
Total	222	100.0	422	100.0	27	100.0	671	100.0

[1]Includes employees of other corporations and self-employed individuals.

status of their patented invention. The remaining four-fifths presumed they knew; how valid this presumption was we might infer from Tables 3 and 4 that follow.

Table 2 shows that employees who could be considered as policy making[24] more often seem to know the utilization status of their pat-

[24]In the inventor questionnaire, question 8 reads: "Are you (check) (a) Self-employed..... (b) Employee..... (c) Other (specify)....."

Question 9 reads: "At the time when you made your sampled invention were you (check) (a) Self-employed..... (b) Employee..... (c) Other (specify) ....."

Question 10 reads: "If you are, or were, an employee of a company to which the sampled patent was assigned, please indicate your official position with such company..... (President, Vice-president, Research Director, etc.)."

Finally question 22 reads: "Is your sampled patent assigned? (check) Yes ....., No..... If "yes" (a) Was it assigned to your employer by prior agreement to assign ..... (b) Was it assigned to your employer by special agreement ..... (c) Was it assigned to a company through the assistance of an agent ..... (d) Was it assigned to a company through your own negotiation..... (e) Was it assigned to a company which approached you for purchasing.....or licensing it..... (f) Other (specify)....."

PTC J. Res. & Ed., Vol. 1, No. 1 (June 1957), pp. 105-106.

On the basis of the replies of the inventor to the preceding questions they were divided into 4 groups: (a) Policy making employees, as inferred from their job

ents. Only thirteen to fourteen percent of these reported that they did not know whether their patented inventions were used commercially, or failed to answer. Among lower grades of employees of the assignee this percentage was significantly higher – 21. It was highest of all among inventors who were not employees of the assignee – nearly 30 percent.

In the case of Dr. Holman's Study we surmise most of the inventors were in the third or at best in the second category, i.e., not an employee or not an employee in a policymaking position in the company where the invention would be used commercially.

As Tables 3 and 4 suggest, sometimes the inventor instead of confessing his ignorance of the utilization was inclined to conjecture. When a conjecture was made the inclination was for the inventor to be optimistic, that is, that the invention was used. Thus the proportion of "never used" patented inventions is about the same for policy making employees and for other employees, even though the admitted ignorance of the fact and failure to respond is larger for the latter. For the third group, where admitted ignorance was the largest, the percentage of patented inventions reported "never used" is extremely low, less than 4 percent, while the proportion reported in current use is almost as high as that reported by policy making employees, and with respect to patents used in the past it is the highest of all.[25]

Table 3 shows a comparison of the utilization status of the sampled patents reported by the inventor with that reported by the assignee. In all there were 361 patents for which questionnaires were received

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title; (b) Other employees of the assignee; (c) Employees of other companies; and (d) Self-employed. In differentiating (a) from (b) we had to rely on our judgment in interpreting the responsibility of the inventor's position on the basis of the title of the position, undoubtedly some errors were made. We probably erred on balance in considering more employees as policy making employees than was actually the case.

The number of inventors who were employees of other corporations, and those who said they were self-employed were too few to warrant keeping them separate so they were combined.

[25]In the Holman Study the question with respect to use of the sampled patent reads as follows:

"5. Is the sampled patented invention now being or has it ever been used commercially? Yes ....., No ....." Holman, *Ibid.*, p. 371.

It should be observed that no specific provision is made for "don't know." This exclusion might have an effect to induce the inventor more often to conjecture the utilization status instead of confessing his ignorance of the fact. To the extent that this occurs it would tend to inflate the utilization level reported. Also, in all her tables on utilization Dr. Holman gives no indication of any unknowns or failures to make an entry. It seems all the inventors and licensees answered the question on utilization by a "yes" or "no" which seems improbable.

TABLE 3

The utilization status of sample patents reported by inventors compared with that reported by assignees——number and percent (includes multiple inventors—361 patents).

Preliminary

Inventor replies	Assignee replies											
	Current use		Past use		Future use		Don't know unanswered		Never used		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Current use	114	26.6	24	5.6	6	1.4	--	--	21	4.9	165	38.5
Past use	12	2.8	35	8.2	6	1.4	--	--	15	3.5	68	15.9
Future use	1	0.2	1	0.2	2	0.5	--	--	--	--	4	0.9
Don't know or unanswered	9	2.1	8	1.9	11	2.6	1	0.2	60	14.0	89	20.7
Never used	1	0.2	4	0.9	24	5.6	--	--	74	17.2	103	24.0
Total	137	31.9	72	16.8	49	11.4	1	0.2	170	39.6	429	100.0

TABLE 4

Cross tabulation of utilization status reported by multiple inventors.[1]

Preliminary

Inventor 2	Inventor 1									
	Current use		Past use		Don't know unanswered		Never used		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Current use	38	38.4	3	3.0	3	3.0	--	--	44	44.4
Past use	5	5.1	1	1.0	1	1.0	2	2.0	9	9.1
Don't know or unanswered	5	5.1	6	6.1	5	5.1	1	1.0	17	17.2
Never used	1	1.0	2	2.0	11	11.1	15	15.2	29	29.3
Total	49	49.5	12	12.1	20	20.2	18	18.2	99	100.0

[1]For 9 patents with 3 inventor questionnaires for each, the comparisons were made by matching replies of first and second, first and third, and second and third inventors.

from both inventors and assignees. Since in some instances there were two or more inventors responding for the same patent, there were in all 429 inventor questionnaires for the 361 patents. Comparison of the inventor replies with that by assignee shows that in nearly 53 (52.7) percent the utilization status reported by the inventor agreed with that reported by the assignee. In the 43.3, where there was no agreement, in nearly 21 percent the inventor indicated that he did not know the utilization status, but in the remaining 22.6 percent the inventor ventured an answer.[26] Very few of these ventured answers by the inventor were "never used," only 6.7 percent, the balance, almost 12 (11.9) percent, were reported in current use, and less than 8 percent (7.7) as used in the past. This confirms the tendency of inventors to presume commercial use for their patented invention when they permit themselves to rely on a conjecture.[27] Therefore, according to the Patent Utilization Study we could say that on the average about 50 percent of the inventors of assigned patents knew correctly the utilization status of their patent included in the sample.

But this is for all inventors, including those who held key positions, like the president of a corporation. As we have indicated already in the Holman study, most of the inventors would be in the third category in relation to the company which makes commercial use of the government-held patents. A comparative analysis of replies of inventors who were not in policy making position, even though employees of the same corporation, shows that for them the percentage is less than 48 (47.7) as against 63 percent for employees in policy making positions.[28] Table 4 in general corroborates the implications of Table 3.

[26]The number who did not know but ventured an answer would be somewhat larger, but by chance in some instances the guess coincided with the "right answer" and therefore it is included in the 52.7 percent where there was agreement. So 52.7 percent is to some extent exaggerated as a measure of the inventor knowing the correct utilization status of his patent.

[27]It is significant that in Table 3 almost all the percentages outside of the diagonal, where the inventor said the patent was "never used" was with respect to patents reported in "future use" by the assignee. We have learned from our follow-up study that very few of these patented inventions were put to commercial use. Therefore, the inventors in this category were not conjecturing completely. Taking this aspect into consideration one is led to infer that perhaps as many as 58 percent of the inventors know the utilization level of their patent. If we were to correct for accidental agreement the true figure would be perhaps around 50 percent, more or less. Of those who conjectured the utilization status, the overwhelming majority considered the patent was used. Only 5 inventors conjectured the patent "never used" when according to the assignee the patent was in use or had been in use (this is exclusive of the 24 cases reported "never used" when the assignee indicated "future use").

[28]The difference is significant, being 2.9 times the standard error of the difference observed between the two percentages.

Less than 60 percent (59.7) of the answers of multiple inventors agree as to the utilization status. As has been indicated, some of this agreement is purely accidental.

Therefore, it would seem plausible that for the group of inventors who responded to the questionnaire in the Holman study the proportion of inventors who knew the utilization status of their patent was less than 50 percent. And many of those who did not know were apt to consider the patent in use.

From the preceding discussion it would appear that inventor replies could grossly overreport the proportion of patented inventions utilized particularly when no opportunity was given to them to indicate that they did not know, and no non-response cases are shown. Furthermore, in almost all instances the company which would put the patent to commercial use would not be the one employing the inventor in the Holman sample. If, in consideration of these possible uncertainties we were to set aside the inventor replies, and rely on the returns of licensees they indicate a utilization level of 2.5 percent, unless one assumes widespread commercial utilization of government patents that are not licensed to anyone. There is no evidence that there is widespread use such as to warrant a utilization level of 10 to 15 percent as assumed by Holman if the utilization rates were to be based on information supplied by licensees.[29]

If the percentage of company-owned patents resulting from federal R&D that are put to commercial use is 13, on apriori consideration one would be led to expect that the utilization rate of government-owned patents would be substantially lower than 13. This sort of reasoning enhances the indications that the inventor reported utilization rate is probably unduly inflated. According to Watson, et al, study, the utilization rate of Department of Defense patents held by contractors is 13 percent. According to Holman this rate is the same for the Department of Defense patents for which the Department, instead of the contractor, holds the title. It is our understanding that Department of Defense takes title of those patents resulting from its R&D contracts where the contractor evinces no interest to take the title to the inven-

[29] In the Patent Utilization Study, as we have shown in previous interim reports, there is indication that assignees sometimes failed to search their files carefully and reported a patented invention not used, while actually it had been used at one time. It is conceivable that similar oversights might have occurred in the case of some licensees, though this probability is less likely since the sample of patents considered in the Holman study are relatively more recent—and also licensed patents might be in a different category in this respect. However, it must be admitted that the true utilization level is probably somewhat over 2.5 percent, perhaps as high as 5 percent—but hardly 10 or 15.

tion.[30] In other words, the patents held by the Department might be considered as far as civilian uses are concerned, rejects; yet, the utilization rate on the basis of Holman findings is not any lower for these. This would mean that even after an invention reaches patentable stage the company responsible for its development has no insight, whatsoever, as to its commercial possibilities. This seems difficult to accept.

Similarly, the utilization percentage of government-owned patents held by the Department of Defense, where the policy is to give title to the contractor, as reported by inventors is not significantly lower than that reported for the Department of Agriculture or the Atomic Energy Commission, where the so-called "Title" policy is adhered to. As far as utilization status reported by licensees are concerned, the patents held by the Department of Defense have the highest utilization percentage, 31.6, while those held by the Atomic Energy Commission have the lowest percentage, 13.7. The difference, if these could be considered as random samples, is almost large enough to be considered statistically significant.[31] It is conceivable, to be sure, that differential licensing propensity could account for this reversal, but there is no evidence to support it. Holman herself does not seem to be aware of these apparent contradictions in her data; she observes:

"There are two checks to test the accuracy of the reported incidence of commercial use. The first comes from multiple responses on the same sampled patented invention. The other is an estimate of the level of commercial use of all government-owned patented inventions developed by the inventors. Almost without exception, when more than one inventor supplied information on the same sampled patent, the inventors agreed that the invention was or was not used. When one inventor could not supply information (1) about the commercial use of the invention, his partner did have such information. Question 4 of Part I of the questionnaire requested the inventor to indicate the number of all of his U. S. patents assigned to the government. Question 6 asked the inventor to give the number of those government-owned patented inventions that have been commercialized. The 206 responding inventors have assigned title to 1,216 patents to the government. Of these, 116, or slightly less than 10 percent, have been commercialized. Even though the check provides but a rough estimate of the commercial use of government-owned patented inventions, the dis-

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[30] We understand that since 5/1/64 the DOD policy with respect to giving title to the contractor has been very much restricted from its previous practice.

[31] The standard error of the difference is 9.6 and the observed difference 17.9, i.e., nearly 1.9 times the standard error.

crepancy between the estimates is slight—10 percent of all of the inventor's government-assigned patents as compared with 15 percent of the sampled patents. By agency the rates of commercial use for the 1,216 patents are: the Department of Agriculture (11 percent) the Atomic Energy Commission (17 percent), and the Department of Defense (10 percent).[32]

It is to be observed that in this consideration of checks Holman overlooks completely the most important check, namely the consistency of the proportion of government-owned patents utilized as reported by licensees compared with that reported by inventors.

With respect to the merits of the checks emphasized, one can not be too confident. Considering the evidence of confirmatory replies from two or more inventors not enough information is supplied independently to test the design. We know that replies were received with respect to 158 patents and in all 206 different inventor questionnaires were returned. On the basis of this information and the pattern suggested by the Patent Utilization sample we surmise a distribution something as follows:

	Patents	*Inventors*
One inventor	118	118
Two inventors	33	66
Three inventors	6	18
Four inventors	1	4
Total	158	206

Since approximately 85 percent presumably answered as "not used" and almost all of the balance answered "used," just by sheer coincidence (laws of probability) in nearly 72 percent the replies would be the same. Now unless this fact was taken into consideration the agreement "almost without exception" might not have been good enough to have been statistically significant.[33]

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32 Holman, M. A., *Ibid.*, p. 155. [1] It is indicated here that there were some unknowns, more precisely non-response, since according to the questionnaire no provision was made for "don't know." But the Tables given by Holman do not reflect these. In all the tables the "used" plus the "not used" add up to one-hundred percent.

33 Since the primary consideration here is reliability of the replies, additional light could have been shed on this by comparing the consistency of replies regarding other items of information. One such test that would have been corroborative was the utilization status reported with respect to utilization by the government. Since the percentage break up of used and not used was somewhat closer to 50% the agreement by sheer coindence for replies of multiple inventors would have been lower.

Another possible danger here is that sometime the inventors might have conferred in preparing their replies, if there were opportunities of this occurring, which could be the case, particularly if a significant proportion of these inventors were government employees. For those where there was a corroboration the agreement would of course have no significance at all as a measure of reliability. Therefore, at best, the confirmatory evidence is of uncertain quality and can not be relied upon heavily.

With respect to the second type of evidence, namely the agreement with percentage of all their government-assigned patents, the corroborative evidence is again weak. The percentage of all patents reported utilized is 9.5 which is statistically significantly different from 14.6, the percentage of sampled patents reported used by inventors. We do not know the time sequence between the sampled patent and all the other patents of these same inventors. Furthermore, the universe of 1,216 patents has a preponderance of patents of the most productive inventors, so unless there is the phenomenon of upgrading (as a result of considerable time gap between the 1,216 patents and those in the sample) one would have expected a higher instead of a lower utilization rate for the 1,216 patents vis-a-vis the 158 sampled patents. Again the evidence as it stands is of uncertain value. The tendency for inventors to overstate utilization status is apt to occur for both groups of patents.

It would appear much more plausible, therefore, to assume that the true commercial utilization rate of these government-owned patented inventions was substantially lower than 15 percent, perhaps as low as 2.5 and not likely over 5 percent. If this were correct, then it would give credence to the beliefs of some 50 percent of the inventors who expressed the opinion that the government title policy had an adverse effect on patent utilization, a view expressed by one third of the licensees as well which, however, represented three-fourths of those who responded to this specific query.[34] Of course, if the Holman findings that nearly 15 percent of the government-owned patented inventions are put to commercial use can be validated, and if one also accepts the findings of Watson, et al, about utilization rate of government patents in which the title goes to the contractor, it would appear the title or license policy have no significant differential effect whatsoever as far as exploitation of the invention for civilian use is concerned.

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[34] Holman, M. A., *Ibid.* pp. 347-59, see particularly Tables 20 and 21.

How to Account for the Low Utilization Rate

Drs. Watson, Bright, and Burns do not address themselves directly to the question of how to account for the low utilization rate of patented inventions from government-financed R&D. Though they leave the reader with the impression that since the purpose of most of government R&D expenditures is for national defense and related activities the low yield of government patents for commercially valuable inventions is to be expected and needs no explanation. This conclusion is in some measure reflected in the following:

"A tentative conclusion of this study, therefore, is that the value of the patent rights in federally financed R&D contracts is actually very small. The bases for this conclusion are, first, the vagueness of industry's answers when asked about this; secondly, the comparatively small number of patented inventions emerging from federal R&D in the postwar period; thirdly, the small proportion of commercially used inventions of this kind. It follows that the average experienced contractor knows, when embarking upon his next federal R&D contract, that few patented inventions are likely to be made, and that of these few, only a small number have any commercial potential. *The prospective dollar value of patent rights per million dollars of federal R&D must indeed be a small amount.*" [35]

Holman is much more deliberate in attempting to answer this question. Under the heading "The commercial use of government-owned patented inventions" she observes:

"The commercial use of government-owned patented inventions has much to do with the kinds of inventions in the patent portfolio of the government. What proportion of government-owned patents holds little commercial potential because of the nature of the products or processes covered under the patents? A second question is this: What amount of further engineering or financial development is necessary before commercialization is possible?" [36]

The first sentence of the preceding quotation even though stated as a conclusion is in reality a hypothesis. That is Holman hypothesizes that by its nature federally owned patented inventions are such as to their subject matter that they would have little commercial potential. She thus demonstrates that the comparative classes of patents in the federal portfolio for the period 1955 through 1960 is distinctly different from non-federal patents, and this distinctive nature in her opinion, accounts for the low utilization of government-owned patents. This difference in types of patents is clearly demonstrated by her Table

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[35] Watson, Bright, Burns, *Ibid.* p. 368. Emphasis added.
[36] Holman, M. A., *Ibid.* p. 149.

8 on page 150. Out of about 300 classifications some 25 classes account for 71 percent of all the federal patents issued during 1955-60, while these classes account for only 23 percent of all the nonfederal patents issued in that period. This marked concentration of federal patents in certain classes which could have a low commercial use potential is a plausible hypothesis. If it could be proven it would indicate that the differences between federally owned and privately owned patents is qualitative, they have different goals and no further explanation would be needed.

A plausible hypothesis, however, per se is no proof. One must still demonstrate empirically the validity of the hypothesis, Holman provides no such proof. Nor does she give any evidence that the hypothesis could account completely for the differential observed. In fact, such incidental evidence as one finds in Holman's work does not seem to support her hypothesis. Thus, in our Table 1 which we have taken from her data the percentage of patents issued to Department of Agriculture, which by inference we assume would be closer in terms of classification to nonfederal patents, the utilization rate is not significantly higher, either on the basis of inventor or licensee reporting of use. The non-defense character of patents held by the Department of Agriculture, which we have inferred, seems to be validated by Table 25, page 361 in Holman's dissertation, where the use of these patented inventions by the government is given. For the patents held by the Department of Agriculture the use by government is zero, while for AEC and DOD patents the government use is reported as about 75 percent.

By inference, as well as on the basis of Table 25, it would appear that patents grouped in our Table 1 under "other agencies" would be somewhat more like the nonfederal patents as far as classification were concerned, but again their utilization rate, as reported by licensees and by inventors, is not significantly higher. Thus the absence of a significant difference in the utilization rate of patents held by different federal agencies where differences in classification patterns would be less marked fails to support the validity of this hypothesis.

Holman makes no special effort to validate her hypothesis. Thus in Tables 12, 16, pages 156 and 325, she gives the classification of the used patents but fails to give the base so that one could compute utilization rate by class to test her hypothesis. It is perhaps symptomatic that in Table 12, of the 3 patented inventions held by the Department of Agriculture reported used all 3 are from the segment of patent classes in which federal patents predominate, classes 260 and 73; with respect to the patents of the Atomic Energy Commission only one of the 6

reported in use belong to a class which did not predominate in Federal patent portfolio. It is only with respect to patents of the Defense Department which, as we have said, are a sort of rejects, where 7 out of the 12 patented inventions that are utilized belong to classes which are not one of those that proportionately predominate among the federal patents. Thus of the 23 patents reported used by inventors, 8 are from the classes which account for 29 percent of the federal patents, and 15 from those which account for 71 percent of the portfolio—hardly a difference that could account for the differential utilization rate of 15 for federal owned as against 50 to 60 for privately owned patented inventions.[37]

A similar analysis of Table 16 shows that 3 of the 6 patents held by the Department of Agriculture are from classes not predominant in federal patent portfolio as shown in Holman's Table 8. For patents held by Defense Department 2 out of 6 are from classes not listed in Table 8. For patents of the Atomic Energy Commission 3 out of the 11 patents are from classes not listed in Table 8. Of the 25 patented inventions reported used by licensees 10 are from classes not listed in Table 8. This would suggest that perhaps the hypothesis has some merit but not enough to account to any large extent for the marked difference in utilization rate found between government R&D generated patents as against private patents.[38]

To test Holman's hypothesis further we have analyzed the patents in our Patent Utilization Study. But before considering this evidence let us consider another observation by Dr. Holman.

On page 360 under the caption of "Civilian Requirements" she writes:

"About 15 percent of the patents in the portfolio of the government originate from R&D work undertaken to advance specific technologies —agriculture, mineral resources, saline water, and chemical fertilizers.

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[37] The distribution of used patents would give a ratio of 65.2 versus 34.8 as against the expected ratio of 70.7 to 29.3, if we assumed no significant association between class of patents and utilization level. The difference between the estimate and the expected on the basis of the sample size is not statistically significant.

[38] Again if we consider the percentage break of all the patented inventions reported used by licensee we get a ratio of 60 to 40 percent. Sixty percent are from patents predominating in the federal portfolio, and 40 percent among those not listed in Holman's Table 8. If we assumed no association between utilization level and patent classification the expected percentage would have been 70.7 instead of 60. The difference between 60 and 70.7 is statistically significant at 5 percent level, but is nowhere large enough to account for a utilization differential of 15 for federal patents in comparison to 55 or 60 for privately owned patents. To account for such a differential the expected percentage should have been 38 to 62 instead of 60 to 40—that is, almost completely reversed.

Also, the Atomic Energy Commission holds some inventions that were developed to foster civilian uses of atomic energy. The nondefense needs are technological advances with civilian applications. The government develops more efficient processes and technologically superior goods for civilian use, because private producers do not find it sufficiently profitable to engage in the necessary amount of R&D work. If only the private sector of the economy provided new technology, the advances would not be sufficient because the financial gains to producers are less than the benefits to society as a whole."[39]

It would seem that here the author had an unusual opportunity to test her hypothesis that in these patents having to do with civilian technology the utilization rate should have been significantly higher than for the strictly military patents, but nothing of the kind is attempted. The author's assertion about government developing more efficient processes and "technologically superior goods for civilian use" is not born out unless it can be shown that civilian economy accepts these and as we have seen there is no evidence that it does to any large extent. It would appear most government pursued endeavors, no matter what their objective, terminate pretty much as duds except in fields for which there are no civilian counterparts to compare with. It is important to ascertain if this is a valid generalization of government undertakings.

In Table 26, page 363, Dr. Holman gives the classification of patents reported used by the government. Again the total is not given. Of the 16 classes listed only 14 are those listed in Table 8, representing patents predominant in federal portfolio. These 14 constitute about 56 percent of the patents predominant in federal portfolio and they contribute 60 of the 94 patents reported used by the government. Again, at best only a weak confirmation of possibility of some association is suggested. All these analyses tend to confirm our inferences from the Patent Utilization Study that very often the inventor guesses and does not know whether his patent is or is not used—and he is likely to be biased in his guess. This is probably more often true with respect to inventors of patents held by government in comparison to inventors of assigned patents, and it is perhaps least true of the so called individual inventors who own their patents.

Interrelationship Between Patent Classification and Utilization Rate

To test Homan's hypothesis the present writer obtained the current classification of all the patents in the Patent Utilization Study. Only

[39] Holman, M. A., *Ibid.* p. 360.

TABLE 5

Proportion of patented inventions used commercially by class of patents which predominate in Federal patent portfolio to assess the extent that low utilization of federally owned patents could be explained by class; utilization status based on inventors replies. Preliminary

Title of Classification	Class Number	Inventions for which no assignee questionaire was received				Inventions with assignee questionnaire				All Inventor questionnaires			
		No.	%	Number used	Utili. rate	No.	%	Number used	Utili. rate	No.	%	Number used	Utili. rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Radiant Energy	250	3	1.2	--	0	2	0.5	1	50.0	5	0.7	1	20.0
Inorganic Chemical Procedures	23	7	2.9	4	57.1	6	1.4	3	50.0	13	1.9	7	53.8
Chemistry, Electrical and Wave Energy	204	1	0.4	1	100.0	1	0.2	1	100.0	2	0.3	2	100.0
Ammunition and Explosive Devices	102	--	--	--	--	--	--	--	--	--	--	--	--
Ordnance	89	--	--	--	--	--	--	--	--	--	--	--	--
Communications, Radiant Energy	343	3	1.2	1	33.3	5	1.2	4	80.0	8	1.2	5	62.5
Chemistry, Carbon, Compounds	260	17	7.0	8	47.1	79	18.4	22	27.8	96	14.3	30	31.3
Measuring & Testing Devices	73	1	0.4	--	0	8	1.9	5	62.5	9	1.3	5	55.6
Electricity, Measuring and Testing	324	2	0.8	1	50.0	4	0.9	4	100.0	6	0.9	5	83.3
Communications, Electrical	340	2	0.8	2	100.0	4	0.9	3	75.0	6	0.9	5	83.3
Repair and Manufacture of Electrical Lamp and Discharge Devices	315	1	0.4	--	0	5	1.2	1	20.0	6	0.9	1	16.7
Wave Transmission Lines and Networks	333	--	--	--	--	1	0.2	1	100.0	1	0.1	1	100.0
Metallurgy, Production of a Metal or Alloy	75	1	0.4	1	100.0	1	0.2	--	--	2	0.3	1	50.0
Power Plants and Motors	60	5	2.1	3	60.0	4	0.9	3	75.0	9	1.3	6	66.7
Electric Lamp and Discharge Devices	313	1	0.4	1	100.0	7	1.6	4	57.1	8	1.2	5	62.5
Foods & Beverages	99	4	1.7	2	50.0	--	--	--	--	4	0.6	2	50.0
Electrical Circuit Makers & Brakers	200	10	4.1	8	80.0	7	1.6	3	42.9	17	2.5	11	64.7
Aeronautics	244	2	0.8	1	50.0	1	0.2	--	--	3	0.4	1	33.3
Machine Elements and Mechanism	74	4	1.7	2	50.0	6	1.4	2	33.3	10	1.5	4	40.0
Optical Instruments	88	--	--	--	--	6	1.4	4	66.7	6	0.9	4	66.7
Telophony	179	--	--	--	--	7	1.6	4	57.1	7	1.0	4	57.1
Registers	235	1	0.4	--	0	2	0.5	1	50.0	3	0.4	1	33.3
Coating, Processes & Miscellaneous	117	2	0.8	1	50.0	5	1.2	2	40.0	7	1.0	3	42.9
Manufacture of Articles from Metal	29	--	--	--	--	4	0.9	4	100.0	4	0.6	4	100.0
Electricity, Motive Power Systems	318	2	0.8	1	50.0	3	0.7	2	66.7	5	0.7	3	60.0
Total of the above		69	28.5	37	53.6	168	39.2	74	44.0	237	35.3	111	46.8
All others		173	71.5	114	65.9	261	60.8	159	60.9	434	64.7	273	62.9
Aggregate total		242	100.0	151	62.4	429	100.0	233	54.3	671	100.0	384	57.2

a part of this analysis will be presented here bearing on the Holman hypothesis that the low level of commercial use of federally owned patented invention is to be attributed to the unique classes of these patents.

Table 5 shows the utilization status of assigned patents based on inventor replies.[40] Patents in specific classes are for those classes in which according to Holman's Table 8 federal patents predominate. All other patents not in these specific classes are lumped together. The Table also separates patents in the Patent Utilization Study sample for which no assignee questionnaire were received from those with assignee questionaire and the combination of these.

Table 5 shows in all 671 inventor questionnaires. About 35 percent of these are in the classes which contributed most heavily to the federal patent portfolio. The mean utilization rate for these classes of patented inventions which predominate in the federal patent portfolio is 47 percent. For patents in classes other than those predominating in federal portfolio the utilization rate is 62 percent. This again suggests some relationship between class of patent and utilization rate.

In Table 5 we have shown separately patents for which we had only inventor questionnaire from those for which assignee questionnaires were also available, though the utilization information considered is based on that supplied by the inventor. It would appear that for patents for which we have only the inventor questionnaire the reported utilization rate is somewhat higher than those for which both inventor and assignee replies were received. Also the disparity between the utilization rate of patents predominating in government portfolio is somewhat more pronounced for patents with both inventor and assignee questionnaire. These relationships suggest that of the two groups of inventor replies conjectural answers with respect to utilization occur more frequently in the first group (patents with inventor reply only) in comparison to those with inventor and assignee returns. But for both categories the utilization rate is consistently somewhat lower for patents in classes predominating in the government portfolio.

This hypothesis is supported somewhat more strongly by comparative utilization rates shown in Table 6 based on assignee replies.

In Table 6 based on assignee replies as to the utilization status of the sampled patent in the Patent Utilization Study, the utilization rate for patents in classes predominating in the federal portfolio is less than 36 (35.7) while the comparable rate for patents not predominant in

[40] We emphasize the relationship demonstrated on the basis of inventor replies since this is more closely comparable to the 10 to 15 percent patent utilization which Holman adopts, based on inventor replies.

TABLE 6

Proportion of patented inventions used commercially by class of patents which predominate in Federal patent portfolio to assess the extent that low utilization of Federally owned patents could be explained by class; utilization status based on assignees replies.

Preliminary

Title of Classification	All assignee questionnaires			
	No.	%	Number used	Utili. rate
(1)	(2)	(3)	(4)	(5)
Radiant Energy	3	0.5	1	33.3
Inorganic Chemical Procedures	6	1.0	1	16.7
Chemistry, Electrical and Wave Energy	3	0.5	2	66.7
Ammunition and Explosive Devices	--	--	--	--
Ordnance	--	--	--	--
Communications, Radiant Energy	5	0.8	2	40.0
Chemistry, Carbon, Compounds	81	13.8	21	25.9
Measuring & Testing Devices	11	1.9	6	54.5
Electricity, Measuring and Testing	6	1.0	5	83.3
Communications, Electrical	4	0.7	2	50.0
Repair and Manufacture of Electrical Lamp and Discharge Devices	7	1.2	2	28.6
Wave Transmission Lines and Networks	3	0.5	2	66.7
Metallurgy, Production of a Metal or Alloy	1	0.2	--	0
Power Plants and Motors	4	0.7	2	50.0
Electric Lamp and Discharge Devices	9	1.5	3	33.3
Foods & Beverages	2	0.3	--	0
Electrical Circuit Makers & Brakers	10	1.7	2	20.0
Aeronautics	1	0.2	1	100.0
Machine Elements and Mechanism	8	1.4	2	25.0
Optical Instruments	7	1.2	4	57.1
Telophony	9	1.5	4	44.4
Registers	3	0.5	1	33.3
Coating, Processes & Miscellaneous Products	4	0.7	2	50.0
Manufacture of Articles from Metal	4	0.7	3	75.0
Electricity, Motive Power Systems	5	0.8	2	40.0
Total of the above	196	33.3	70	35.7
All others	393	66.7	222	56.5
Aggregate total	589	100.0	292	49.6

the federal portfolio is 56 (56.5). The disparity between the two groups of patents is more sharply delineated than that shown in Table 5. We are led to the tentative conclusion that the utilization rate of patented inventions in classes which predominate in the federal patent portfolio is significantly lower from those not predominating, this dif-

TABLE 7

Proportion of patents reported other than "never used" commercially by class of patents which predominate in Federal patent portfolio to assess the extent that low utilization of Federally owned patents could be explained by class; utilization status based on inventor replies.

Preliminary

Title of Classification	Class Number	Inventions for which no assignee questionnaire was received				Inventions with assignee questionnaire				All inventor questionnaires			
		No.	%	Number other than "N/U"	Rate of other than "N/U"	No.	%	Number other than "N/U"	Rate of other than "N/U"	No.	%	Number other than "N/U"	Rate of other than "N/U"
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Radiant Energy	250	3	1.2	--	--	2	0.5	1	50.0	5	0.7	1	20.0
Inorganic Chemical Procedures	23	7	2.9	4	57.1	6	1.4	6	100.0	13	1.9	10	76.9
Chemistry, Electrical and Wave Energy	204	1	0.4	1	100.0	1	0.2	1	100.0	2	0.3	2	100.0
Ammunition and Explosive Devices	102	--	--	--	--	--	--	--	--	--	--	--	--
Ordnance	89	--	--	--	--	--	--	--	--	--	--	--	--
Communications, Radiant Energy	343	3	1.2	3	100.0	5	1.2	5	100.0	8	1.2	8	100.0
Chemistry, Carbon, Compounds	260	17	7.0	10	58.8	79	18.4	46	58.2	96	14.3	56	58.3

Measuring & Testing Devices	73	1	0.4	--	--	8	1.9	7	87.5	9	1.3	7	77.8
Electricity, Measuring and Testing	324	2	0.8	1	50.0	4	0.9	4	100.0	6	0.9	5	83.3
Communications, Electrical	340	2	0.8	2	100.0	4	0.9	4	100.0	6	0.9	6	100.0
Repair and Manufacture of Electrical Lamp and Discharge Devices	315	1	0.4	1	100.0	5	1.2	4	80.0	6	0.9	5	83.3
Wave Transmission Lines and Networks	333	--	--	--	--	1	0.2	1	100.0	1	0.1	1	100.0
Metallurgy, Production of a Metal or Alloy	75	1	0.4	1	100.0	1	0.2	--	--	2	0.3	1	50.0
Power Plants and Motors	60	5	2.1	5	100.0	4	0.9	3	75.0	9	1.3	8	88.9
Electric Lamp and Discharge Devices	313	1	0.4	1	100.0	7	1.6	7	100.0	8	1.2	8	100.0
Foods & Beverages	99	4	1.7	3	75.0	--	--	--	--	4	0.6	3	75.0
Electrical Circuit Makers & Brakers	200	10	4.1	8	80.0	7	1.6	5	71.4	17	2.5	13	76.5
Aeronautics	244	2	0.8	2	100.0	1	0.2	--	--	3	0.4	2	66.7
Machine Elements and Mechanism	74	4	1.7	3	75.0	6	1.4	3	50.0	10	1.5	6	60.0
Optical Instruments	88	--	--	--	--	6	1.4	6	100.0	6	0.9	6	100.0
Telophony	179	--	--	--	--	7	1.6	6	85.7	7	1.0	6	85.7
Registers	235	1	0.4	1	100.0	2	0.5	2	100.0	3	0.4	3	100.0
Coating, Processes & Miscellaneous Products	117	2	0.8	2	100.0	5	1.2	4	80.0	7	1.0	6	85.7
Manufacture of Articles from Metal	29	--	--	--	--	4	0.9	4	100.0	4	0.6	4	100.0
Electricity, Motive Power Systems	318	2	0.8	2	100.0	3	0.7	2	66.7	5	0.7	4	80.0
Total of the above		69	28.5	50	72.5	168	39.2	121	72.0	237	35.3	171	72.2
All others		173	71.5	147	85.0	261	60.8	205	78.5	434	64.7	352	81.1
Aggregate total		242	100.0	197	81.4	429	100.0	326	76.0	671	100.0	523	77.9

ference, however, is no where sufficient to account for the much more steep patent utilization differential observed between federally held or federal R&D generated patented inventions as compared with privately generated patents.

These inferences are sustained also by Table 7.

In the Holman questionnaire, as we have seen, no provision was made for unknown, therefore, in essence patents were classified as used or never used. As has been indicated this would tend to spuriously increase the proportion of patented inventions reported used. In Table 7 we show the percentage of patents in the Patent Utilization Study where the utilization status reported was something other than "never used" that is the complement to "never used." In all other respects the table is analogous to Table 5 and like Table 5 it is limited to inventor replies or lack of reply for assigned patents. In this Table also the patents reported something other than "never used" are proportionally lower in those classes which predominate in the federal portfolio but the differential is much less marked than in Table 5, which in turn was lower than that shown by Table 6. In other words while the hypothesis that inherently patents which predominate in federal portfolio have a lower civilian utilization rate is probably valid—it is uncertain whether the way Holman has obtained her information is sufficiently precise to validate her hypothesis—partly because of unreliability of information available from inventors and partly because of the attempt to force all replies into a "yes" or "no" mold.

This unreliability is born out by Table 8 based on utilization status reported by inventors of unassigned patents.

In column 6 it is seen that the utilization status for patents in classes which predominate in the federal portfolio is slightly higher than that reported for other patents. The difference, however, is not large enough to be statistically significant, the hypothesis of lower utilization can not be supported by these returns.

In column 8 where we have included all patents except those explicitly reported "never used" which we assume as a rule would be based on firm knowledge, the differential even though still not large enough to be statistically significant is at least in the expected direction—being lower for patents in classes which predominate in the federal portfolio.

We are led to conclude from all of our evidence that the hypothesis that the utilization rate for patents in classes which predominate in the federal portfolio is lower is probably correct, though for reasons already indicated Dr. Holman's own data may not be of sufficient

TABLE 8

Proportion of unassigned patented inventions used commercially and the patents other than those reported "never used" by class of patents which predominate in Federal patent portfolio, to assess the extent that low utilization of Federally owned patents could be explained by class.

Preliminary

Title of Classification	Class Number	No.	%	Number used	Utili. rate	All but "never used" No.	All but "never used" rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Radiant Energy	250	2	1.0	2	100.0	2	100.0
Inorganic Chemical Procedures	23	1	0.5	--	0	--	0
Chemistry, Electrical & Wave Energy	204	--	--	--	--	--	--
Ammunition and Explosive Devices	102	3	1.5	1	33.3	2	66.7
Ordnance	89	--	--	--	--	--	--
Communications, Radiant Energy	343	2	1.0	2	100.0	2	100.0
Chemistry, Carbon, Compounds	260	--	--	--	--	--	--
Measuring & Testing Devices	73	4	2.0	3	75.0	3	75.0
Electricity, Measuring and Testing	324	3	1.5	1	33.3	2	66.7
Communications, Electrical	340	1	0.5	1	100.0	1	100.0
Repair and Manufacture of Electrical Lamp and Discharge Devices	315	1	0.5	1	100.0	1	100.0
Wave Transmission Lines and Networks	333	1	0.5	1	100.0	1	100.0
Metallurgy, Production of a Metal or an Alloy	75	--	--	--	--	--	--
Power Plants and Motors	60	1	0.5	--	0	--	0
Electric Lamp and Discharge Devices	313	--	--	--	--	--	--
Foods & Beverages	99	2	1.0	1	50.0	1	50.0
Electrical Circuit Makers & Brakers	200	3	1.5	--	0	--	0
Aeronautics	244	2	1.0	--	0	2	100.0
Machine Elements and Mechanism	74	6	3.0	--	0	1	16.7
Optical Instruments	88	2	1.0	1	50.0	1	50.0
Telophony	179	--	--	--	--	--	--
Registers	235	1	0.5	--	0	1	100.0
Coating, Processes & Miscellaneous Products	117	1	0.5	1	100.0	1	100.0
Manufacture of Articles from Metal	29	1	0.5	1	100.0	1	100.0
Electricity, Motive Power Systems	318	--	--	--	--	--	--
Total of the above		37	18.3	16	43.2	22	59.5
All others		165	81.7	68	41.2	109	66.1
Aggregate total		202	100.0	84[1]	41.6	131[1]	64.9

[1] 12 patents are "never used" commercially of the aggregate total of 84 patents, column (5); and of 131 patents, column (7).

precision to demonstrate this—but this hypothesis can not account for the much lower utilization rates for federal as against private patents even if this differential were to be 15 to 50; while in all likelihood the more appropriate differential might be as large as 3 vs. 60.

Editor's Comment: Dr. Mary A. Holman read this article before publication and commented as follows: "Dr. Barkev Sanders graciously let me see the manuscript of his article, 'What Should the Federal Government's Patent Policy Be?' I have carefully studied each of the comments made by Dr. Sanders about my study on the utilization of government-owned patented inventions. I find reason neither to defend my analysis nor to change my conclusions."

Patents From Government-Financed Research and Development

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SUMMARY

THIS IS A REPORT ON THE NUMBERS OF PATENTS arising in the postwar period from government-financed research and development.[1] The many previous studies and investigations of federal patent policies never yielded more than incomplete and often inconsistent data. The total number of patents, owned by or licensed to the federal government, has grown rapidly. The total, however, is quite small when compared with the total of all patents issued or assigned in the postwar period to residents of the United States and to U. S. corporations. The numbers of patents from government-financed R & D have grown and fluctuated in step with applied research, but with a lag whose average length is estimated to be at least five and one-half years.

Data are presented on the numbers of titles and licenses by major federal agencies. The title-policy agencies hold many licenses, and the license-policy agencies administer large portfolios of titles. The government acquires titles and licenses from its own employees and from R & D contractors. Employees account for about one-third of all the patents. They are heavily concentrated in a few technologies and in a few industries.[2]

This is the first of a series of studies of the patent activities of the federal government, of its employees, and of its contractors.

THIS ARTICLE PRESENTS for the first time, so far as we know, the complete data on the numbers, the sources, and the kinds of patented inventions flowing from research and development financed by the federal government. The disposition of patent rights from R & D

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[2] This article presents only part of the data we have collected. Our complete data, contained in about 50 separate tables, consist of the numbers of titles and licenses by years from 1945 to 1962, by agency and by sources (employees and contractors); the titles and licenses are also classified by Patent Office Classes and according to the Standard Industrial Classification.

conducted by private organizations and paid for by the federal government is of course the question of federal patent policies, a question much controverted for many years. So too is the disposition of the rights to the inventions of government employees. There is no need for us to review the controversies here or to take a stand on which patent policy best fosters the public interest. Our task now is the modest one of setting forth the simple facts about the patents in which the federal government has an interest.

On October 10, 1963, President John F. Kennedy addressed a Memorandum on government patent policy to the heads of the executive departments and agencies. The Memorandum points to the importance of the patent practices of the several departments and agencies engaged in research and development. The Memorandum contains a statement of guidelines for policy on the disposition of rights to inventions made under contracts with outside organizations. To "monitor, record, and evaluate the practices of the agencies," as well as to carry out other duties, a Patent Advisory Panel was to be established under the Federal Council for Science and Technology.

The creation of the Patent Advisory Panel testifies to the continued importance attached to the patent policies of the federal agencies. The Panel has been hampered until now by the lack of comprehensive and accurate factual knowledge on just what has been happening under the different practices of the federal agencies.

The data we report here have still another significance. Patented inventions are one, but just one, kind of output from the resources devoted to research and development. Much is known about R & D inputs; the National Science Foundation has published a wealth of detailed material on R & D activity, both federal and private. In contrast, little is known about the output of federal R & D. To be sure, there is much awareness of the major accomplishments of federally financed R & D—the new weapons and devices, the advances in space technology, and the host of other technical improvements. When we say that little is known about R & D output, we mean the lack of knowledge of the specific, comprehensive, quantitative data on output, and in particular, of specific input-output relations. The outputs from federally financed R & D are inventions, information, and improvements in technology. To measure these outputs is not easy; but we believe that some kinds of meaningful indexes can be constructed. To pursue this line of thought, however, is to go beyond the bounds of this article. It deals solely with the patented inventions from federally financed R & D.

Previous Studies

In the large literature on federal patent policies there are some studies that contain more than fragmentary statistical materials on the operation of patent policies.[3] The first major study in the postwar period was the Attorney General's Report of 1947.[4] This massive report, with its 19 monographs, does not of course contain any data later than for the year 1946. Despite the wealth of detail scattered about in its three volumes, the report offers no panoramic view of the total of the patented inventions flowing from the research and development activities of the federal government in the years before 1947. The 1956 Report of the Attorney General[5] also deals with patent policies and their possible effects. Most of the data in this report, however, are on federal research and development expenditures and their concentration in large companies.

More information on patents from federally financed research and development became public in the late 1950's. The Atomic Energy Commission furnished the Joint Committee on Atomic Energy fairly complete data on AEC's invention disclosures, patent applications, and patents issued from 1943 to 1958.[6] Other committees of Congress also got small amounts of information from the executive agencies.[7]

[3] This discussion excludes studies about the thousands of patents seized by the Alien Property Custodian during World War II. The Custodian kept complete records on the numbers of seized patents, their sources, and the numbers of licenses granted on them. The data were published in the annual reports of the Custodian.

The National Planning Commission, established in December, 1941, was authorized by President Franklin D. Roosevelt to make a comprehensive study of the American patent system. The Commission began to study the government's own patent practices by sending questionnaires to government agencies. Because the Attorney General was assigned a similar task in February, 1943, the Commission did little or nothing with the data it had collected.

[4] U. S. Department of Justice, *Investigations of Government Patent Practices and Policies: Report and Recommendations of the Attorney General to the President.* 3 vols. (Washington, D. C.: U. S. Government Printing Office, no date).

[5] *Report of the Attorney General Pursuant to Section 708(e) of the Defense Production Act of 1950, as Amended.* November 9, 1956. Mimeographed.

[6] U. S. Congress, Joint Committee on Atomic Energy, *Selected Materials on Atomic Energy Patents,* 2 vols., 86th Cong., 1st Sess., 1959; U. S. Congress, Subcommittee on Legislation of the Joint Committee on Atomic Engergy, *Hearings, Atomic Energy Patents,* 86th Cong., 1st Sess., 1959.

[7] The lack of comprehensive factual knowledge about patents and federal R&D, which lack never stood in the way of firm opinions on the wisdom of opposing patent studies, is well illustrated in the experience of "Study Group 14." This committee of the patent attorneys of executive agencies was set up in 1957 to study the matter of the division of patent rights between contractors and the government and to make recommendations for possible changes in patent policies. The committee was unable, however, to gather together a body of data to serve as a foundation for analysis.

Another source of knowledge about the patents from federal R & D is the series of studies published after 1958 by the Subcommittee on Patents, Trademarks, and Copyrights of the Senate Committee on the Judiciary. Among the studies are reports on the patent practices of each of the federal agencies. These reports contain much information and statistical data on the patents assigned to and licensed to federal agencies. But the data are incomplete, and from them no full and consistent picture of the patents emerging from the total R & D program of the federal government can be drawn.

The most important single report on the patent practices of an agency is that for the Department of Defense. This report[8] was issued on September 1, 1961. The data on patents "obtained" and assigned to the Departments of the Army, Navy, and Air Force were supplied by patent counsel in each of the military departments. The data show the numbers of patents acquired between 1938 and 1960 by contractors and by the government. For government-owned patents, the report gives sources, i.e., whether they originated from the work of government employees or from contractors. There is also a list of firms licensed to use government-owned patented inventions.

The same report includes the results of two surveys—one of defense R & D contractors and one of firms licensed to use government-owned patented inventions. In 1960 the Subcommittee sent to 120 contractors a questionnaire on their research and development expenditures and their patent activities. A different questionnaire, directed toward determining rates of commercial use, was sent to 89 companies licensed to use government-owned patented inventions. As in most surveys of this kind, the data returned are incomplete because only 78 of the contractors and 49 of the licensed companies supplied the information requested. Not all of these furnished complete responses.

In 1959, the Operations Research Office (now the Research Analysis Corporation) published a study on defense spending and the U. S. economy.[9] Appendix F of that study covers patent matters in military research and development activities. To highlight the inadequate and confused state of data about government R & D patents, the ORO Group presented two sets of numbers on patents assigned to the Departments of Army, Navy, and Air Force during 1956. These num-

[8] *Patent Practices of the Department of Defense.* Preliminary Report of the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate. 87th Cong., 1st Sess. Pursuant to S. Res. 55. Report No. 1481. (Washington, D. C.: U. S. Government Printing Office, 1961).

[9] Leon Karadbil, Richard Sherman, and Herbert Striner, *Defense Spending and the U. S. Economy* (ORO-SP-57) 2 vols. (Bethesda, Maryland: Operations Research Office of The Johns Hopkins University, 1959).

bers are for the year 1956 only. The researchers counted the numbers of patents assigned to each of the military departments that were listed in the *Index of Patents,* published annually by the U. S. Patent Office. They also counted the numbers of patents recorded by the Assignment Branch of the U. S. Patent Office. The margin of disagreement between the two totals ranged from 4 per cent for the Department of the Navy to 26 per cent for the Department of the Air Force.

Several patent attorneys have studied government R & D patent matters.[10] These investigations were made at the time the Government Patents Board maintained its index of patents assigned to and those licensed to the government.[11] Most of the data used in these studies came from the Government Patents Board.

Under a contract with the National Aeronautics and Space Administration, Dr. Archie M. Palmer studied the administration of government-owned patents.[12] The Palmer Report includes information on the numbers of patents owned by the government and the sources of these inventions for the period 1935 to 1955. The data were collected while Dr. Palmer was chairman of the Government Patents Board.

In earlier investigations the authors of this article gathered information about government R & D patents.[13] Data about patents arising

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[10] Marcus B. Finnegan and Richard W. Pogue, "Federal Employee Invention Rights—Time to Legislate," *Michigan Law Review* 55 (May, 1957), pp. 903-966; and Howard I. Forman, *Patents, Their Ownership and Administration by the United States Government* (New York: Central Book Company, 1957).

[11] In compliance with an Executive Order (No. 10096, January 23, 1950) the Government Patents Board maintained records of all patents in which the government had an interest. The only data published by the Board were lists of government-owned patented inventions available for free use to the public. (*The Patent Abstract Series*). Most of the work of the Board was concerned with determinations of the property rights of the government and of government employees in inventions made by employees.

Because of reduced Congressional appropriations, the Government Patents Board eliminated the Index Section. After a short period of being maintained by the Commissioner of Patents, the Index on the numbers of titles and licenses was transferred to the Office of Technical Services, U. S. Department of Commerce. Since the transfer, OTS has kept a file, by Standard Industrial Classifications, of government-owned patents. That office never maintained the records on license-policy patents.

[12] Archie M. Palmer, Administration and Utilization of Government-Owned Patent Property, NASA Contract NASw-177 (December, 1960). A reprint of the report appears in U. S. Cong., House, Special Subcommittee on Patents and Scientific Inventions of the Committee on Science and Astronautics, *Hearings, Patent Policies Relating to Astronautical and Space Research,* Part 2. 87th Cong., 1st Sess., 1961, pp. 65-138.

[13] Donald S. Watson, Harold F. Bright, and Arthur E. Burns, "Federal Patent Policies in Contracts for Research and Development," *The Patent, Trademark, and Copyright Journal of Research and Education,* 4 (Winter, 1960), pp. 295-428.

from R & D sponsored by the Department of Defense and owned by government contractors was the main concern of Watson. The information collected by Holman concentrated on government-owned patents. Holman made the final complete count of these patents.[14]

The Data

The information in this article on the numbers of patents assigned to and licensed[15] to the government comes from records maintained by the Assignment Branch of the United States Patent Office. We believe that these records are the only complete and are the most reliable source of data on the numbers of patents arising from government-financed R & D in the postwar period. These records are a valuable source hitherto unexploited.

In compliance with an Executive Order,[16] government agencies are required to forward to the Assignment Branch complete information about all patents assigned to or licensed to the government. Although this requirement has been in effect since 1944, the Assignment Branch proceeded to gather data about government-interest patents issuing before 1944. Being part of the Patent Office, the Assignment Branch can collect information about patents that does not necessarily flow to the government agencies financing the R & D from which the patents originate. This is true particularly when patent applications are filed by government contractors. They do not always inform government agencies of the existence of license-policy patents.

The Assignment Branch maintains three different card indexes, each open to inspection by the public. The first contains all government-interest patents (titles and licenses), arranged by date of issue. The second index lists, by agency, all patents licensed to the government. The third index lists, also by agency, all patents assigned to the government.

The card indexes contain much information about government-interest patents, such as the names of inventors, the names of companies employing the inventors, dates of patent applications, dates of patent issues, and divisions of ownership rights.

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[14] Mary A. Holman, "The Utilization of Government-Owned Patented Inventions," *The Patent, Trademark, and Copyright Journal of Research and Education*, 7 (Summer, 1963, and Fall, 1963), pp. 140 ff.

[15] We are aware of the fact that almost all of the licenses to the government are irrevocable, non-exclusive and royalty-free.

[16] On February 22, 1944, President Roosevelt issued an Executive Order (No. 9424) providing for the establishment of a register of all patents in which the government has an interest. The Commissioner of Patents assigned the chore of administering this register to the Assignment Branch of the Patent Office.

Personnel in the Assignment Branch do not prepare reports on the numbers of patents acquired by the government each year. Members of our research staff counted each card in the license and in the assignment index. Our data are as accurate and as complete as possible. The tedium of counting the cards opens the way to clerical error, which, however, is certainly less than one per cent. There are three other possibilities of small errors. First, government agencies might not send information about every patent to the Assignment Branch. Secondly, clerks in the Assignment Branch can make many different kinds of mistakes. Finally, people using the indexes can misplace the cards because they are loose.

Information about the patents can be obtained from other sources. However, there is no other single source that will give a complete picture of all patents assigned to and licensed to the government as that of the Assignment Branch. The *Index of Patents,* published annually by the Patent Office, lists all government-owned patents by agency. That publication, however, has no information about patents licensed to the government. In addition, it does not show changes in the numbers of government-owned patents that result from changes in ownership after patents issue. In 1962, the Office of Technical Services began to keep records of the patents assigned to the government, but not of those licensed to the government.

Some government agencies keep complete records on both license-policy and title-policy patents. Others keep records only on the title-policy patents. The records of some agencies are incomplete and scattered because of reorganizations and changes in filing systems. One government agency sent much of its information about government R & D patents to a warehouse for storage because of a shortage of space.

The Role of Secrecy Orders

Rescinding secrecy orders on groups of patents affects the annual rates of acquisition of patents assigned to and licensed to the government. Under current patent law, the Patent Security Division, in cooperation with officials in defense-oriented government agencies, can place inventions covering security-classified technology under secrecy orders. Such orders preclude the issue of patents, and hence the disclosure of new technology deemed vital to the national defense, until after the orders are rescinded. In the late 1940's and the early 1950's, the Department of Defense rescinded secrecy orders on many inventions made during World War II. The Atomic Energy Commission did the same thing in the mid-1950's. The main impetus to the action

of the Commission was a Tripartite Agreement between the United States, Canada, and the United Kingdom on September 24, 1956. The Agreement provided for the exchange of patent rights in the technology of atomic energy. Since the late 1950's, only a few inventions arising from the research and development sponsored by the Atomic Energy Commission and by the National Aeronautics and Space Administration have been classified for security reasons.

Secrecy orders tend to lengthen the time lag between patent applications and patent issues. The average lag between application and issue of patents assigned to the government is 56 months. There is an average lag of 48 months for patents licensed to the government and of 42 months for all U. S. patents. These differences in time lags suggest that more patents assigned to the government are placed under secrecy orders than those licensed to the government. The government does not, of course, grant licenses to use government-owned inventions or disseminate information about them until secrecy orders are rescinded.

The Numbers of Patents

The numbers of patents acquired by the government and licensed to the government are shown in Table 1.[17] The patents are one of the results of the research and development financed by the federal government. Strictly speaking, however, not every patent included in Table 1 is a product of federally financed R & D. A few dozen of the patents were donated in the early postwar period to the federal government. Another small number resulted from research conducted by government employees using only their own private resources.

It is clear from Table 1 that for each patent it owns, the federal government holds licenses to two others. The Table also shows that the numbers of titles have grown faster than the numbers of licenses. Since 1954, however, the proportion of titles to licenses has remained fairly steady. The effect of the extension of the title policy in legislation since 1958 has been offset by the steadily higher proportion of contract to total research and development. Although contract research results in both titles and licenses, the proportion of licenses is much higher.

Relevance of the Data

What is the larger meaning of the numbers in Table 1? The Memorandum of October 10, 1963, from the President of the United States

[17] The Table covers an 18-year period. For some purposes, it is preferable to present such data for a 17-year period. We chose 18 years so as to give a complete description for the postwar period.

TABLE 1

TOTAL PATENTS FROM GOVERNMENT-FINANCED R & D
1945-1962

Calendar Years	Numbers of Patents			Percentages	
	Owned by Government	Licensed to Government	Total	Owned by Government	Licensed to Government
1945	87	850	937	9.3	90.7
1946	150	1,383	1,533	9.8	90.2
1947	157	1,364	1,521	10.3	89.7
1948	374	1,416	1,790	20.9	79.1
1949	498	1,719	2,217	22.5	77.5
1950	637	1,710	2,347	27.1	72.9
1951	675	1,498	2,173	31.1	68.9
1952	712	1,281	1,993	35.7	64.3
1953	678	1,198	1,876	36.1	63.9
1954	624	912	1,536	40.6	59.4
1955	701	1,070	1,771	39.6	60.4
1956	939	1,553	2,492	37.7	62.3
1957	980	1,475	2,455	39.9	60.1
1958	1,193	1,779	2,972	40.1	59.9
1959	1,434	1,836	3,270	43.9	56.1
1960	1,170	1,957	3,127	37.4	62.6
1961	1,443	2,022	3,465	41.6	58.4
1962	1,219	1,870	3,089	39.5	60.5
Totals	13,671	26,893	40,564	33.7	66.3

Source: Compiled from data in the Assignment Branch, U. S. Patent Office.

to the heads of executive agencies mentions "a considerable number of inventions and discoveries" resulting from the conduct of research and development paid for by the federal government. Table 1 gives the actual number. Then the Memorandum goes on to say that the inventions resulting from work performed under government contracts "constitute a valuable national resource." If they do, then so do also the inventions resulting from the intramural research performed by federal agencies. The men who drafted the Memorandum could hardly have intended to slight the inventions coming out of government laboratories. Nevertheless, they did, because throughout the Memorandum they refer to inventions made under contract.[18]

It is not easily possible, in fact, to present exact data that distinguish the patented inventions coming from the government's laboratories and other installations from those coming from private organizations with government contracts or grants. The titles shown in Table 1 come from both sources; so do the licenses. Later in this article we present data on government employees and government con-

[18] Perhaps they thought that inventions from intramural R&D are covered by Executive Order 10096 of 1950.

tractors as sources of patented inventions. The employees account for about one-third of all inventions. It seems to be a coincidence that one-third of all patents from government-financed R & D are owned by the government. Quite apart from the coincidence, however, we estimate that in all probability the one-third ratio also applies to the numbers of patents (both titles and licenses) from the government's intramural R & D as a fraction of the total of all of the patents. We base this estimate on the ratio of intramural to total R & D in the postwar period.

The Government's "Portfolio"

The patents owned by the federal government appear in another light when the numbers of these patents are arranged as portfolios of unexpired patents. Table 2 displays the federal government's patent portfolio at the end of each calendar year from 1947 to 1962. Two sets of data had to be spliced to obtain the figures in Table 2. One set are unpublished data compiled by Dr. Archie Palmer when he was chairman of the Government Patents Board; these data are the patent acquisitions for each of the years from 1931 to 1944. The other data are for 1945 to 1962, from the Assignment Branch of the Patent Office. Because Palmer's data go back no farther than 1931, the portfolio of unexpired patents has to begin in 1947.

A portfolio of patents is to be watched over and managed. Otherwise the word "portfolio" has little meaning. The only meaning the word can have for the federal government is the mere statistical meaning—the numbers in Table 2. Until Holman published her research on government-owned patents, no one ever knew how many there are. And there is still no mechanism for unified management of the portfolio.

The patents from federally financed R & D in the period 1945-1962 are less than 6 per cent of the total of United States patents issued in that period. According to the U. S. Patent Office, 703,950 patents were issued from the beginning of 1945 to the end of 1962. The government acquired a total of 40,564 titles and licenses (Table 1). The ratio is 5.76 per cent. When the total number of patents is reduced to allow for patents issued to residents of foreign countries and assigned to foreign corporations, the ratio is still small—it becomes 7.21 per cent.

Relation to Research and Development

Nearly all of the patents owned by and licensed to the federal government are one of the outcomes of the research and development

TABLE 2

THE PATENT PORTFOLIO OF THE GOVERNMENT
1947-1962

Calendar Years	Numbers Acquired	Total Portfolio	Index (1947 = 100)
1947	157	1,035	100.0
1948	374	1,381	133.4
1949	498	1,842	177.9
1950	637	2,428	234.5
1951	675	3,074	296.9
1952	712	3,764	363.6
1953	678	4,409	425.9
1954	624	5,000	483.0
1955	701	5,642	545.0
1956	939	6,531	630.9
1957	980	7,471	721.7
1958	1,193	8,621	832.8
1959	1,434	9,993	965.3
1960	1,170	11,115	1,073.7
1961	1,443	12,452	1,202.9
1962	1,219	13,584	1,312.2

Source: Figures obtained from an unpublished table compiled by Dr. Archie Palmer at the time he was chairman of the Government Patents Board and from data in the Assignment Branch of the U. S. Patent Office.

performed by the government and by its contractors and grantees. We have already mentioned the inventions donated to the government. Besides these, some titles have been bought by the government, and others have been acquired under international agreements. Other patents not from R & D are licenses bought by the government and some of the patents issued to government employees. The handful —a few dozen out of the forty thousand—of inventions donated to the federal government belong to the early postwar period. Most of them, it seems, were applied for during World War II and the Korean War; many were given to the government for patriotic motives. The employee inventions licensed to the government are ostensibly the fruit of the time and of the other resources of the employees themselves. Some of these inventions should be attributed to federal R & D programs as at least indirect results, arising in the new environment created by federal R & D. Although we do not know their number, other employee inventions must be the products of purely private research endeavors lying outside the mainstream of federal R & D programs. We plan to make a study of the inventions made by government employees.

A great difference between federally financed R & D, whether intramural or extramural, and the company-financed R & D conducted by

private corporations is that patented inventions are not an intended or planned output of federal R & D. Clearly, not all private R & D is aimed at the production of patented inventions. But much, if not most, of it does indeed have this goal. In any event, the fact that patented inventions are unplanned byproducts of federally financed R & D is probably a major cause of their small numbers alongside the numbers of inventions assigned to private corporations.

So far we have made only preliminary examinations of the relation between the flow of federally financed R & D and the ensuing flow of patents assigned and licensed to the government. For one thing, there is a long lag between the conduct of R & D and the issue of a patent. Exploration of its length, by comparison of the time series of R & D and of patents, suggests that the lag averages 5½ years, with much variation about this probable average.

But examination of the patenting process suggests a somewhat longer time lag—about 6⅔ years. As previously mentioned, the average time lags between the date of a patent application and the issue of a patent are 56 months for patents assigned to the government and 48 months for patents licensed to the government. An unweighted average of lags for all inventions arising from government-financed R & D is about 52 months.[19] Analysis of almost 1,000 invention disclosure cases in the files of the Assistant General Counsel for Patent Matters in the National Aeronautics and Space Administration shows that the time lag between the letting of an R & D contract and the conception of an invention averages 8 months.[20] Government contractors are neither more nor less expenditious than officials in government installations in reporting inventions to NASA. Invention disclosure cases show that both contractors and government employees disclose inventions to NASA about 8 months after conceiving the inventions. Upon receiving invention disclosures, technical experts and patent counsel evaluate the technical merits and patentability of the inventions. For inventions warranting patent prosecution, NASA's average time lag between disclosure and patent application is about 12 months. In summary, the average period for conception, reduction to practice,

[19] A weighted average of lags for all inventions is slightly less—about 50 months.

[20] As might be expected, a small number of inventions disclosed to NASA by government contractors were conceived before contracts were let. For these inventions, the lead time before contract awards is short—between 3 and 7 months. It seems that contractors sometimes begin inventive work in anticipation of contract awards, or after informal agreements have been made, or in order to have substantive ideas for contract proposals. The files of NASA have no information on the time lag between intramural R&D expenditures and the conceptions of inventions.

evaluation, and preparation of a NASA patent application is about 28 months; the average period in the Patent Office is another 52 months—a total of 80 months or 6⅔ years.

Data on federally financed R & D are collected and published by the National Science Foundation. These data need two adjustments to obtain the flow that can meaningfully be related to the flow of inventions. One adjustment is to separate applied research from the lump sum total of all research and development. Clearly, pure or basic research must be taken out of the R & D total. By its very definition, basic research results, when it pays off, in new ideas or theories. They of course are not patentable. Applied research, which is research conducted toward specific practical objectives is therefore the relevant, the meaningful, R & D component for present purposes. The development part of total R & D must also be cut out. Development consists of technical activities such as the design and operation of pilot plants, nonroutine testing, the design and construction of preproduction prototypes, etc.[21]

At the time of writing, the National Science Foundation had published only fragmentary data on the separate amounts of basic research, applied research, and development for each year since 1940. (With a 5½ year lag, the patented inventions of the calendar year 1945 were the result of applied research in the fiscal year 1940.) A rough rule of thumb, based on study of the bits and pieces of NSF data, is to assign 10 per cent of total R & D to basic research, 15 per cent to applied research, and 75 per cent to development.

The second adjustment is to get rid of the distorting influence of postwar inflation and to transform the expenditure data for applied research into constant dollars. To do this an appropriate index of deflation is needed. We have made provisional calculations, using the implicit price deflators belonging to the national income and product accounts. The result is "adjusted applied research," i.e., 15 per cent of R & D expenditures corrected for inflation.

Preliminary examination of the relation between the annual patent data and adjusted applied research lagged 5½ years shows that the two series have grown and fluctuated together. This finding, we must admit, should hardly occasion surprise. Anyway, the two patterns of growth are similar. The decline in the numbers of patents in each calendar year from 1950 to 1954 is matched by the decline in adjusted applied research in each fiscal year from 1945 to 1948. The steady in-

[21] These definitions are adaptations of those published in various places by the National Science Foundation.

crease in adjusted applied research from 1948 on was accompanied by a growth in the numbers of the patents from 1954 to 1959. From 1959 to 1962 the annual average number of patents remained at a fairly stable level. So did the data for adjusted applied research.[22]

We can conjecture that the continued increase in the resources devoted to applied research will result in even larger numbers of patents owned by and licensed to the government. It is probable, however, that the growth in the numbers of patents will be smaller, proportionately, than the growth in most applied research. This estimate follows from observation of the behavior of the two variables in the 1940's and 1950's. Real applied research was more volatile, both upward and downward, than the numbers of patents.[23]

The Agencies

The federal agencies with substantial patent activities are customarily labeled as either "title-policy" or "license-policy" agencies. Table 3 shows the titles and licenses acquired by the major federal agencies in the period 1945-1962. The Table indicates immediately that the title-policy agencies administer more titles than they do licenses, whereas the license-policy agencies have acquired more licenses than titles. And yet, the Departments of the Army and of the Navy each have acquired more titles than the Atomic Energy Commission. In turn, AEC's licenses are more numerous than Agriculture's titles.

The many titles held by the Department of Defense reflect, not so much an aggressive policy of invention retrieval, as acquisition by default. Many of these inventions are turned over by contractors who do not want them themselves. Patent attorneys in the Department of Defense believe that licenses offer the government as much protection as is needed against possible infringement suits.[24]

For the Department of Defense, the amounts of intramural and contract research and development have as much, if not more, to do with the proportions of titles and licenses as does patent policy. Most of the R & D sponsored by the Department of the Air Force has been contract R & D. Among the three military departments, the Depart-

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[22] We have postponed closer analysis of the relation of R&D to patents until more refined data on R&D and its components are available.

[23] In other words, the elasticity of the numbers of patents with respect to the dollar volume of applied research (adjusted or unadjusted) is well less than unity.

[24] We are aware of the fact that under some circumstances the Department of Defense does take titles to patented inventions arising from government-financed R&D.

TABLE 3

TITLES AND LICENSES BY MAJOR AGENCIES, FOR THE PERIOD 1945-1962

Agency	Numbers of Patents		Percentages	
	Titles	Licenses	Titles	Licenses
Agriculture	1,297	115	91.9	8.1
Atomic Energy Commission	3,050	1,460	67.6	32.4
Department of Defense	8,667	24,916	25.8	74.2
Army	3,529	8,159	30.2	69.8
Navy	4,234	10.067	29.6	70.4
Air Force	904	6,690	11.9	8.1
All Other Agencies[a]	657	402	62.0	38.0
Total	13,671	26,893	33.7	66.0

[a]The other agencies with small, though significant, patent activities are Commerce, Interior, and National Aeronautics and Space Administration.

Source: Compiled from data in the Assignment Branch, U. S. Patent Office.

ment of the Army has the smallest proportion of contract research; the Department of the Navy is between the Air Force and the Army. As the Table shows, the three military departments have the same ranking in the proportions of titles and licenses—Air Force, Navy, and Army.

The Department of Agriculture has the highest percentage of titles because it staunchly follows the title policy and because it sponsors very little contract R & D. Agriculture is required by the Bankhead-Jones Research Act of 1935 to use federal and state research facilities as much as possible. Agriculture has made one modification of its title policy: Under provision in special appropriations acts, the Rural Electrification Administration permits contractors to retain titles to patents originating under contract R & D. Because its R & D program is so small, the REA has not been an important source for licenses administered by the Department of Agriculture.

The Atomic Energy Commission, whose devotion to a strong title policy can hardly be denied, has one license for every two titles. Most of these patents licensed to the Atomic Energy Commission belong, however, to the war and the early postwar years.

Although the National Aeronautics and Space Administration held interest in relatively few patented inventions at the end of 1962, the holdings of that agency will certainly rise substantially in the future. In the period from 1958 to 1963, NASA jumped to a place second only to the Department of Defense in its research and development budget. Of the patents NASA currently has an interest in, about 70 per cent are owned by the government. Most of the patents licensed

to NASA arose from R & D activities of a predecessor agency, the National Advisory Committee for Aeronautics.

The Kinds of Patents

The patents coming out of the research and development financed by the federal government in the postwar period could be grouped or classified in several ways. How this should be done depends on the purposes of inquiry. When attention focuses on the spillover or fallout effects of federal R & D, inventions can be put into two groups—those not yet commercially used and those actually being so used. These last, in turn, can be further subdivided into the more and into the less valuable. Another way of classifying the patents is to separate them according to source, i.e., whether they come from government employees or from government contractors. We discuss the sources later in this article. In another study we plan to analyze the sources of the patents in the R & D activities of the largest government contractors.

Patent Office Classes

Here we first classify the patents by their fields of technology. The system of classification is that of the Patent Office. With over 300 "Main Classes" and over 57,000 "Subclasses"in 1964, that system is designed to facilitate the search of prior art. For this reason and because it is exclusively technical, the Patent Office's system is not well adapted to answer questions such as ours: What fields of technology have the most inventions from government-financed R & D? For example, inventions that we should like to group under "aviation" are scattered over many Main Classes of the system of classification of the Patent Office. Inventions coming within the Patent Office Class 244—Aeronautics—are limited to machines and structures adapted to be sustained by air or to be propelled through the air. Propulsion systems and electronic guidance devices are other kinds of inventions made by the aircraft and missiles industry; they fall into other Patent Office Classes. The Patent Office looks upon firearms and paper napkin holders with the same view, because both are devices for dispensing materials.

Despite the difficulties of using the Patent Office Classification system for purposes other than the one it was designed for, grouping of government R & D patents by this system does show that most of the inventions are defense-oriented. Table 4 shows the percentage distribution of titles and licenses falling into the four main Patent Exam-

TABLE 4

PERCENTAGES OF PATENTS FROM FEDERALLY FINANCED R & D IN PATENT OFFICE EXAMINING OPERATION DIVISIONS

Title of Examining Operation Division	Percentage of Titles[a]	Percentage of Licenses[b]
Chemical	30.9	7.9
Electrical	39.7	50.1
Mechanical Engineering	20.1	22.5
General Engineering and Industrial Arts	9.3	19.5
Total	100.0	100.0

[a] The percentage distribution includes the first 20 most important classes, by numbers of patents, of all patents assigned to the government between 1955 and 1962. The format of the *Index of Patents* precludes classification before 1955.

[b] The percentage distribution includes the first 20 most important classes, by numbers of patents, of groups of randomly sampled patents that were licensed to the government between 1946 and 1962. The sizes of the samples are: the Atomic Energy Commission, 233 patents; the Department of the Army, 268 patents; the Department of the Navy, 270 patents; and the Department of the Air Force, 267 patents. The *Index of Patents* lists patents by assignee but does not separate those licensed to the government from others.

Source: Compiled from data in the Assignment Branch of the U. S. Patent Office, the *Index of Patents* of the U. S. Patent Office, and the *Official Gazette* of the U. S. Patent Office.

ining Operation Divisions. These Divisions form the broadest technical classification. There are thirty-two Examining Groups under the four Examining Operation Divisions. The 300 Main Classes, with their 57,000 Subclasses, come under the thirty-two Examining Groups.

One of the thirty-two Examining Groups deserves particular attention. That is Group 220—"Security." About one-third of all titles and licenses are in this group, which comes under the general supervision of the Electrical Examing Operation Division. Almost all patent applications covering security-classified inventions are reviewed by Patent Office officials assigned to Group 220. The inventions can cover chemical, electrical, or mechanical technologies. The Patent Office established the Security Group to facilitate the handling and examination of security-classified inventions. In Table 4, however, the main patent classes comprising the 220 Security Group were put into their original groups.[25] Therefore, the Electrical Examining Group appearing in Table 4 does not include the 220 Security Group as such.

As the Table shows, the largest proportion of patents arising from government-financed R & D embody electrical technology. Of these,

[25] Mr. Richard A. Wahl, Director, Mechanical Engineering Examining Operation, kindly helped us with patent classification matters, particularly those associated with the 220 Security Group.

the majority of inventions fall within the Radiation and Instrument Group (Number 260). Other sizable blocks of patents are in the Information Transmission Group (Number 230), the Electric Component Systems and Devices Group (Number 250), and the Power Group (Number 210).

Within the Mechanical Engineering Examination Operation Division, the Material or Article Handling and Dispensing Group (Number 310) and the Manufacturing and Assembling Articles Group (Number 330) have the most government R & D patents. After reclassification of the 220 Security Group, ordance, ammunication, and explosive devices are in Groups 310 and 330. In the Chemical Examining Operation Division, most inventions flowing from R & D sponsored by the Department of Defense and the Atomic Energy Commission fall within the General Chemistry Group (Number 110), and the High Polymer Chemistry Group (Number 140). The many government R & D patents covering technology on Nuclear Reactions and Systems are in the General Chemistry Group. The majority of food and beverage inventions flowing out of the R & D sponsored by the Department of Agriculture come within the Specialized Chemical Arts and Industries Group (Number 170). The Physics Group (Number 430) has the greatest number of government R & D patents coming under the control of the Engineering and Industrial Arts Examining Division.

Classification by Industry

Another way to classify the patents from government-financed R & D is by industry, using the definitions of the Standard Industrial Classification.[26] Designed mainly for the Census of Manufacturers, that classification makes it possible to compare patents as outputs with the inputs of federal spending on industry. Unfortunately, the industry expenditure data reported by the National Science Foundation are available only since 1956.

Table 5 gives the industrial classification of patents owned by and licensed to the government from 1946 to 1962. Notice that the first year in Table 5 is 1946, rather than 1945. The total number of titles for 1946-1962 can be looked upon as the government portfolio at the end of 1962 (See Table 2). In 1963, the Office of Technical Services of the Department of Commerce published a list of government-owned patents unexpired on December 31, 1961, arranged according

[26] *The Standard Industrial Classification Manual* is published by the Technical Committee on Industrial Classification, Office of Statistical Standards, Bureau of the Budget.

TABLE 5

STANDARD INDUSTRIAL CLASSIFICATION OF PATENTS FROM GOVERNMENT-FINANCED R & D
PERIOD 1946 TO 1962

Industry	Numbers			Percentages		
	Titles	Licenses	Total	Titles	Licenses	Total
Food and Kindred Products	418	[a]	418	3.1	[a]	1.1
Paper and Allied Products	60	[a]	60	0.4	[a]	0.2
Chemicals and Allied Products	2,574	1,834	4,408	18.9	7.2	11.2
Petroleum Refining and Extraction	79	285	364	0.6	1.1	0.9
Rubber Products	50	70	120	0.4	0.3	0.3
Primary Metals	365	243	608	2.7	1.0	1.6
Fabricated Metal Products	979	1,900	2,879	7.2	7.4	7.3
Machinery	1,134	3,952	5,086	8.3	15.5	13.0
Electrical and Communication Equipment	2,456	9,731	12,187	18.1	38.0	31.1
Motor Vehicles and Other Transportation Equipment	132	403	535	1.0	1.6	1.4
Aircraft and Missiles	789	2,082	2,871	5.8	8.1	7.3
Professional and Scientific Instruments	2,088	2,641	4,729	15.4	10.3	12.1
Ordnance and Accessories	2,038	1,806	3,844	15.0	7.1	9.8
Total Above	13,162	24,947	38,109	96.9	97.6	97.3
Other	422	625	1,047	3.1	2.4	2.7
TOTAL	13,584	25,572[b]	39,156	100.0	100.0	100.0

[a] Less than 0.1 per cent of all patents licensed to the Atomic Energy Commission and the Department of Defense.

[b] The total number of licenses shown above is less than that in Table 1. The total above includes only patents licensed to the Atomic Energy Commission and the Department of Defense.

Source: Compiled from data in the Assignment Branch of the U. S. Patent Office; the *Official Gazette* of the U. S. Patent Office; the Office of Technical Services, U. S. Department of Commerce; and the Standard Industrial Classification Manual, U. S. Bureau of the Budget.

to the Standard Industrial Classification.[27] Because some patents fall into more than one class, the total number of patents classified by OTS exceeds the total number of patents actually owned by the government at the end of 1961. The classification appearing in Table 5 is based on the same percentage distribution of patents in each industry as that obtained from the list published by OTS.

The classification of patents licensed to the government follows the description of inventions given in the *Official Gazette* of the U. S. Patent Office. The Office of Technical Services does not maintain

[27] U. S. Department of Commerce, *Index to the Patent Abstract Series: Government-Owned Inventions Available for License through December, 1961* (Washington, D. C., U. S. Government Printing Office, 1963).

records on patents licensed to the government. The classifications shown in the Table are inflated random samples of all patents licensed to the Atomic Energy Commission and to the Department of Defense between 1946 and 1962.[28] Because so few patents were licensed to other government agencies during that period, they were not classified and are not included in the totals.

It is not surprising that the largest proportion of total patents (31 per cent) belong to the electrical equipment and communication equipment industry. The electrical and communication equipment industry performs about one-fourth of all the federally financed R & D performed by industry. Compared with the proportion of federal R & D funds, about 50 per cent in recent years, the proportion of patents belonging to the aircraft and missiles industry is low (8 per cent). In part, this can be explained by lags between the time R & D is undertaken and the time when patents issue. Federally financed R & D in the aircraft and missiles industry has increased rapidly since the first Sputnik and the inception of NASA. The small proportion can also be explained by the fact that the development portion of R & D is high in this industry.

In contrast, the proportion of patents in the chemical and professional and scientific instruments industries is large compared with the proportion of federal funds going into these industries. Evidence from preliminary investigations suggests that the ratio of the numbers of patent applications to invention disclosures is higher in the field of chemistry than in other technologies.

Table 5 also shows some difference between the kinds of patents owned by the government and those licensed to it. The titles are more defense-oriented than the licenses. For example, 15 per cent of the titles are in the ordnance group, in contrast to 7 per cent of the licenses. Many of the chemical patents—19 per cent of the titles and 7 per cent of the licenses—are new developments in chemical warfare. Very few license-policy patents cover technology used by the food industry. Almost all of the patents employed in that industry arise from R & D sponsored by the Department of Agriculture. One of the most important exceptions to this are the inventions leading to the development and widespread use of TV dinners. These inventions came from R & D sponsored by the Department of the Army.

[28] The sizes of the samples are: the Atomic Energy Commission, 233 patents; the Department of the Army, 268 patents; the Department of the Navy, 270 patents; and the Department of the Air Force, 267 patents.

Sources

Patents on the inventions from federally financed research and development are issued to their inventors, who are either government employees[29] or employees of organizations receiving contracts or grants from the federal government. The government employees either assign title to the government or else retain title themselves, giving the government the usual irrevocable, nonexclusive, royalty-free, license. So far as we know, employees of business corporations, of universities, and of other research organizations always assign title to their employers or to the government. We do not know if this happens invariably. It seems possible that there must have been a few inventions of no interest or apparent value either to the contractors or to the government whose titles were allowed to remain with the employee-inventors. However this might be, we now group all of the patents as having two sources, government employees and contractors.

Table 6 presents the data. The footnote to the Table explains the sources of the few patents included in the column for contractors.

One-third of all the patented inventions from government-financed research and development were made by government employees. This proportion, however, has not been constant in the postwar period. In some years in the late 1940's, employees accounted for 40–50 per cent of all inventions. During the 1950's, the employees' share of the total declined from about 41 per cent to about 29 per cent.

These changes are roughly consistent with one of the major alterations in the pattern of federally financed R & D, namely, the increasing reliance on contract research. According to the National Science Foundation,[30] federal obligations for "intramural performance" in the fiscal year 1955 were 37 per cent of the total obligations for R & D. The fiscal year 1955 is the first for which such data are available. By the early 1960's, this percentage had fallen to about 20. Even so, the R & D activities performed in government-operated installations continued to grow rapidly—in fiscal 1963 they were about 2½ times larger, in dollar amount, than they were in fiscal 1955.[31]

Table 7 shows the sources of government-owned patents by major agencies for the period 1945-1962. Table 8 gives the data for the patents licensed to the government. The variations from one agency to another reflect the two influences—the patent practices of the agencies and the proportions of intramural and contract research.

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[29] An exception to this rule is the issue of certain patents from NASA's research to Mr. James E. Webb, the Administrator of NASA.

[30] *Federal Funds for Science XI*, 1963, p. 12.

[31] *Ibid.*

TABLE 6

EMPLOYEES AND CONTRACTORS AS SOURCES OF PATENTS FROM GOVERNMENT-FINANCED R & D 1945–1962

Calendar Years	Numbers of Patents (Titles and Licenses)		Percentages	
	Employees	Contractors[a]	Employees	Contractors[a]
1945	477	460	50.9	49.1
1946	511	1,022	33.3	66.7
1947	521	1,000	34.2	65.8
1948	737	1,053	41.2	58.8
1949	999	1,218	45.1	54.9
1950	975	1,372	41.5	58.5
1951	835	1,338	38.4	61.6
1952	773	1,220	38.8	61.2
1953	608	1,268	32.4	67.6
1954	436	1,100	28.4	71.6
1955	567	1,204	32.0	68.0
1956	749	1,743	30.0	70.0
1957	726	1,729	29.6	70.4
1958	939	2,033	31.6	68.4
1959	935	2,335	28.6	71.4
1960	903	2,224	28.9	71.1
1961	967	2,498	27.9	72.1
1962	960	2,129	31.1	68.9
TOTAL	13,618	26,946	33.6	66.4

[a] Nearly all of the patents in this column are from contractors. A few are from grantees, from donors, from purchases (of patents or of licenses) by the government, and from international agreements.

Source: Compiled from data in the Assignment Branch, U. S. Patent Office.

TABLE 7

SOURCES OF GOVERNMENT-OWNED R & D PATENTS, BY AGENCY, FOR THE PERIOD 1945-1962

Agency	Numbers of Patents		Percentages	
	Employees	Contractors[a]	Employees	Contractors
Agriculture	1,263	34	97.4	2.6
Atomic Energy Commission	28	3,022	0.9	99.1
Department of Defense	3,509	5,158	39.7	60.3
Army	1,820	1,709	51.6	48.4
Navy	1,347	2,887	31.8	68.2
Air Force	342	562	37.8	62.2
All Other Agencies[b]	489	168	74.4	25.6
Total	5,289	8,382	32.7	67.3

[a] Nearly all of the patents in this column are from contractors. A few are from grantees, from donors, from purchases (of patents and licenses) by the government, and from international agreements.

[b] The other agencies with small, though significant, patent activities are Commerce, Interior, and National Aeronautics and Space Administration.

Source: Compiled from data in the Assignment Branch, U. S. Patent Office.

TABLE 8

SOURCES OF PATENTS LICENSED TO THE GOVERNMENT, BY MAJOR AGENCIES, FOR THE PERIOD 1945-1962

Agency	Numbers of Patents		Percentages	
	Employees	Contractors[a]	Employees	Contractors
Agriculture	109	6	94.8	5.2
Atomic Energy Commission	40	1,420	2.7	97.3
Department of Defense	7,991	16,925	32.1	67.9
Army	2,994	5,165	36.7	63.3
Navy	4,257	5,810	42.3	57.7
Air Force	740	5,950	11.1	88.9
All Other Agencies[b]	189	213	47.0	53.0
Total	8,329	18,564	31.0	69.0

[a] Nearly all of the patents in this column are from contractors. A few are from grantees, from donors, from purchases (of patents and licenses) by the government, and from international agreements.

[b] The other agencies with small, though significant, patent activities are Commerce, Interior, and National Aeronautics and Space Administration.

Source: Compiled from data in the Assignment Branch, U. S. Patent Office.

CONCLUSION

We have sketched the picture of the functioning of the title and the license policies in the conduct of research and development financed by the federal government to the end of 1962. The strokes of our brush are broad, but they are also, we are certain, accurate. What remains is to fill in detail.

This article is a report on part of a continuing study of the inventions flowing from government-financed research and development. Except for the data we present, little is now known about the more than 8,000 patents owned by government employees. Do they still own all of them? Or have some been assigned to business corporations? What is the rate of use of these inventions? How does this rate compare with the rates of utilization of the government-owned inventions and of the industry-owned license-policy inventions? What amounts of government-financed R & D went into the creation of the employee-owned inventions? In research still to be undertaken, we hope to give answers to these and to related questions.

Continued examination of the functioning of the title policy will center on the activities of the large patent departments of the federal government. We have already learned that all but one of these departments file patent applications on only a part of the inventions disclosed to them. We intend to probe into this matter and gain insight into the inventive activity stimulated by the federal govern-

ment. The President's Memorandum of October 10, 1963, speaks of the (contract) patented inventions as "a valuable national resource." What of the many thousands of inventions that are not patented? Not all of these, we tentatively believe, are unpatentable. Are they too a resource? We do not now know.

Deeper investigation of the operation of the license policy can bring to light the numbers of patents acquired in the postwar period by the largest R & D contractors—patents both from company-financed and from government-financed R & D. Still another line of inquiry is into the facts, rather than into the opinions about, of the concentration of patent holdings in large corporations in the postwar period.

Priority in Research and Development

JOHN H. RUBEL*

SUMMARY

PRIORITIES IS DEFINED as the making of choices among alternatives for the allocation of resources. It is pointed out that government decisions affecting the availability of research and development resources are, in effect, priority decisions not only from the government's viewpoint, but from the standpoint of private employers who receive no support from the government. The manner in which these priority decisions affect the work that people choose to do, their education, the costs of employing scientists and engineers, and even other undertakings by the government itself is touched upon. Some misconceptions about the value of research and development "in general" are outlined. The disequilibrium of risks as between research and development investments and capitalization for space and military undertakings, on the one hand, and privately supported undertakings, on the other, is elaborated. It is concluded that incentives must be created which will stimulate private investments and private exploitation of the results of investments in research and development undertakings aimed at non-space, non-military objectives. A principal point of focus needs to be that of overcoming the imbalance in risks between development undertakings supported by the government, on the one hand, and those supported by private sources, on the other.

WHEN RESOURCES ARE LIMITED, one must make choices. Business management must decide whether to spend money for research or management must decide whether to spend money for research or development undertakings or for something else. Technical managers

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must choose among technical alternatives, deciding whether to spend money and resources on this or that effort.

There are no pure choices. Business choices imply technical judgments or at least guesses. The technical choices are really means to business ends. The climate for such decisions is affected by Federal expenditures for R&D, by the way the government buys R&D, and by government policies concerning related matters such as patents. All these affect the availability of scientific and technological resources to industry and the attractiveness of R&D investments from a business point of view.

It is the purpose of this discussion to outline the manner in which the marketplace for research and development undertakings has been altered by decisions taken on the government side since World War II and especially during the past decade. I will also outline some ways in which the climate for private decision making has been altered by government actions. It will be my thesis that the aggregate of large-scale government support for research programs and development projects has had both good and bad effects on American industry and our national economy; that the bad effects have begun to outweigh the good in many areas; and that special mechanisms are required to cut down the increasing share of research and development resources commanded by the government while creating incentives that will encourage private industry to make use of these resources in ways that promote industrial and national development and growth.

The Meaning of Priorities

The assignment of priorities means making choices among alternatives for the allocation of resources. It is not necessary to assign priorities when resources are abundant. It is impossible to assign them when the choices are being made between alternatives that utilize different or unrelated resources.

The assignment of priorities can mean different things. To say that one project has priority over another may mean that it is to be kept on schedule even if the other one has to be set back. Priority in this sense means that you have decided to allocate funds which are not sufficient for the timely accomplishment of both projects so as to insure the timely accomplishment of one.

Priority sometimes means doing one thing before another. In this case, the project with priority proceeds at a maximum rate while the rate of the other one is zero, even though the decision has been taken to proceed with it eventually.

In some cases, priority can imply the indefinite postponement of undertakings for which no resources at all are available. The production of automobiles for civilian use was indefinitely postponed during World War II while all available resources were devoted to the manufacture of military vehicles. It is no longer necessary to assign priorities of any kind to the production of civilian vis-a-vis military vehicles. This would not be true even in peacetime if our human, material and other productive resources were not large enough to fulfill both requirements at the same time. R&D resources are being allocated—priority decisions are being made—by government actions which are not intended to have that effect, but do.

Resources for Research and Development

Research is performed by scientists and development projects are led by engineers or scientists. The best research is usually done by the best scientists. The most inventive, ingenious, economical and useful developments and innovations usually come almost by definition from the best engineers. You can usually hire more factory workers and you can also hire more research and development workers, too. What you cannot do is create talented scientists and talented, trained engineers overnight.

Of course, many resources other than human resources are necessary to do research or to accomplish development undertakings. Scientists and engineers require laboratories, special instruments, tools, and all kinds of supporting services, including the help of skilled personnel—machinists, draftsmen, and technicians. There are limits on these resources, too, but they are much more readily acquired or expanded when they are needed by spending the money for them. The supply of the highest skills and talents is much smaller and less flexible. Increasing the total amount of money spent in the United States for scientists and engineers does not increase the supply of good ones over the short term and may not even have very much effect, if any, over the long term.

During the past fifteen or twenty years and particularly during the last ten, Federal agencies have asked Congress for increasing amounts of money for research and development and they have generally received practically everything they asked for. In fact, on several occasions, Congress has appropriated additional sums for favored projects which have not even been expended by the agencies for which they were intended. The rate at which funds have been appropriated and

the manner in which most have been expended has led to escalating costs and the requirement for still further expenditures.

All this and much more is well known and I hope I will be excused for mentioning it. Still, it is important that we remind ourselves that 70% of the funds expended for research programs and development projects in America today are furnished by the government. The government has increased its annual expenditures for research and development at an average rate which is about equal to or slightly greater than the cost of hiring most of the research and development scientists and engineers working in new and advancing fields who have been added to the labor pool during the last decade. Sometimes appropriations and expenditures have gone up much faster than the available manpower resources. The effect in the mid-fifties was to about double the cost of performing a technical man year of work in the United States.

I believe that most observers will agree that we long ago arrived at the point at which the totality of research programs and development projects in America was resource-limited. From a governmental point of view this means, I believe, that nearly every decision made by a government agency with respect to research and development undertakings is, indeed, a priority decision. Every decision to proceed with a program or a project takes trained, experienced scientists and engineers who would otherwise be working on something else. In short, every "yes" decision is also a "no" decision. From the viewpoint of the private sector it means that few companies can afford to bid up the price of scientists and engineers in competition with the government. It means that the privately supported share is going down.

This could change swiftly if Federal spending stabilized or dropped. Either way, the aggregate of government decisions which places the Federal Government in the position of controlling directly or indirectly the work of more than two out of all the scientists and engineers in America engaged in research programs or development projects itself amounts to a priority decision. Government decisions up or down, "in the large" or project by project, affect a national resource of critical importance to all citizens, and particularly to the non-space, non-defense, sector of American industry. Even now, a sharp increase of 10% in Federal demand for R&D would equate to a 25% drop in privately supported R&D: or to inflation of R&D costs. The reverse is equally true. Clearly, every private R&D decision is bound to be affected by the potential instabilities of such a market.

Some Effects on the Non-Space, Non-Defense Sector

Private taxes support public efforts. Research and development paid for by the government are financed by corporate and other taxes. The money that is collected is no longer available for private investment. Private individuals and corporations can no longer decide how to spend it. The important decisions are made by the comparatively few Federal officials charged with responsibility for decisions in this area.

Undoubtedly, there are many research programs and some development projects which need to be supported by the Federal Government because they are beyond the financial or organizing capacity of any single company or any combination of industrial concerns. Some undertakings should be supported by the government because it would be inappropriate for private industry to do so, or because they are properly paid for by the public sector. Thus, for example, the government supports important and basic research relevant to public health, and properly accepts responsibility for developments peculiarly necessary for national defense.

The fact remains that private investments in industrial research programs and development projects are intended by the companies that pay for them to create new processes, new products, and thus to increase productivity, open new markets and through these and other measures, to improve and expand the company's markets and financial position. The aggregate of such actions, if successful, is bound to lead to economic growth and vitality on a national scale. Government supported projects are properly aimed at quite different objectives and any benefits they may bestow on the non-space, non-defense sector of the economy are likely to be accidental, unplanned, and very small in relationship to the resources that were devoted to them in the first place.

Of course, the bulk of private expenditures for research and development is accomplished through privately owned companies or divisions of companies which are almost entirely dependent upon government contracts for their continued existence. In such organizations, practically all research programs and development projects are undertaken as a business, not as a business expense. The management of these activities naturally adopts an attitude toward research and development undertakings that is suited to such a business environment. Since some of our largest and most important companies are engaged in such undertakings, their practices and attitudes are important to the entire business community and, indeed, to the nation. Perhaps

most important of all the effects to which I allude is a certain erosion of business judgment or at least of management practice. One finds an increasing number of managers, especially technical managers, who are willing and even anxious to sell what they would never buy. Naturally, all of us like to survive, but survival in this environment sometimes exacts a certain price in terms of professionalism and attention to first things first. It seems to me that a substantial part of this price is paid by the nation.

Large-scale government development projects are often endowed with a certain notoriety or prestige that creates a new environmental milieu for the evolution of science and technology in America. Among the important indirect effects is the glamour and excitement associated with large-scale undertakings. There are probably many who think this is a false glamour and a false excitement. But there are many others who do not think so, and among them are a substantial number of our best young scientists and engineers.

The best minds and the most creative people try to group themselves along the frontiers of science and technology which seem to spearhead new directions. To the extent that government supported projects are supported on a scale entirely beyond the capacity of the private sector to support and to the extent that such large-scale projects seem to represent the newest and the best, good people are attracted away from other opportunities to work on these. It is not just a question of salaries or of glamour per se.

As I have pointed out in earlier papers, such projects are technology—or performance—limited. Few or none of the objectives or constraints that govern innovation for the private sector apply. These projects are a vehicle—really, *the* vehicle in our society—for doing what can be done, not just what it pays to do. The longer they go on and the more of them we have, the more ramified, specialized and far-out become the new technologies for the next project that draws on those that went before. They are a technologist's dream.

The very existence of such programs and projects affects not only the interests, but the training, of scientists and engineers. To a substantial extent, the marketplace created by large-scale government developments has stimulated and supported good people taking advanced training in useful subjects. I doubt very much, however, that most industrial managers have found that it is easier than it used to be to hire young scientists and engineers who are well prepared, both psychologically and technically, to address themselves to the problems of applying science and engineering to the solution of industrially and economically valuable and viable innovations.

Federal agencies are endeavoring to sponsor and hence, at least to a degree, to influence the supply and the preparation of scientists and engineers, especially at the graduate level. If such programs are successful, as they are expected to be, they will surely affect the availability of scientific and engineering manpower resources for work in the public sector: that is, on government supported projects aimed at governmental objectives. How these efforts will affect the manpower input to the private sector, only time will tell. Maybe the payoff will be enormous and the private sector will be helped and stimulated beyond expectation or belief. It is sure to be affected. Here, too, governmental decision affects private choice.

The Determination of Public Choices and Priorities

Public officials have been concerned with the impact of governmental decisions on the availability of R&D resources from time to time for many years. Some Defense Department officials were very conscious of the relationship between the Defense budget and the availability of scientists and engineers fifteen years ago. The Defense Department of 1950 refused to approve a research and development budget greater than about $500 million on the grounds that any larger appropriation than that would simply inflate costs or disrupt the pattern of research and development undertakings in the country. This policy, however well intended, did not have the desired effect. Actual expenditures quickly outstripped program authorization in spite of policies. As often as not, major portions of next year's budget were the accepted consequence of last year's expenditures and commitments.

The question of the availability of scientists and engineers was very much discussed in the middle 50's. We heard a great deal about "shortage" of scientists and engineers. I remember a well-applauded speech delivered by Trevor Gardner during that period in which he asserted that there were no practical limits on the availability of scientists and engineers and no shortage of scientists and engineers that would not be corrected by the appropriation of additional funds. The Defense budget did, in fact, increase by a factor of approximately 10 in the decade 1950-1960. At the same time, the number of scientists and engineers approximately doubled. That is the rate at which scientists and engineers have been increasing in our society for a long time. Except for the spurt in graduates who made up the World War II gap, the total supply of scientists/engineers seemed to grow according to about the same pattern as in the past. There was and is no good correlation between Federal expenditures and total supply.

The net effect of these trends was to approximately double the cost per technical man year measured in fixed dollars and to increase the relative proportion of scientists and engineers working on defense supported projects. The Defense budget for research and development has gone up in every one of the last seventeen years except for this one. In the last five years, the NASA budget, which is largely for research and development undertakings, has increased by about fifteen times. It was approximately $300 million in fiscal year 1959. It will be about $5.3 billion in fiscal year 1964.

This very rapid rise of the NASA budget and the cumulative total of government supported research and development has attracted increasing notice. Fifteen percent of the total Federal budget is expended for research and development. That sum is far more than the budget for any department of the government except the Defense Department. Because it is very large, some legislators have been led to criticize at least some of the expenditures that are included in it. Senator Fulbright has been particularly specific and outspoken in this regard. He and others have suggested that our country could better spend its money for education, public health, transportation facilities and the like, which are traditionally responsibilities of the public sector and for which our country has a clear and present requirement.

The trouble is that our government does not choose between research and development, on the one hand, and other things such as public health, on the other. We do not, or at least we have not in the past chosen between space programs, for example, and the improvement of public education. The choices that have been made are principally between one space program and another or between a particular space undertaking and none at all.

Furthermore, it is increasingly clear that the dollars expended by the government really command resources and assets that are not interchangeable. Scientists and engineers do not build school buildings. Moreover, since it is always easier to start projects than it is to terminate them, however desirable termination might be from a national point of view, our government usually finds it difficult to cut down in one sector in order to build up another. The momentum behind large-scale undertakings, especially large-scale development projects, tends to carry them forward. It is difficult to stop them, and virtually impossible to exchange them for something in another domain. The more they soak up, the harder it is to start anything new in another sector without raising the total budget and all the questioning and opposition that entails.

In addition, all projects tend to expand. This is true even in the private sector where development undertakings represent an important business expense that can have a serious effect on the financial posture of a company if they miscarry. But projects supported by the government, particularly large-scale development projects supported on CPFF contracts, not only tend to expand but, in almost every instance of any importance, have expanded by enormous amounts. Stated differently, the Government almost always must spend money at an increasing rate in order to remain on schedule and to meet the project goals it has set for itself and, in many cases, advertised to the public.

It is precisely this *rate* of expenditure for research and development that most critically affects the national market for research and development and the availability and allocation of scientific and engineering manpower resources. It may be interesting to know that the Federal Government has spent more than $50 billion for research and development undertakings in the last ten years. It is much more significant to know that the rate of Federal expenditures corresponds to Federal control, direct or indirect, over 70% of the expenditures for research and development in the United States. Sometimes it is argued that if you increase the rate of expenditure on a particular project, it will be done sooner and therefore will cost less money. I suppose that this argument might have some validity if projects ended sharply and the scientists and engineers and others disbanded and quickly found their place working on other projects. Experience shows that it does not work that way. The chief effect of increasing the rate of expenditure is either to command the services of additional scientists and engineers devoted to work in the public sector or to inflate the price for scientists and engineers throughout the country, or something of both.

Nevertheless, the net effect of the largely independent actions of separate governmental agencies has been to increase the total Federal budget for the support of research and development. Some mechanisms have been devised to review, but none have proved adequate to regulate budget requests by the Executive Branch or appropriations by the Congress with a view to priorities in a national sense.

How These and Other Factors Affect Private Choices

If R&D is so important to the private sector* and so much affected by actions in the public sector, why has the government failed to ad-

* "Private sector" means non-space, non-defense undertakings by business organizations designed to make profits for the owners.

dress itself to the question of priorities? If it is true that the growing rate at which the government supports R&D is actually or potentially harmful to the performance of research programs and development projects supported with private funds aimed at private goals, why hasn't the government, either within the Executive or the Legislative branch, articulated a policy which truly reflects the public interest?

There are many reasons. To begin with, the connection between research and development, on the one hand, and economic or industrial growth, on the other, has not been and probably cannot be established in general terms. Nobody can really say, in general, how much a dollar's worth of privately supported research and development is worth in terms of company sales or economic activity. Some companies expect $10 of sales for every dollar of what they call "R&D." Others expect much more, perhaps ten times more.

I have estimated that those firms which account for about 60% of all non-governmental industrial sales account for approximately 80-90% of all privately funded research and development. It amounts to about $5 billion per year for R&D; the sales of the companies are about $150 billion. If you really believe that there is a one-to-one connection between R&D expenditures and sales, you could then argue that every billion dollars of R&D in the private sector will generate approximately $30 billion in sales that contribute to GNP. Since the Federal Government is spending $15 billion a year on R&D, you might then argue that if all that effort were being expended in the private sector, you would develop sales amounting to nearly $500 billion a year. Or—putting it another way—manufacturing contributes approximately 30% of our Gross National Product. The Federal Government spends three times as much for R&D as private industry does. Therefore, if private industry hired all the scientists and engineers, you ought to double the Gross National Product.

I am confident that nobody will find this kind of reasoning even slightly convincing. But on the other hand, how long would American industry stay ahead if it stopped supporting R&D? Has some law of supply and demand for long-term investment determined the economically correct amount of privately supported R&D? Could it be that any less than we support right now would be too little and any more would be too much? That conclusion would be equivalent to saying that the private sector needs and can economically use only 30% of the nation's scientific and engineering capacity for R&D; that the rest is available for defense, space, or anything else the government wants

to use it for; and that even though only a fraction of such government programs are aimed at objectives that are intended to benefit the private sector by creating new products and processes, the private sector could not economically benefit if such efforts were directed at private goals under private sponsorship. I doubt that, too.

The trouble is that "R&D" is a singular phrase that comprises a double abstraction. Research is not development, and development is not research. Furthermore, although it is sometimes useful to talk about "research" or "development" as if these abstractions had some sort of independent existence, the fact is that when you support a research undertaking, you are supporting scientists in the laboratory. When the Federal Government or a private company pays for a development project, it pays for scientists and engineers working in the laboratory, at drawing boards, and in the field where equipment is tested. It really makes no more sense to ask whether R&D is a boon or a bane to industry than to ask whether industry is a boon or a bane to R&D. Research programs and development projects are viable and can be understood and decided upon only in the context in which they are conceived and supported. It was a great boon to the General Electric Company and, for that matter, to the United States, to provide the facilities and support of men who—like Langmuir, Whitney, Coolidge—-brought the ductile tungsten gas-filled light bulb into existence. That investment in research investigations and in development specifically aimed at the creation of that product paid off enormously. So have many others. But many other attempts have failed and many investigators have been disappointing or disappointed. In short, R&D are what scientists and engineers do. R&D per se "is not a thing at all."

I think there is another consideration closely related to these. The government has sponsored projects that have met with spectacular success during the past fifteen or twenty years. Most laymen have been surprised by many of the spectacular results that have been achieved, one after another. Nearly everyone in business today can remember the explosion of the first atomic bomb, the first hydrogen device, the flight of the first jet airplane, the first supersonic flight, the first nuclear powered submarine, the first intercontinental ballistic missile, the first earth satellite, the orbiting of man in space, the first intercontinental television programs relayed by artificial satellite. These are only some of the highlights of only fifteen or twenty years of technological advance, all supported with public funds. Those who were skeptical about a particular project or who questioned its feasibility

or wisdom have often been proven wrong and swept aside with the rest of the unimaginative skeptics. The layman, the businessman, and indeed many technologists, have somewhat lost their self-confidence and their bearings in this stream of swift-flowing events. Arguments of considerable generality and persuasiveness, but little real substance rationalize the policies of government and industry alike. In a nutshell, they say:

> Science and R&D brought these miracles about in the past and science and R&D will bring new miracles in the future. Money and the power to use it wrought this alchemy, and will continue to. And where would we be without these miracles? Isn't their cost part of the price of membership in the 20th Century? Besides, think of the long-range benefits. Who can doubt that R&D is a good thing, seeing such results. Besides, it helps everyone—the companies with the business, and eventually the entire nation.

I recently read an analysis of future economic prospects which stated that R&D expenditures in America were not at the all-time high of between $15 and $20 billion and that the products represented by that expenditure would be reaching the production phase in a few years and would greatly stimulate the business and economic life of our nation. But $15 billion of that has no direct connection with commercial products or processes at all. This is only one of many examples one could cite of statements by private individuals and public officials which indicate their belief that R&D "in general" is a good thing for America and a good thing for the economy.

Misconceptions of this sort are fairly common and correspondingly respectable. It was always difficult to identify the best ideas and to recognize the best work. Now it is more difficult than ever to do that and perhaps equally difficult to identify nonsense, not only at the conceptual but at the technical level. The very scope of the projects and of the totality of the R&D efforts supported by the Federal Government practically insures that a large number of mediocre and even marginal undertakings will be supported. Some of them are recognized as such, but many are not. Nobody in this day and age wants to be accused of a lack of imagination or a failure to appreciate the scientific and technological miracles he is supposed to see on every side. Endemic emperor-clothesmanship is a direct by-product. One listens to vivid descriptions in the present tense of things that are not there and never can be until after a while the eyes glaze over and you see the fine golden threads that you had been too blind to see before.

All this makes it easier for the government decision maker to say yes rather than no. It makes it more difficult for the businessman to evaluate the decisions his government makes or to decide what decisions he would rather have made or to be fully confident in his own judgment about the support of research programs or development projects by his own firm.

And, finally, those decision makers who might have faced up to the question of priorities at the national level will often naturally incline not to do so. Alvin Weinberg has stated this better than I could. "Most of us like to be loved; we hate to make choices since a real choice alienates the party that loses. If one is rich—more accurately, if one is growing richer—choices can be avoided. Every administrator knows his job is obviously unpleasant only when his budget has been cut. Thus, the urgency for making scientific or institutional choices has, in the main, been ignored both in the United States and elsewhere because the science budget has been expanding so rapidly: . . ."

Additional Factors Affecting Priorities in the Private Sector

The industrial manager trying to decide how and to what extent to support research programs or development projects in his company is influenced by all of the factors I have cited before, most of which stem from the very large and until now the growing role of the Federal Government in supporting research and development in the United States. The industrial manager may be able to sell R&D as a product or a service rather than to support it as a business expense. He may partly believe that the R&D he sells will be just about as good for his company and for his business future as the R&D he supports with corporate funds. Or, he may feel that he simply cannot afford the risks of investing in research and development undertakings, particularly in view of the benefit he hopes to get from the research and development supported by the government or by other concerns.

I think that perhaps the element of potential risk is the greatest single factor affecting corporate decisions today. In many fields, technology has progressed so far that incremental benefits are likely to be very small in relation to R&D expenditures. The increasing complexity of products and processes requires increasing complexity of research and development undertakings intended to improve or extend them. The cost is greater and the risks correspondingly higher.

Moreover, if the government enters the R&D marketplace as a competitor or at least as a parallel source of support for research and development undertakings, an important source of business and eco-

nomic development may be taken away. The government has certain rights to the knowledge and devices it has paid for. To the extent that the government takes away or independently generates technology, it will frequently, if not always, remove a potential base for the expansion of private business enterprise.

And, as we have specified before, a company may be faced with the choice of selling or attempting to sell research and development services to the government or of supporting research and development as a business expense. The company is nearly certain of making a modest profit on the R&D business sold to the government. It is increasingly uncertain that it will realize a payoff from its own investments in research programs or development projects. This disequilibrium of risk is growing. It is worsened to the extent that the government itself sponsors and acquires rights to technological developments which for that reason may have much less value to private enterprises which will lack the incentive to exploit them. Certainly the incentive for private firms to invest in R&D is not often increased if the government is paying for it anyway, or is likely to.

If anyone doubts that these considerations are real and operative, let him attend a few bidders' briefings held by the NASA or one of the military departments. Now, as much or more than ever before, companies are flocking to Washingtotn, to Houston, to Dayton, to Inglewood. They are not bidding on or hoping to sell products they have developed for which they hold the proprietary rights. The government doesn't buy many products like that, and is likely to stimulate competition by paying for the development of a competing product or technique if yours seems to have much value. No, the companies are trying to sell R&D services to the government—studies, research, development—and, hopefully, the production that may stem from these, if there is any. Most important, the number of bidders is not going down, even though some budgets are—the number is increasing, and a major task of government is to deal fairly with American industry without saddling industry and government alike with a top-heavy burden of proposal expense and bidding activity. In short, the thrust is toward greater efforts to sell R&D, to make a business out of it. There is no corresponding thrust to invest in R&D for private purposes.

Conclusions

It seems to me that two important conclusions may be drawn from this discussion. First, the rate at which the Federal Government supports research and development in the United States has a great im-

pact on the apportionment of limited resources for research and development undertakings and, hence, an important impact on the possibilities that are open to industrial managements, and their relative attractiveness. The priorities that will be perceived by private managements will heavily depend upon priorities as they are perceived by government administrators and by the Congress. Perhaps the most useful trend would be one which would at least stabilize the rate at which the Federal Government levies a demand upon research and development resources.

But in addition, incentives must be created which will stimulate private investment and the private exploitation of the new knowledge, the new processes, and the new products which can stem from the sponsorship of research and development undertakings. No private company can compete with the Federal Government. For this reason, the government should not support the development of technologies which, if they are supported by private industry, can serve as a basis for the creation of new wealth and economic activity. And at the same time, the government needs to take actions which will redress the disequilibrium of risk that exists between research and development that is sold to the government as a business, and research and development undertakings that are supported by private concerns.

There are a number of ways in which this disequilibrium could be corrected. Now it is possible to earn a profit which averages about 5% on research and development projects performed for the government under contract.

If any significant amount of special purpose equipment is necessary in order to capitalize on the results of the research and development work and convert it into production items the government is likely to pay the major share of those investment costs. The customer that will buy the finished product will pay for its development and practically all the capital risks involved in its fabrication. Precisely the reverse is the case for non-space, non-defense projects undertaken with private funds for private ends. The bigger the R&D project, the more it costs. After the R&D come the investment costs which may run to many times the cost of research and development per se. None of those costs and none of those risks were undertaken by the customer and it can turn out that there isn't any customer. Many incentives have been considered that might partially redress this dramatic disequilibrium of risks as between government supported undertakings on the one hand, and privately supported undertakings on the other. Some have suggested special tax deductions for research

and development expenditures. Others have suggested rapid write-offs or even the privilege of expensing rather than capitalizing the capital investments in clearly innovative ventures. Proposals have been advanced for special kinds of risks insuring or risk bearing financial schemes and institutions. Nearly every idea that is advanced is an old idea. Nearly every idea has flaws and critics who are opposed to it. Typically, nearly every idea involves some kind of federal action which is fitting since the basic problem concerns the allocation of resources, particularly research and development resources, and it arises in the first place because of the dominant role played by the government affecting the character of the marketplace for these resources and decisions that affect their allocation in every segment of our economical life.

Regardless of the objections that may be raised to any particular scheme for altering the trends we have noted, the basic principle remains.

We need to find ways to increase incentives for private investment in privately sponsored development undertakings aimed at private goals. We need to redress the imbalance in risk between development undertakings supported by the government, on the one hand, and those supported by private sources, on the other. We need to turn back the trend toward taxing private citizens and private corporations in order to disperse funds from Federal agencies to accomplish work in technical fields which take away an important element of proprietorship from business concerns which might otherwise invest those funds in sources of new economic wealth and industrial activity. We need to redress the imbalance between R&D as a business and R&D as a business expense: that is the key to redressing the imbalance of R&D effort. Once this priority has been made and implemented, managements everywhere will work out their own priorities, priorities aimed at new markets, lower costs, new products and profits that create new demand and new investment. That is how science and technology can best be harnessed by the private sector for economic growth and development.

STUDENT PAPERS

By making available student papers, students will receive an incentive and our readers will appreciate the evidence of scholarly development in the fields of interest. These papers are carefully reviewed by the Editorial Committee and other specialists, and helpful suggestions are made to the students as part of the educational function of the *Journal*. The Research Institute invites educational and research institutions to submit informative student manuscripts on the patent, trademark, copyright, and related systems.

Protecting Government Contractors' Unpatented Proprietary Information

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SUMMARY

WITH RESPECT TO GOVERNMENT CONTRACTS, special difficulties arise as to the protection of unpatented proprietary information. These difficulties are explored from the opposing viewpoints of:

(1) those who seek greater protection of unpatented proprietary information, and
(2) those who seek a limited protection of unpatented proprietary information.

The scanty case law is analyzed with the observation of a possible trend of greater protection for unpatented proprietary information disclosed to the government. The approach of one seeking to protect proprietary rights should vary with the type of information. Where possible, the best approach is to seek patent or copyright protection of the information sought to be protected. Even if patentability is doubtful, it is desirable to define the subject matter sought to be protected in the form of a patent application, because it is easier to assert rights in a more or less accurately defined package of information than

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it is to extract the information desired to be protected from a writing not drafted with protection as a goal. If defining the information sought to be protected in conventional proprietary forms is not possible, it is best to avoid drawing attention to the fact that it is propritary because:

(1) it may be incapable of private ownership;
(2) policing trade secrets is expensive; and
(3) competitors may find it difficult to uncover unpatented proprietary information if it is not "flagged" as such.

THE FEDERAL GOVERNMENT has been engaged in an ever increasing involvement with scientific endeavors. The greater the expenditures of funds for these scientific endeavors, it seems, the more complex become the problems of intellectual property. As the problems become economically more important, greater effort is expended in establishing and retaining rights in the intellectual property.

UNPATENTED PROPRIETARY INFORMATION

A great deal has been written about technical information ranging from the relatively well articulated metes and bounds of patent protection to that information in which no property rights may be obtained, i.e., information in the public domain. The term "know-how" has been employed[1] in this area, under the definition:

> It may consist of inventions, processes, formulas, designs, skilled manual methods, preferred sequences of industrial operations learned from practical experience, etc., whether patentable or not. It may be evidenced by blueprints, specifications, drawings, technical manuals of procedure, etc. It almost invariably involves trade secrets. It may involve accumulated technical experience and skills which can best, or perhaps only, be communicated through the medium of personal services.

It will be apparent that this definition covers proprietary information within the realm of patent protection as well as unpatentable information. Presumably the author of the definition indicates that property rights exist in the information, since information within the public domain must be excluded. Information which is a part of the

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[1] Nash, John L., "The Concept of 'Property' in Know-how as a Growing Area of Industrial Property: Its Sale and Licensing," *PTC J. Res. & Ed.*, Vol. 6, No. 2, (Summer 1962), p. 289

public knowledge cannot be owned by private persons and no private rights may be asserted.[2]

Information contained in patents that have not yet expired is protected by the right of the patent owner to prevent others, including the government, from making, using and selling his claimed invention. Insofar as a patent discloses information outside the scope of the claims but not within the public domain, this information would be within the scope of the unpatented proprietary information discussed herein.

Since disclosure of unpatented proprietary information to the public usually destroys the property rights therein,[3] it might appear that the term "trade secrets" would be appropriate. Trade secrets are defined by the Restatement of Torts[4] as:

> § 757 b. *Definition of trade secret.* A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers.

However, this term usually suggests absolute secrecy or a very limited disclosure to others who have notice of the secrecy desired.[5] The term "trade secret" as defined in the Restatement of Torts is close to the scope of the information here intended, but the wide disclosure of the information within the government, as well as to outside contractors dealing with the government, suggests that there is little secrecy in the sense of limited disclosure to a small number of persons, even though the property rights remain because of the duty of good faith. Forman[6] suggests a distinction between "absolute trade secrets" and technical information disclosed "to the government for use by the government or by other contractors, provided that such use is only for *governmental purposes.*" (Emphasis present.) While both types of technical information are intended by the heading "unpatented proprietary information," Forman shows that trade secrets, under the traditional understanding of that term, is not here appropriate.

The Armed Services Procurement Regulation uses the term "Proprietary Data." "Data" is defined as "writings, sound recordings, pic-

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[2] *Associated Perfumers* v. *Ardelman,* 316 Mass. 176, 55 NE 2d 209 (1944).

[3] *Carver* v. *Harr et al.,* 132 N.J. Eq. 207, 27 A.2d 895 (1942).

[4] Restatement of the Law of Torts, *American Law Institute,* Volume 4, page 5 (1939).

[5] *E. I. du Pont de Nemours Powder Co.* vs. *Masland,* 244 U. S. 100, 102.

[6] H. I. Forman, "Proprietary Rights in Research and Development Contracting—A Case Study," 17 *Fed. B.J.* 298 (1957).

torial reproductions, drawings, or other graphic representations and works of any similar nature whether or not copyrighted. The term does not include financial reports, cost analyses, and other information incidental to a contract."[7] The term "proprietary data" is defined by ASPR[8] as "data providing information concerning the details of a contractor's secrets of manufacture, such as may be contained in but not limited to his manufacturing methods or processes, treatment and chemical composition of materials, plant layout and tooling, to the extent that such information is not disclosed by inspection or analysis of the product itself and to the extent that the contractor has protected such information from unrestricted use by others."

It will be noted that this definition does not include any information which can be ascertained by inspection and analysis of the product itself, i.e., by "reverse engineering." Westerman[9] indicates that the clause permitting reverse engineering has been vigorously supported in the past.

It is thus apparent that the term "unpatented proprietary information" covers an imprecisely limited area of intellectual property. Of equal difficulty with the problem of definition of the broad area covered is the problem arising from the fact that with each particular bit of information, it is difficult to determine if property rights do or should exist. What is proprietary to one person may be public knowledge to the next. Forman[10] cites an example in his case study where at a number of places throughout monthly reports there were stamped statements indicating that certain data was proprietary information of X Company. The project engineer for the government agency concerned considered the information to be technology which anyone working in the field would know and so questioned X Company as to the correctness of its designations of proprietary information. The X Company reviewed its report and submitted a new report in which some fifty items, said to be proprietary in the first issue of the report, were not listed in the second issue, and about fifty other items, not included in the first issue were said to be proprietary in the second group. This illustrates the difficulty in determining just what is proprietary information in a given case, even among engineers within the same company.

It can be seen that one of the major difficulties in this area is defi-

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[7] ASPR 9-201 (a) (1 July 1960).
[8] ASPR 9-201 (b) (1 July 1960).
[9] G. F. Westerman, "Data Provisions in Defense Contracts," *PTC J. Res. & Ed.*, Vol. 6, No. 2 (Summer 1962), p. 261.

nition—of subject matter, of terms, and of rights. Nash[11] indicates that there is "universally confused thinking regarding 'property' in know-how." However, courts recognize the property right in trade secrets, and have held that trade secrets are taxable, transferable, a proper trust res, pass by statutes of descent and distribution, become part of a bankrupt's estate and the like.[12]

It has been said that the apparent conflict between cases which recognize "property" in know-how and those turning upon the equitable basis for protection of the owner is in fact illusory.[13] Whether the rights are called equitable or property, protection is accorded trade secrets in the courts.

In Government Contracts

With government contracts, however, a modification of the general problems of protecting unpatented proprietary information exists for a number of reasons.

First, a much wider disclosure of the proprietary information is required by the government. The sheer size of the government demands that internally a number of people would be aware of the information disclosed in any given report. The old man-to-man disclosure in confidence of a secret is replaced by disclosure to an organization essentially nonsecretive in nature, except for classified security information. For example, inspection and evaluation of an item embodying unpatented proprietary information would ordinarily require a complete disclosure of the information to a number of people.

Assume that a seamless steel container to replace seamed containers embodies unpatented proprietary information. At the field activity where the evaluation is to take place, the people who actually do the work would know the "secret" of no seams. Their superiors who report to the main bureau office would probably know the information as would the one or probably more recipients in the bureau headquarters of the government agency concerned.

Next, the people who use the containers within the government may multiply immensely the number of people having the information. Those who maintain the containers may be still different people having knowledge of the "secret." Even with research and development

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[10] See note 6, *supra.*

[11] See note 1, *supra.*

[12] Barton, "A Study in the Law of Trade Secrets," 13 *U. of Cin. L. Rev.* 507, 532 (1939).

[13] See note 1, *supra.*

items, as opposed to production items, a great number of people within the government would necessarily know the unpatented proprietary information.

Beyond the internal governmental knowledge, the unpatented proprietary information is given to the owner's competitors when the government advertises for bids on seamless containers. The same drawings and specifications first supplied by the owner may well be used by the government in advertising for bids. Thus, the disclosure of the unpatented proprietary information often goes to almost everyone engaged in the field.

The government feels it needs the information in its own records from the beginning so that vital "know-how" is not lost due to a loss of personnel, or bankruptcy or other disruption of the owner of the information. In time of war, the information could be lost by destruction of a plant and its occupants were the information not fully disclosed to the government.

Moreover, in times of mobilization, the government should have unpatented proprietary information on hand for setting up all available capacity, if necessary, for fulfillment of governmental needs.

Another reason why unpatented proprietary information in government contracts is different from traditional trade secret concepts is that the government has a huge economic power which enables it to get whatever information it desires. The magnitude of the government's purchases can alter the free bargaining in the market place.

A final reason why unpatented proprietary information in the field of government contracts differs is the sovereignty of the government. While it has been said that the government steps down from its sovereign position in contracting with citizens and assumes the rights and duties of a private contractor,[14] there are a number of differences in the government's position from that of a private contractor,[15] which gives rise to an eminent bargaining position for the government negotiator.

Recognizing that government contracts are *sui generis,* a question arises as to what degree of protection should be accorded unpatented proprietary information.

The present practice with the great bulk of government contracts is to provide a low degree of protection. Where contracts contain no clauses pertinent to the subject, the government's contention is that

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[14] *Lynch* v. *United States,* 292 U. S. 571 (1934).

[15] Whale, A. R., "Government Rights to Technical Information Received Under Contract," 25 *G.W.U. L. Rev.* 289 (1957).

unlimited rights are obtained by virtue of the common law rights incident to lawful possession.[16] The ASPR clauses used in Department of Defense contracts require that the government obtain unpatented proprietary information free of any restrictions.[17] As a result, if information is given to the government under contracts controlled by ASPR provisions, without special modifications, contractors cannot assert their proprietary rights against competitors who obtain the information from the government. If proprietary rights are specially asserted, it is the policy of ASPR not to deal with the contractor so asserting. Protection will be accorded the proprietary rights if, contrary to the policy, the government chooses to deal with the contractor.

Whether the present practice is sound or a greater or lesser degree of protection should be given to contractors owning unpatented proprietary information, is in dispute.

The Case for Greater Protection of Unpatented Proprietary Information

Those who argue for a greater amount of protection to the government contractor possessing unpatented proprietary information contend that the government, through its vastly superior bargaining power, confiscates private property without just compensation. The rights in unpatented proprietary information are highly valued by industrial concerns, and they take great pains to keep the information from their competitors. However, when the information comes into the hands of the government, there is a risk of disclosure of the information to competitors. "The government is at best a careless custodian of anything so fragile as property rights in know-how."[18]

The negotiators on behalf of the government seek only to obtain as much for the taxpayer's dollar as possible, no matter what the consequences. While the government negotiators should do their best for the taxpayer, they have such an awesome power as a result of the enormous amount of money available to spend and the governmental sovereignty characteristics that they can crush recalcitrant contractors or potential contractors. The contractor can be forced to divulge his secrets which are then often widely disseminated among the contrac-

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[16] Lazure and Church, "The Shadow and Substance of Intellectual Property in Department of Defense Research and Development Contracts," 14 *Fed. B. J.* 296 (1954).

[17] See note 9, *supra.*

[18] Beach, R. E., "The Government and Industrial Know-how," 41 *A.B.A.J.* 1024 (1955).

tor's competitors. It has been submitted that the government negotiators have a responsibility to "balance the reasonable governmental needs against the adverse effects on the contractor"[19] which comes from wide dissemination of unpatented proprietary information to competitors. Advocates of greater protection state that government negotiators fail to realize the responsibility to act fairly to the contractor who maintains an unequal bargaining position.

While it is conceded that the government needs unpatented proprietary information to assist in the production of articles and supplies by the government or by competing contractors in times of national stress, there is no need that *every* contract should appropriate such information to the government. There is no need to confiscate private property in most normal situations. Moreover, the requirement by the government that a contractor give up his secrets under the guise of "industrial mobilization planning" is rarely justified. Only where there are valid reasons should contractors be required to give up their unpatented proprietary information.

It may also be conceded that the government is entitled to unpatented proprietary information when it has purchased the information as part of the maintenance details of an item supplied by the contractor. But a distinction should be drawn between information needed to operate and maintain purchased articles and information concerning production details which are not needed by the government and yet would be greatly useful to competitors of the contractor. It is reasonable that the former type of information go with the article purchased, but not the latter type. Yet present government practices seem to broadcast a contractor's unpatented proprietary information indiscriminately among competitors.

The caveat of "reverse engineerings" in the ASPR[20] permits the government to obtain unpatented proprietary information without compensation merely by alleging that the proprietary information "is disclosed by inspection or analysis of the product itself," even though no "reverse engineering" is in fact done.

The Case for Limited Protection of Unpatented Proprietary Data

The Constitution of the United States provides, in Article I, Section 8, that:

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[19] See note 18, *supra*.
[20] ASPR 9-201 (b) (1 July 1960).

> "The Congress shall have power . . . (Clause 8) To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

The policy there enunciated is to give a monopoly to an inventor for a limited period in return for a full and complete disclosure of his invention "to promote progress." Inasmuch as sheltered unpatented proprietary information is given perpetual protection under the common law right to first disclosure,[21] it is in derogation of the policy expressed in the Constitution of protection *limited in time.* The Congress has passed laws for the protection of proprietary information contained in patents and copyrights and no greater protection by administrative agency action should be granted to information of less dignity than that contained in patents or copyrights without congressional authorization. Our patent system is fundamental to our economy and proposals to enlarge the protection of unpatented proprietary information are contrary to the principles of complete disclosure and limited time in the patent system and so should be given close scrutiny.

The patent system has also fostered an expanding body of knowledge which forms the basis for new developments in the arts and sciences. In protecting unpatented proprietary information from the eyes of the workers in the field to which it pertains, those workers are deprived of the opportunity to build on the knowledge withheld in order to come up with further advances. Protection by the government under the patent system is to publicly disclosed information; the protection by the government under present practices with respect to unpatented proprietary information is to undisclosed knowledge.

In addition, the growing body of knowledge (the "state of the art") could well envelop the stagnant information withheld from view by governmental protection. In other words, what may be new and outside the knowledge of the ordinary workers in the art at the time the information is marked "proprietary" may well be common knowledge by the time the contract is completed, yet it cannot be disclosed by the government under present practices. The giving of governmental protection to unpatented proprietary information does not advance the "state of the art."

If the Congress desires to grant protection to unpatented proprietary information, it can do so by appropriate legislation. Indeed, a step in the direction of protecting information outside the patent

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[21] *Donaldson* v. *Becket,* 4 Barrows 2303, 98 *Eng. Rep.* 257 (H. L. 1774).

laws is the industrial design legislation often introduced into Congress.[22]

The policy, repeatedly expressed by those responsible for government contracts, of more competitive bidding is frustrated by the secrecy surrounding unpatented proprietary information which requires a single source under present practices.

Since all "proprietary" items must be labeled under present practices, the owner thereof specifically points out precisely that which he desires to keep secret. As a result, any disclosure, in later contracts or in any other valid manner, shows competitors the unpatented proprietary information with no effort. It would be safer to leave buried in the voluminous reports required in government contracts any unpatentable proprietary information. The time and expense required for a competitor to uncover the unpatented proprietary information might prove prohibitive to him. The protection would probably be as great as attaching a "red flag" to the information which is distributed, in many cases, to a large number of the people engaged in the particular field concerned.

Finally, policing of the unpatented proprietary information is expensive and difficult. To determine whether a competitor independently developed a particular idea (e.g., a seamless container) or obtained it from another or from the government would involve expensive investigation and litigation. To prove that the particular item of unpatented proprietary information is not in the public domain or common knowledge to the workers in the field would also be difficult.

The Case Law

Because the courts have not laid down any clear mandate to follow, the various viewpoints have not had a full expression and there has been no distinct direction of the law to follow. The paucity of cases in this area is surprising in view of its economic importance and the increasing volume of government contracts concerned with these proprietary rights. The government is, in a sense, both a party advocating the present relatively limited protection and the promulgator, through regulations like ASPR, of the administrative policy to be enforced. There seems to be lacking a developing law pronounced by the courts to provide an objective, broader viewpoint of the diverse contentions.

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[22]E.g., H. R. 8873 (85th Congress); S. 2075 (86th Congress); S. 2852 (86th Congress).

There are, however, a few cases which may or may not indicate a significant trend in the development of this area of the law.

In *Musher Corporation* v. *United States,* 118 Ct. Cl. 259, 88 USPQ 117 (1951), petitioner alleged that it disclosed unpatented proprietary information concerning cereal briquettes, premixed cereals and other food products to the government in 1942 and 1943 pursuant to the request and suggestion of the Subsistence Testing Committee of the War Department and upon the implied understanding that, if the secret processes proved satisfactory, orders would be given to plaintiff or plaintiff would be retained to aid in making the food products for government and military purposes. Later, the Office of the Quartermaster General informed plaintiff that it was not interested in its products because "there appeared to be no practicable application thereof." The petition further alleged that in 1945 the government was causing to be manufactured by a large number of manufacturers cereal products and food products using plaintiff's secret process. The Court of Claims granted the government's motion to dismiss on the grounds that the petition failed to state a cause of action. They found no contract implied in fact, indicating that "an express promise to pay for the disclosure" would be required to "create a legal obligation to pay for the disclosure." The petition did not allege an express promise to pay for the disclosure.

A similar result was reached in *Nuss et al.,* v. *United States,* 127 Ct. Cl. 197, 100 USPQ 117 (1954). The case proceeded to trial, but the court again found no contract implied in fact. The facts were as follows:

In 1944 the Memorial Division of the Office of the Quartermaster General of the Army requested the Casket Manufacturing Association of America to assist in the study and formulation of a program for the production of a suitable casket for the repatriation of the bodies of military personnel buried overseas. The Association offered its services without any understanding or expectation of royalties or fees for any plans, specifications, ideas or services furnished by it or any of its members. Plaintiffs, however, were not members of the Association.

Plaintiff Nuss studied the idea of a seamless metal casket in 1933 as a replacement for the casket having welded seams generally found in the metal casket industry. In 1935, Nuss disclosed his idea to plaintiff Church and, in 1939, to plaintiff Tarkle. The three plaintiffs formed a partnership in 1945 and Tarkle contacted the Memorial Division and presented a brochure about seamless metal caskets. The Memorial Division requested further information and then brought in the Re-

search and Development Branch under the Quartermaster General which, after a study, recommended either a seamless casket or a seamless liner for a conventional casket.

The specifications and drawings were prepared from plaintiffs' casket model, and "the ultimate casket proposed was substantially the same as the seamless casket prepared by the plaintiffs in their brochures." The plaintiffs contacted the Procurement Division with respect to the caskets, but failed to expressly state any expectations of receiving royalties or compensation for the use of the seamless casket idea in the repatriation program.

Although the concept of a seamless casket was known (four patents were introduced in the record), one-piece, deep-drawn body sections were not manufactured prior to the repatriation program. The types of steel, dies, presses and techniques required were not developed prior to 1927.

The court found that there was a public disclosure of the idea, that "plaintiffs in the main dealt with officers who had no authority to enter into a procurement contract," that the idea was not a new one, that "the expectation on the part of plaintiffs (was) that the company which secured the contract would compensate them for their services," and that there was no breach of a contract implied in fact.

The above two cases illustrate the application of the admonition of Mr. Justice Holmes in *Rock Island, Ark. and La. R.R. Co.* v. *United States,* 254 U. S. 141, 143, that "Men must turn square corners when they deal with the Government."

Very recently, however, there appears to be a retreat from the hard line of the above cases. Two 1963 cases indicate that disclosure of unpatented proprietary information to the government in the absence of express contract provisions may be compensable.

In *Opinion of the Comptroller General of the United States* No. B-149295, Jan. 8, 1963, the government was alleged to have disclosed unpatented proprietary information to the owner's competitors by advertising for bids. The proprietor Barish disclosed an aerodynamic device called a "flexirotor" to the government in 1960 and obtained a contract in 1961 including the usual ASPR provision for a royalty-free license to practice any invention developed under the contract, but specifically excepting from the license the flexirotor invention which was the subject matter of a U. S. Patent Application. Pursuant to the contract, Barish submitted a technical report containing unpatented proprietary information which the Air Force used to develop specifications for a Request for Proposals. Although Barish submitted

a proposal, the award of the contract went to a competitor. Barish protested the award, but the Comptroller, in an earlier opinion, decided that the legality of the contract already awarded could not be questioned "in view of the failure on the part of Barish to take prompt action to protect his interests."

Another Purchase Request was issued by the Air Force in 1962 which was promptly protested by Barish on the grounds that it contained additional amplifying proprietary information to that previously disclosed. Barish contended that competitors were placed in an unfair competitive position since they, unlike Barish, need not amortize the costs of the research and development represented by the unpatented proprietary information. The Air Force contended that the information was not "proprietary data" within the meaning of ASPR 9-201 (b), *supra,* since the general description of the "flexirotor" in the purchase requests did "not in any sense in depth and detail describe how it is to be fabricated."

The Comptroller General found that the Air Force would ordinarily have a royalty-free license for any invention, improvement or discovery, whether or not patentable under the ASPR provisions employed, but the parties intended, by specifically excluding the invention of the patent application, that the Air Force should not obtain the right to practice the invention included therein. The denial of the right to practice was breached by "dissemination of such information, either piecemeal or at once, as would enable another party to practice the invention or cause it to be practiced."

The Comptroller General found significant an affidavit of one "in the field of aerodynamics of propellers and rotors," who stated that "Any competent aerodynamacist in possession of such information would be able to commence work to build a flexirotor."

The earlier decision against Barish was said to be based not upon a finding that the disclosure was authorized, but on "the narrow ground that in the circumstances we did not feel justified in recommending cancellation of the contract."

No difficulty was found with the public disclosure of the unpatented proprietary information in the first Proposal Request destroying secrecy, since "one wrongful disclosure (does not) automatically terminate his rights to any further protection."

While the decision of an administrative official in the *Barish* case is not necessarily significant standing alone, shortly thereafter another decision, from the Court of Claims, also granted relief to the owner of unpatented proprietary information.

In *Padbloc Company, Inc.* v. *United States,* 137 USPQ 224 (1963), plaintiff developed a container for napalm bombs carried by aircraft for dropping against enemy targets. Previous containers were subject to corrosion, fungus growth and pitting, so in 1953 the Army Chemical Corps developed a container requiring thick, heavy plywood inner blocking members. Plaintiff developed a far more preferable package which it submitted to the Chemical Corps as an alternate container. Plaintiff filed patent applications on certain features of the container and promised to supply the government with drawings, specifications and "know-how" for inspection purposes if the Chemical Corps designated its package as the only approved alternate on future procurements of fire-bombs. The government did not sign this agreement, but plaintiff, in response to a request by the contracting officer, submitted complete information on the container when it was designated an alternate on an existing bid invitation. The government then copied the drawings and sent the unpatented proprietary information to other contractors who were then able to make their own containers without buying from or through plaintiff.

Plaintiff contended that the government was bound to use plaintiff's unpatented proprietary information only for purposes of inspecting plaintiff's package unless it agreed to designate the package as an alternate for a substantial procurement under the terms of the agreement sent to the government. The government contended that it did not accept plaintiff's offer and made no promises of any kind.

The court found for plaintiff on the theory of breach of a contract implied in fact. What appeared to be a unilateral contract was in fact bilateral by implication from the circumstances. The court recognized "a long-term trend in the modern law of contracts" which supported their finding of a binding contract.

It might be suggested that the *Barish* and *Padbloc* cases are distinguishable from the previous two cases in that some, but not all, of the unpatented proprietary information was wrapped in a neater package in the form of a patent application. The definition problem (*supra,* p. 242) was less difficult than in the *Musher* or *Nuss et al.* cases where the information had no clearly discernible limits as to what was proprietary to plaintiffs.

A second distinction is the difference in the notice to the government of assertion of property rights. In the last two cases, there was a clear indication that the proprietor regarded the information supplied to be his property exclusively. In *Musher* and *Nuss et al.,* it does not appear that plaintiffs asserted exclusive property rights in the un-

patented proprietary information which they disclosed to the government.

On the other hand, the latter two cases might signify a relaxation from the strict position, akin to *caveat emptor,* evidenced by the earlier cases. In *Padbloc,* the court relied on the trend in general contract law to justify an apparent softening in government contract law towards owners of unpatented proprietary information.

Conclusion

Because of the difficulty of defining unpatentable proprietary information when it is included in a mass of other information, it is difficult to assert rights in it. It might appear that one can protect and receive compensation for more than he has contributed by attaching a label of "proprietary" to an item of information because of the lack of specificity in articulating the contribution. Drawing an analogy to copyright law, one can copyright a new version of an old work[23] and obtain protection only on the relatively small contribution, even though it appears that the entire work is copyrighted. Only rarely is the precise contribution dissected out from the public domain material to force the glare of daylight on what is often a relatively insignificant portion which is the subject of copyright. Were a government contractor able to mark an entire report proprietary without specifying the particular items he regards as his property, the protection would be worth providing notice. But if the contractor must point out what he regards as his exclusive property, he invites attention to the information, and reasonable men may differ as to whether it is common knowledge.

It would seem that the best approach for a contractor to take is to seek patent or copyright protection whenever possible, even if limited or "defensive." If a patent is obtained, it may be sued upon if infringed. If no patent protection may be obtained, at least the information is wrapped into a definite package more capable of being dealt with as a tangible commodity, not merely an idea in the abstract. The cases would seem to indicate that unpatented proprietary information that is enunciated through the medium of a patent application is more readily protected against unlawful appropriation by the government.

In the absence of a tightly defined parcel of unpatented information, it is probably best to avoid drawing attention to it because (1)

[23] Chamberlin v. Uris Sales Corp., 150 F.2d 512 (CCA 2-1945).

there is a possibility it is in the public domain and not capable of private ownership; (2) it is very expensive to police trade secrets; and (3) it is difficult and time-consuming for competitors to uncover valuable unpatented proprietary information in many instances. If the information is easily uncoverable, it would be best to define it carefully with precise limits and be certain to give notice of rights asserted in the information. Otherwise, it appears, the contractor assumes the risk of general disclosure with resulting loss of proprietary rights upon disclosure to the government.

The Presumption of Patent Validity and Suggestions For Strengthening The Presumption

R. LEWIS GABLE*

SUMMARY

THE FAILURE TO RETRIEVE THE PERTINENT PRIOR ART has led the courts to reduce the weight accorded to the presumption of validity and to invalidate a high percentage of patents brought into litigation. Therefore, in order to strengthen the patent system and the presumption of validity, it is proposed: (1) that the applicant be encouraged to submit the pertinent art known to him; (2) that third parties, who may be directly affected by the issuance of a patent, be given an opportunity to submit prior art references overlooked by the Examiner; and (3) that there be established a second class of patents which would require only a cursory search as to formalities, thus allowing the Examiner additional time to investigate a first class of patents to which the presumption of validity is to be accorded.

THE PRESUMPTION OF A PATENT'S VALIDITY dates back to the first patent statute[1] enacted by Congress in 1790. The statute stated that the issuance of a patent is "prima facie" evidence of its validity. Three years later the patent statute of 1790 was revised and the section providing for the presumption of patent validity was deleted. It wasn't until after the patent system was reorganized in 1836 to provide for an examination of patent applications that the courts themselves recognized the presumption of validity as an incident to the issuance of each patent. In a landmark decision, *Goodyear v. Day,* 10 Fed Cases 677 (1852), the court after noting the quasi-judicial role of the Commissioner of Patents as to the determination of the novelty and utility in patent applications stated that a presumption of correctness arose to these findings of the Commissioner. The court went on to state that this presumption would not be final to those not parties to the pro-

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[1] 1 Stat. 109, 1790.

ceedings before the Patent Office. The courts for the next hundred years have affirmed the presumption of the validity of the patent in repeated decisions, until it had become a well settled doctrine of Patent Law.

However, in the twenty years prior to 1952 there was a growing tendency among some courts to ignore or to give very little weight to this doctrine. One of the most eloquent statements of this trend is found in *Philip A. Hunt v. Mallinckroft Chemical Works,* 72 F. Supp. 865 (1947), where the court stated:

> "——(T)he impact upon the presumption of many late decisions seems to have rendered it as attenuate, for instance, as the shadow of a wrath, incapable of sustaining anything more substantial than the memory of earlier social and economic concepts."

Though stated in less flowery language, many other courts have expressed similar doubts as to the presumption of validity accorded to the issuance of a patent.[2] There appear to be two principal reasons why the courts have taken a negative attitude toward the presumption of validity. First, the Supreme Court and the many lower courts have felt that the Patent Office has abused its power of discretion and have issued patents on trivial improvements. In an oft quoted concurring opinion of the Supreme Court, *Great A&P Tea Co. v. Supermarket Equipment Co.,* 340 U.S. 147 (1950), Justice Douglas remarked:

> "——The Patent Office, like most administrative agencies, has looked with favor on the opportunity which the exercise of discretion affords to expand its own jurisdiction. And so it has placed a host of gadgets under the armour of patents-gadgets that obviously have no place in the constitutional scheme of advancing scientific knowledge."
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> "——The patent involved in the present case belongs to this list of incredible patents which the Patent Office has spawned. The fact that a patent as flimsy and as spurious as this one has to be brought all the way to this Court to be declared invalid dramatically illustrates standards which are supposed to govern."

The lack of confidence displayed by the Supreme Court in the decisions of the Patent Office and the standard of invention held by this agency are pointed out by the fact that the Supreme Court has not since 1937 mentioned the presumption of patent validity.[3] The feeling that the standard of invention enunciated by the Patent Office was

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[2] *National Lead Co. v. Kingsland,* 74 F. Supp. 985, 986 (1948); *Magnaflux Corp. v. Coe,* 139 F. 2d 531, 532 (1943); *Myers v. Beall Pipe & Tank Corp.,* 90 F. Supp. 265, 268 (1948).

[3] In *Mumm v. Decker & Sons,* 301 U.S. 168, 171 (1937), a minority decision did refer by inference to the presumption.

too low has been repeated by the lower courts. The U. S. District Court for the District of Columbia stated:

> "——The frequency with which the Supreme Court, notwithstanding the presumption, has overruled the Patent Office on the issue of invention in infringement suits indicates that Patent Office standards of invention in the past have been too low."[4]

The second reason given for attenuating the presumption of validity has been the number of patents issued by the Patent Office. The courts have taken judicial notice of the number of patents issued in a given year and have reasoned that the attention received by each application must have been cursory at best and therefore the patent issuing from such an examination would not deserve the presumption of validity.[5] This reasoning was applied in *Graham Paper Co. v. International Paper Co.,* 46 F 2d 881, 885 (1931), where the court said:

> "——That there is a presumption of validity, utility, and invention from the fact that a patent has been issued by the Patent Office is well settled. —— How strong this presumption of validity may be is debatable, in view of the multiplicity of patents being issued."

Such decisions as mentioned above have led some writers to conclude that the presumption of validity which has been established by judicial decision for over one hundred years has been extinguished.[6]

The disquieting murmurings were apparently quieted in 1952, when Congress enacted the present patent statute which states: "A patent shall be presumed valid. The burden of establishing invalidity or infringement of a patent shall rest on a party asserting it."[7] Since this enactment the courts have at least paid lip service to the presumption accorded to each patent. The weight actually given to the presumption can be determined by reference to the holdings of validity in infringement suits before and after the enactment of section 282.[8] The fact that there has been little or no variance in the percentages of patents held valid in the years preceding and after 1952 would lead one to conclude that the codification of the presumption of validity has had little effect on the judicial treatment of the presumption of validity and the standard of invention.

In treating the various factors the courts have considered in weighing the presumption of validity, no distinction could be found be-

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[4] *Magnaflux Corp. v. Coe,* 139 F 2d 531, 532 (1943).

[5] *National Popsicle Corp. v. Alaska Frozen Products Inc.,* 30 U.S.P.Q. 131 (1938); see chart No. 2.

[6] 1950 Wis. L. Rev. 556; *Glascock & Stringham Patent Law,* sec. 3183.

[7] U.S. Code 35, section 282.

[8] See chart No. 1.

tween the cases before or after 1952. The intent of the House Subcommittee on Patents as stated in the records of hearings before the Committee was that section 282 was merely a restatement of the existing presumption of validity as enunciated by the courts.[9] This expression of intent has been borne out in fact by the continuity in the decisions relating to the presumption of validity and also by the lack of variance in the percentages of patents being held invalid in the years before and after 1952.

The fact that a patent is regularly issued from the Patent Office is sufficient to raise the presumption of validity.[10] The presumption of validity extends to every condition prerequisite to the issuance of a patent.[11] In particular, the presumption includes the requirements of utility as prescribed by 35 U.S. Code 101, novelty as prescribed by section 102 or unobviousness by section 103, and definiteness and completeness as prescribed by section 112. In a suit to compel the issuance of a patent, the presumption would operate to fortify the findings and conclusions of the Patent Office in refusing to grant a patent; while in an infringement suit, the presumption runs with the patent in question.[12]

The courts have been willing to accord patents a presumption of validity for several reasons. First, the courts have recognized the Patent Office as a body of experts in the various industrial arts and have based the presumption of validity on the expertise of the Patent Office Examiner. In an oft-quoted decision, *Williams Mfg. Co. v. United Shoe Machine Corp.,* 121 F. 2d 273, the court stated:

> "——To the presumption of validity that attaches to a granted patent, ——, there must probably now be added the force of a growing recognition of the finality that is generally being accorded to administrative determinations supported by evidence on the ground that the administrative agency is expected to have developed expertness in its specific field beyond what may be expected from the courts wherein adjudications range the whole field of human controversies."

The expertise of the Patent Office may be broken down into two areas of competence: first, many courts do not handle a large number of patent cases and have relied on the Patent Office for their interpretation of the patent statutes and secondly, the judges, lacking a technical background, especially rely on the scientific expertise of the Examiner.

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[9] H.R. Rep. No. 1923, 82nd Cong., 2d Sess. 29, 1952.
[10] Falkner v. Gibbs, 170 F 2d 34 (1949).
[11] *Mumm v. Decker & Sons,* supra.
[12] *Magnaflux Corp. v. Coe,* supra.

Further, the courts have presumed that a thorough search of the prior art has been made by the Examiner. As will be discussed later, the weight given the presumption of validity often is determined by the thoroughness of the prior art search. Finally, the presumption is based on the fulfillment of all the prerequisites to patentability; it is presumed that the Examiner has reviewed the patent application to see that it is clear and definite as required by section 112 of the patent statutes and that the application meets all of the other standards set out in the patent statutes and the rules of procedure established by the Commissioner of Patents.

The weight given to the presumption of validity by a court depends on the history of the patent application in the Patent Office. The courts have been willing to examine the file history of the patent to determine the thoroughness of the examination conducted by the Examiner.[13] One factor that is given considerable weight by the courts is the fact that the Examiner has cited and considered all the art that the party charged with infringement cites to anticipate the patent in issue. The court in this situation will rely on the Examiner's judgment that the art thus cited has been considered and the allegedly infringed patent does patentably distinguish over such art.[14] However the fact that all of the cited art had been previously considered by the Patent Office is not conclusive on the court.[15] The presumption was considered to be valid even though one reference cited by the alleged infringer was not considered by the Examiner.[16] Conversely where references were not found by the Examiner during the proceedings before the Patent Office the presumption of validity is weakened.[17] The degree to which the presumption is weakened has found various expressions; the courts have said that such a failure to cite art will "seriously weaken" the presumption,[18] the presumption is "dissipated,"[19] "much weakened,"[20] or "weakened if not destroyed."[21] In one

[13] *Modern Products Supply Co. v. Drachenberg,* 152 F. 2d 203, 205 (1945); *Shotey v. Apex Broach Co.,* 83 F. Supp 807, 809, 810 (1949).

[14] *Paragon-Revolute Corp. v. C. F. Peace Co.,* 239 F. 2d 746 (1957); *Saul v. International Harvester Co.,* 170 F. Supp 374 (1959), affirmed 276 F. 2d 361; *Amp Inc. v. Vaco Products Co.,* 280 F. 2d 518.

[15] *Lewyt Corp. v. Healthmor, Inc.,* 181 F. 2d 855, 857 (1950).

[16] *Condenser Corp. of America v. Micamold Radio Corp.,* 54 F. Supp 327 (1944); *Paramount Industries, Inc. v. Solar Products Corp.,* 93 F. Supp 331 (1950).

[17] *American Wood Products Corp. v. Crane Corp.,* 29 F. Supp 807, 810; *O'Leary v. Liggett Drug Co.,* 150 F. 2d 656, 663 (1945).

[18] *American Wood Products Corp. v. Crane Co.,* Ibid.

[19] *Noble Co. v. C. S. Johnson Co.,* 139 F. Supp. 868.

[20] *Oborn Mfg. Co. v. Newark Brush Co.,* 111 F. Supp 846, 851 (1953).

[21] *Gornez v. Grant Bros.,* 177 F. 2d 266 (1949).

situation, the court stated that even though only one reference had not been considered by the Patent Office, the presumption of validity was destroyed.[22] Yet on another set of facts, the court did note that certain art was not cited by the Examiner and though this oversight did have the effect of weakening the presumption, still this fact alone was not sufficient to destroy the presumption, and the court went on to hold the patent valid.[23]

These apparent differences can be in part explained by the attitude of certain courts toward the presumption of validity. It can be noted that certain courts of the Ninth Circuit have taken a very negative attitude toward the presumption of validity even where one patent was not considered by the Examiner. It is disappointing that in these decisions the court did not note the pertinency of the particular reference omitted. However, most courts have limited the effect of an omitted reference to the extent that the presumption of validity will not be applied to those references which were not considered by the Patent Office, thus leaving the court open to consider the pertinency of this new reference without disregarding the presumption of validity as it pertains to the complete examination made by the Examiner. Apparently this approach has been used in a number of decisions; the court, though noting that some prior art has been omitted, recognizes that the most pertinent art has been cited and that the presumption of validity is still in effect.[24] Yet, in the situation where the most pertinent art has been completely overlooked, the court is more apt to disregard the presumption of validity altogether.[25] As a general statement where the most pertinent art cited by the alleged infringer has already been considered by the Examiner, the courts will give greater weight to the presumption of validity; conversely the courts will proportionally give less weight to the presumption according to the pertinency, and to a lesser extent the number of references overlooked by the Examiner.

Plaintiffs in an infringement suit when faced with art that the Examiner has not expressly considered have contended that since the Examiner did not cite the art the court ought to presume that in fact he had considered the art and had rejected it. However, the courts have rejected this contention stating that the fact that the Examiner does not mention certain art does not raise any presumption that such

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[22] *Jacuzzi Bros. v. Berkeley Print Co.*, 191 F. 2d 632, 634 (1951).

[23] *Kilgore Mfg. v. Trimp Explosives*, 37 F. Supp 766, 772 (1941).

[24] *Condenser Corp. of America v. Micamold Radio Corp.*, supra; *Paramount Industries, Inc. v. Solar Products Corp.*, supra.

[25] *Gillette Safety Razor Co. v. Cliff Weil Cigar Co.*, 107 F. 2d 105, 107 (1939).

art has been considered and rejected.[26] Recently an interesting exception to this rule has been made where the newly cited art must have been readily available to the Examiner during his examination of the prior art. In particular it has been held that the presumption of validity extends to all the patents included in those subclasses where the patent is officially classified and cross-referenced.[27] The presumption is based on the practice that the Examiner when he designates those subclasses where the patent will be officially classified and cross-referenced will invariably select the most pertinent subclasses that he had searched during the course of his examination. This presumption, however, should be taken with a grain of salt; notice should be taken of the fact that often the Examiner will only search a portion of a subclass and also of the possibility that a particular reference of importance may not have been in its place at the time the search was conducted. This presumption as to the extent of the Examiner's review of the art has been extended to the entire class within which the patent is classified, and accordingly patents within the class are presumed to have been considered by the Examiner.[28] This extension appears to be completely without foundation; in the first place even the most conscientious Examiner has time only to consider a small proportion of the subclasses within a class and secondly many classes are assigned to different groups within the Patent Office and the Examiner in one group may only be vaguely familiar with the art of the other groups although classified within the same class.

One of the bases of the presumption of validity as mentioned above lies in the technical expertise accorded to the Examiner. In many instances where the subject matter of the patent in issue is of a highly technical nature the court which is not technically trained has to rely on the judgment of the Examiner in determining whether the alleged invention patentably distinguishes over the prior art.[29] In a recent case,[30] involving the validity of a patent disclosing a complex vitamin compound, the court was reluctant to overthrow the presumption of the validity. The court reasoned that the experts in the Patent Office had considered the patentability of these compounds and that the court should not disregard their opinion in these highly technical mat-

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[26] *Nordell v. International Filter Co.*, 119 F. 2d 949, 950; *DeBurgh v. Kindel Furniture Co.*, 125 F. Supp 468, 473 (1954).

[27] *Elgen Mfg. Corp. v. Vent Fabrics Inc.*, 207 F. Supp 240, 251; *Elgen Mfg. Corp. v. Grant Wilson Inc.*, 285 F. 2d 476.

[28] *Bessell Inc. v. E. R. Wagner Mfg. Co.*, 204 F. Supp 801, 811 (1962).

[29] *Carbide & Carbon Chemicals Corp. v. Coe*, 102 F. 2d 236, 245 (1938).

[30] *Merck & Co. v. Olin Mathieson Chemical Corp.*, 253 F. 2d 156 (1957).

ters of bio-chemistry. Conversely, where the subject matter of the patent in issue is of a simple nature, the court feels more reluctant to rely on the opinion of the Patent Office. Where the validity of a patent relating to a lint remover was in question the court was less restrained to inquire on its own into the mechanics of the device and render its own judgment.[31] The court went on to note that if the invention was of a highly technical nature that the court would have been more willing to accept the determination of the Examiner and the Board of Appeals. In all determinations of patentability or invalidity the decision tends to be highly subjective; therefore where the question involves highly technical questions, the court should not rely on its own training but should sustain the patent.

Other factors outside the proceedings in the Patent Office have been considered in deciding what weight will be given the presumption of validity. Where the commercial success of the patented invention has been established, the courts will give greater weight to the presumption of validity. However, such a showing of commercial success is considered weak evidence to support the presumption of validity and that the courts prefer a demonstration that the patent is clearly patentable over the prior art.[32] It may be considered a settled rule that *Room Appliance Corp. v. Weatherbee,* 158 F. Supp 231, 233 (1958).
such evidence will be taken into account only when the validity of a patent is in doubt and that the value of such evidence in any case is debatable because the commercial success could be explained by many other factors such as advertising, the particular market position of the patentee, or a particular buying fad.

As can be seen from a recitation of the factors considered by the courts in determining the weight to be given to the presumption of validity, the courts have been quite willing to investigate the file wrapper of the patent application. The courts have accorded the presumption of validity additional weight where a successful application was appealed to the Board of Appeals, or the patent had issued after an interference proceeding. The courts have been willing to go a step further. Though noting that the proceedings before the Patent Office are ex parte, the courts have stated that where the applicant and Examiner have waged a heated contest and as a result a patent has issued, that such a patent will be accorded a greater presumption of validity.[33] Where the court may judicially sense from the amendments of the applicant and the Office actions of the Examiner that the art

[31] *Miller v. Watson,* 159 F. Supp. 680, 681 (1957).
[32] *E. W. Bliss Co. v. Cold Metal Process,* 174 F. Supp 99, 109 (1959); *Cutting*
[33] *Modern Products Supply Co. v. Drachenberg,* 152 F. 2d 203, 205 (1945).

has been carefully considered and that the essential issues of patentability have been thoroughly reviewed, the court will accord the presumption of validity additional weight.[34] Where the claims have been narrowed to meet the express objection of the Examiner and where the amended claims upon reconsideration have been approved, the courts likewise will give additional weight to the presumption.[35] Yet, the presumption was fortified where the applicant did not amend his claim but resubmitted the claims with argument demonstrating the limitations over the prior art.[36] In reviewing the file wrapper, the courts are primarily looking for evidence that the Examiner has in fact carefully weighed each reference and has limited the applicant's claims in light of all the prior art. On the other hand where the examination of the Examiner has been cursory and ineffective, the courts will disregard the presumption of validity.[37] In addition where there appears to be a difference of opinion as in the situation when claims were allowed by one Examiner and then upon reconsideration by another Examiner were rejected, the court could not accord the usual presumption of correctness to the decisions of the Patent Office.[38]

A review of the various factors enumerated above will point out that the courts have considered those factors demonstrating that a thorough search of the art has been made and that these references have been given adequate consideration by the Patent Office. In previous recommendations for strengthening the presumption of validity, many commentators have recommended that additional funds be set aside to provide for more Examiners so that the individual Examiner may have more time to examine each application. The need has been expressed very bluntly. The difficulty with the patent system lies in the inadequate search performed on each application and this problem is "a matter of men and dollars."[39] Obviously if the Patent Office did have unlimited funds and personnel, an exhaustive examination could be given every application. But it must be recognized as a Congressional fact of life that patents have very little political sex appeal. Further many people have seriously questioned the complete examination system as it is now conducted by the Patent Office; one can point to the high rate at which patents have been declared invalid[40] or to the

[34] *Hazeltine Research Inc. v. Admiral Corp.*, 87 F. Supp 75, 78 (1949).

[35] *Crescent Dental Mfg. Co. v. White Dental Mfg. Co.*, 144 F. Supp 1, 3 (1956).

[36] *Shotey v. Apex Broach Co.*, 83 F. Supp 807, 809, 810 (1949).

[37] *Ginsberg v. Railway Express Agency*, 72 F. Supp 43, 44 (1947).

[38] *General Tire and Rubber Company v. Watson*, 194 F. Supp 344, 346 (1960).

[39] Robert Gottschalk, "American Business Looks at Patent Reform," Journal of the Patent Office Society, Vol. 28, pp. 153-155.

[40] See chart No. 1.

fact that the Patent Office, despite serious efforts, has failed to reduce the backlog of applications as indicating the overall inefficiency of the Patent Office. Yet if under the present conditions the presumption of validity is to be given serious consideration, new ways will have to be found to ensure that all the relevant art is adequately reviewed by the Examiner.

In evaluating various proposals there are several factors which must be kept in mind: first, the Patent Office can not realistically expect a greatly increased budget; secondly, the applicant should be assured that he will obtain a patent quickly and inexpensively, and finally any proposal that would radically change the present system would be opposed by the Patent Bar. With regard to the first limitation, Congress is appropriating approximately 27 million dollars a year to the Patent Office. There comes a point when Congress must ask itself does our patent system as it now stands justify the expenditures of this money. One of the most valid objections to many proposed changes is that the change would place an additional financial burden on the applicant. It is reasoned that the large corporation could afford the increased price, whereas the individual inventor or small corporation is now taxed to the limit of their ability to pay for patent prosecution and would necessarily be cut off from applying for an application. Certainly any proposed revision must enable the small business man to obtain his patent at a nominal cost and also to ensure that he can obtain the grant within a reasonable time. Any proposal which would greatly extend the period required to obtain a patent would likewise extend the life of the patent rights to the objection of those who consider a patent a monopoly. The Patentee should not be able to unduly extend his limited grant by any method. Finally, the Patent Bar has been very sensitive to any proposed changes in the patent statutes. Reasons for this can be seen; primarily, the patent practice involves many intricate proceedings which the practitioner is familiar with and as a result he would hesitate in adapting himself to a new system. Secondly there is a fear that rights now enjoyed may be lost; the attorney is quick to recognize how his client may be adversely affected by such proposals. However, noting these areas of apprehension, the patent practitioner is a specialist in a branch of law that is not understood by the general practitioner or the legislators. As a result he is in a unique position; Congress understandably feels hesitant to change the patent laws without the approval of the Patent Bar; therefore, it is squarely up to the Patent Bar to suggest changes which they will accept and which will prevent an aroused legislature from taking measures that might irrevocably damage the patent system.

In considering what procedures would strengthen the presumption of validity, the primary object is to ensure that all the pertinent art has been brought to the attention of the Examiner. It has been the practice of some attorneys to insert either into their applications or remarks a list of all the art known to them. The attorney realizes that the Examiner may in his hurried search overlook this art, and that if the application did issue without the most important reference being cited that the presumption of validity attaching to such a patent would be greatly weakened. It has been proposed that rule 104 of the Patent Office Rules of Practice be amended to require the submission of prior citation by the applicants or their attorneys.[41] After an oral hearing held on October 1, 1963, the Acting Commissioner announced that rule 104 would at present not be amended, but rather, he urged that the practitioner voluntarily submit those pertinent references known to him.[42] Further, section 282 of the patent statute might be amended to specifically recite that the presumption of validity relates only to references cited during the course of the prosecution before the Patent Office. Certainly the modification of section 282 would codify the existing law and further would specifically encourage applicants to make a disclosure of the most pertinent references. This proposal might increase the cost of obtaining a patent due to the additional cost of conducting a novelty search before the preparation of the application. However, it can be argued that under the current practices of Compact Prosecution that an applicant can not afford to wait till the first office action to discover the state of the art. Further the knowledge that the patent is in fact valid is considered worth the additional cost. Moreover, the language of the proposed modification of section 282 could be expressed in permissive language allowing the applicant to not make a search of the art, but yet encouraging him to do so by rewarding him with a strengthened presumption of validity.

It has often been suggested that Congress adopt some form of opposition proceedings. When the House Committee on the Judiciary started to work on the present patent statutes they took under consideration a proposed draft which would have allowed either the Patent Office, the Attorney General or an interested party to initiate proceedings leading to the cancellation of any patent within one year from the date of issue.[43] It has been pointed out that the three other great

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[41] 793 O.G. 173.

[42] 797 O.G. 733

[43] "Opposition and Revocation Proceedings in Patent Cases," Study No. 4 of the Subcommittee on Patents, Trademarks, and Copyrights of the Senate Judiciary Committee, Mr. P. J. Federico.

industrial powers of the free world, i.e., Great Britain, Germany and Japan, have adopted opposition proceedings. In Germany and Great Britain, notice of the application is given to the public who then may secure a copy of the specification. Within a period of three months third parties may file an opposition stating the reasons why such an application should not be issued to a patent. In England these proceedings are limited to those who would be directly affected by the grant of such a patent, whereas in Germany anyone may apply. The opposer may raise any grounds upon which the patent may originally have been rejected. In England the opposer may bring in foreign and printed publications which the British Patent Office does not usually search. The applicant then is given a period in which to respond to the allegations of the opposer. In arriving at their decision, an Examiner may require the testimony of expert witnesses and if the parties require there may be an oral hearing at which witnesses may be heard and cross-examined. The proposed statutes for the European Common Market Patent System would also establish a form of opposition system involving two stages of examination in which the public is invited to intervene in the final stage. Objection to a system similar to that adopted by Germany, England or proposed for the Common Market would be on the grounds that it would place an undue financial burden on the small inventor and that it would unduly extend the proceedings before the Patent Office. Other commentators have objected to such proceedings on the grounds that they would give the powerful corporation with large staffs of patent counsel an opportunity to harass the small inventor by filing oppositions indiscriminately. To substantiate this argument it is pointed out that in Germany approximately 35% of the published specifications during the period from 1950 to 1954 were opposed.[44] However, this high proportion of opposition proceedings may be explained by the fact that many of these applications had not been searched. In Great Britain, the number of oppositions filed was only 1.6% of the patents issued. Further, it should be noted that both Great Britain and Germany have given the public an additional "shot" at the patent. Their systems provide that a third party may file for cancellation even after the period for an opposition proceeding has expired. In England one may file for cancellation within one year of the date the patent is granted, while in Germany the opportunity is available during the life of the patent.

It is believed that such proceedings as outlined above would not be suitable for the American patent system. First, such a proceeding

[44] "Opposition and Revocation Proceedings in Patent Cases," supra, pp. 9 and 10.

would increase the financial burden on the applicant and secondly, it would put an additional burden on the now hard pressed Patent Office. However, it is felt that a limited form of opposition proceeding would justify the additional expense to both the applicant and the Patent Office. The primary benefit of such proceedings would be to allow interested parties outside of the Patent Office to search fields of art that ordinarily the examiner does not have the time to cover. The first step in such a process would be to publish a single claim and drawing into the *Official Gazette* at the conclusion of the Patent Office examination in order to give notice to the public of the invention. Then the public could come to the Patent Office and inspect the file wrapper of the application. During the Congressional hearings before the passage of the 1952 Patent Statute, it was commented that a requirement that the interested party come to the office to inspect the proposed invention would place undue burden on the public. Alternatively, a limited number of copies of the specifications and claims could be printed and sent to those responding to the notice in the *Official Gazette*. Printing the specification is now the practice in Germany. Another suggestion would be to adopt the practice of the Japanese patent system, where the specification and claims are printed and distributed only as a preliminary patent, and after the expiration of the filing period in which to submit the opposition, the preliminary patent then becomes the official patent grant. After the publication of notice an interested party would submit his opposition to the proposed patent within a given period. The period should not unduly prolong the proceedings, but yet provide the public with an opportunity to submit their opposition. A period of three months would appear to be ample.

The opposition proceedings should be available only to those parties that can show that they will be directly affected by the issuance of such a patent. Such a limitation, which is the practice of Great Britain, would limit the possible number of such proceedings, thus reducing the possible additional burden on the Patent Office. The crux of this suggested plan would be in the limitations placed on the types of evidence and argument that outside parties could present. As is the practice in Germany and England arguments may be made to any grounds of rejection that the Patent Office itself could use; in addition, though it is rarely done, expert witnesses can be presented at the opposition hearing. However, affidavits containing the opinion of experts are commonly produced. Necessarily the use of such evidence would prolong these proceedings, thus placing a burden on the Office to consider such evidence and an added expense on the applicant to

rebut such evidence. It is therefore suggested that the interested party be limited to a presentation of prior patents, publications or text books which were not cited by the Examiner, and a brief argument as to the application of this art to the claims of the applicant. A short period would be extended to the applicant to answer these arguments, after which the Examiner would consider the new art in the light of the arguments made by the opposer and the applicant. If the Examiner believed that the application was still in condition for allowance, the published preliminary patent would automatically become an official grant. However, if the Examiner decided that the application should be rejected, the applicant would have his normal appeal to the Board of Appeals, and then either to the Court of Customs and Patent Appeals or to the District Court. In order to protect the applicant, the right to receive damages would accrue as of the date the preliminary patent was published; however, the right to bring suit should be postponed to the expiration of the period within which to file an opposition or upon the sustaining of the preliminary patent in the opposition proceeding by the Examiner.

The final proposal to strengthen the presumption of validity would be to establish two separate classes of patents. The first group of patents would be composed of those inventions which are considered of the higher order of inventions. Applications for this variety of patent would receive a complete investigation and would be accorded the presumption of validity as set out in section 282. The second class of patents would encompass the many improvements which are made on those devices which are the outgrowth of the major inventions and which would be patented in the first class of inventions. The choice as to which class of patent should be left to the applicant. The fee, however, for the first class of patents should be significantly higher to reflect the additional time required for a complete examination of the application. The applications for the second type of patent might include a cursory search of the prior art or perhaps only an examination of the formalities to ensure that there is a complete disclosure of the device. The patentee's rights under the second class of patents should be limited as to the period of the patent and to the extent to which the patentee may hold others for infringement. One suggestion would be to allow the applicant only to claim his device in the most specific language, and to eliminate the availability of the doctrine of equivalency.[45] In the alternative the patentee may be given

[45] W. Houston Kenyon, Jr., "Current Problems in the Patent System," Journal of Patent Office Society, Vol. 28, 224-236.

no right to sue for infringement; or possibly the remedy of the patentee should be limited to damages. It can be seen that the patent in the second category would be primarily a defense against the infringement suit of another. Necessarily, no presumption of validity could attach to the issuance of the second class of patents, because the search was of a limited nature. A similar system to that suggested above has been adopted by Japan.[46] One advantage realized under the proposed system is that many patentees, including foreign patentees and the government, who desire only defensive protection, would apply for the second class of patent. On the other hand, those parties desiring a complete protection could apply for the first class of patents. As a result the Patent Office would be given a greater opportunity to examine those applications to which the presumption of validity would attach.

It is noted that many other ideas have been proposed to strengthen the patent system. A two step process of examination has been suggested, in which if the applicant desires to obtain a patent to which attaches the full presumption of validity, he would apply for a further exhaustive examination after the initial search of formalities. The applicant could merely proceed through the first examination and obtain a defensive patent similar to that described above.

A suggestion that has reappeared periodically would create a single court which would decide all issues of patentability. Under such a system, the question of validity now brought in infringement suits could be deferred to this court as is now the practice in the German patent system. The obvious advantage of such a court would be to obtain uniformity among the decisions affecting patentability. Another proposal which has received considerable attention would be to limit the life of a patent to twenty years from the filing date of the patent application. It is urged that such a requirement would eliminate the present tendency of some solicitors to unduly prolong the proceedings before the Patent Office in order to extend the life of the patent.

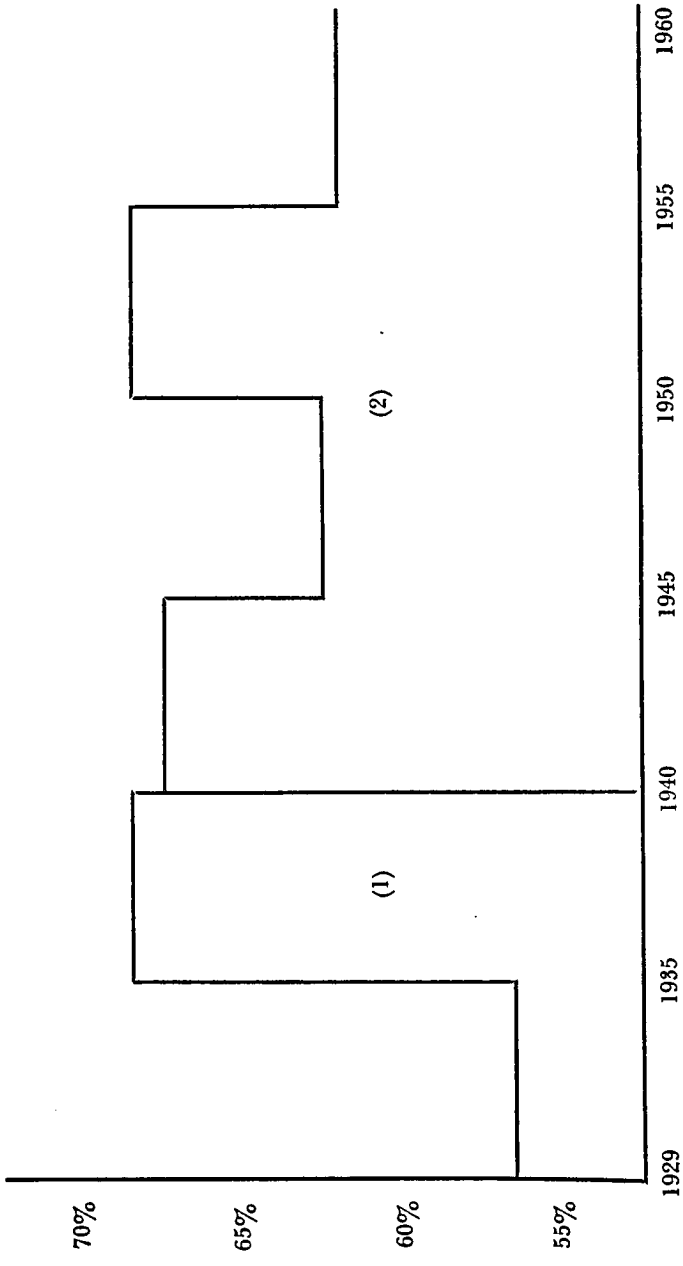
In summary, the essence of any suggestion to strengthen the presumption of validity is to extend the search of the prior art before the patent is issued. The proposals urging the applicant to submit prior art or allowing a third party to supplement the search of the Examiner are directed toward methods which permit parties outside the

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[46] The Japanese statute defines two classes of patents. One class is designated as "inventions" and is defined as "the highly advanced creation of technical ideas by which a law of nature is utilized." The second class of patents is termed a "device" and is defined as "the creation of technical ideas by which the law of nature is utilized."

Patent Office to share the burden of searching the prior art. The suggestion providing for two classes of patents is designed to reduce the number of applications requiring a complete search of the prior art, thus allowing the Examiner additional time to study those applications that are to be accorded the full presumption of validity.

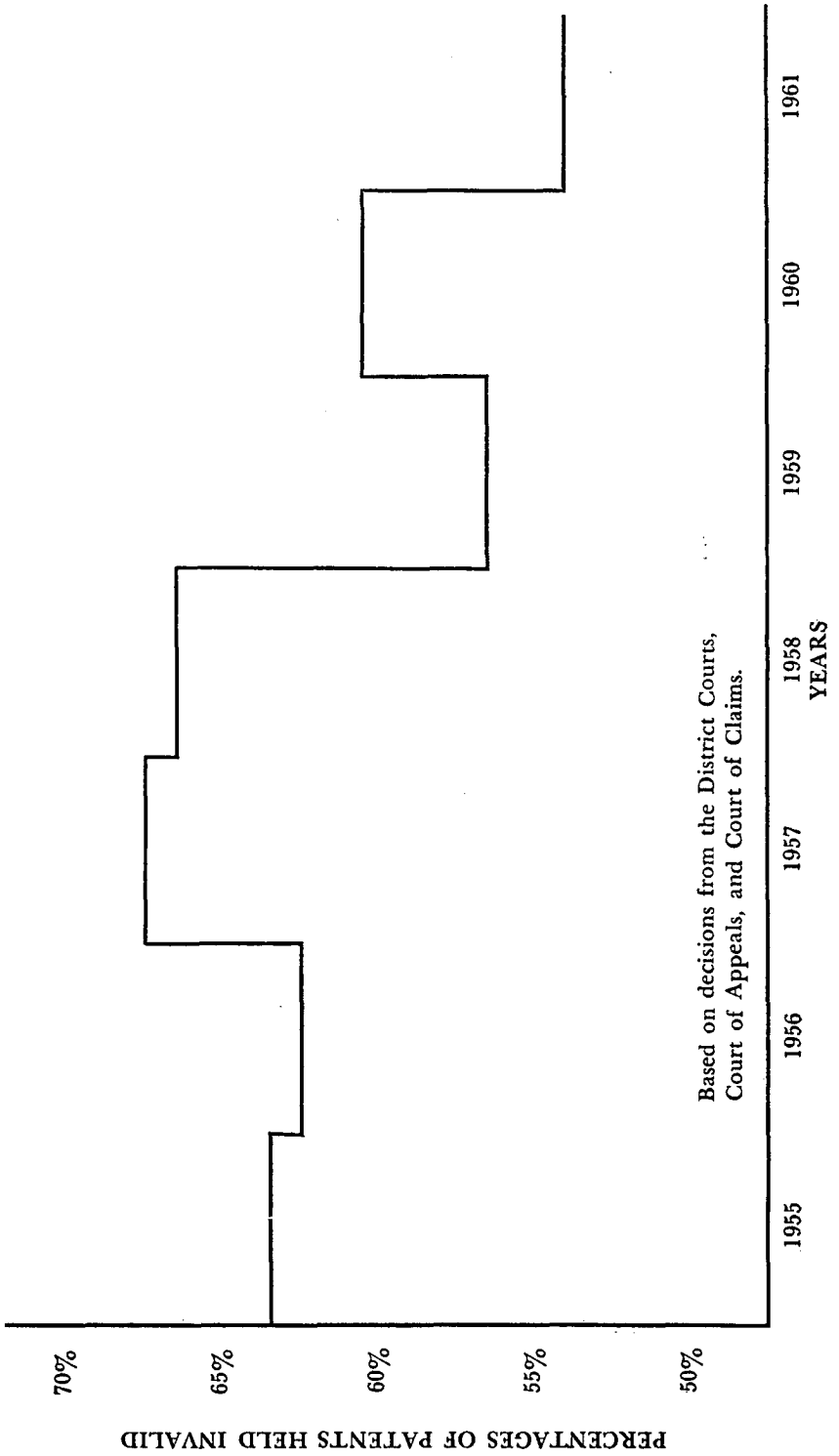
CHART I (a)
PERCENTAGES OF PATENTS HELD INVALID FOR THE YEARS 1929 to 1960



(1) Based on the decisions of the Court of Appeals and the Supreme Court.

(2) Based on the decisions of the District Courts, the Courts of Appeals, the Court of Claims, and the Supreme Court.

CHART I (b)—PERCENTAGES OF PATENTS HELD INVALID FOR THE YEARS 1955 to 1961



REVIEWS AND ANNOTATIONS

Recently Published or Reported Material Relating to the Research Institute's Work

BOOKS

Rossman, Joseph, *Industrial Creativity The Psychology of the Inventor,* University Books, New Hyde Park, New York, 1964, 252 pages.

A whole new generation will now have an opportunity to read Dr. Rossman's informative book on the nature of creativity. First published thirty-one years ago, the book is still remarkably fresh. This important book was primarily designed to help inventors understand the implications of their inventive processes. In an introductory section, the author draws on his rich experience since the original publication, bringing the story of the creative inventor up-to-date. Apart from his own distinguished background, the author obtained his material by questionnaire filled out by five hundred outstanding patent attorneys, three hundred directors of research in development in large corporations, and over seven hundred active and important inventors.

The author sees the inventor as primarily creative. He takes issue with Plato's statement that "necessity is the mother of invention." Invention has a father as well, according to Dr. Rossman: the mind of the individual creator. He cites numerous instances of inventions that might have been technically created centuries before they actually appeared. But knowledge alone, no matter how penetrating and astounding, has never given rise to invention. This he sees as always the province of the mystical power of the individual inventor's mind.

Dr. Rossman, for many years an Examiner in the U. S. Patent Office, has been a member of the research staff of The PTC Research Institute since its inception.

Schade, Dr. Hans, *Patents at a Glance—A Survey of Substantive Law and Formalities in 45 Countries,* Carl Heymanns Verlag KG, Munich, Germany, 1964, 42 pp.

"(This book) offers a rapid and accurate survey of the most im-

portant national regulations that have to be remembered when attempting to obtain a patent and in seeking to maintain the protection once it is granted (e.g., working and compulsory license provisions). The tabulation also shows the amounts of the fees payable before the patent is granted and after (renewal fees), and provides brief summaries of the provisions concerning patentability and novelty. . . .

"First in order of the information given in the tables are concise summaries of the principal laws and of other legal provisions. In each case these are followed by references to the relevant texts to be found in the pages of *Patent and Trade Mark Review* and *Propriété Industrielle*. . . .

"In dealing with the procedure leading up to the grant of a patent, special attention has been paid to the requirements for claiming priority and to those relating to the drawings. . . .

"The nationally distinct principles of patentability (protection for chemical substances, medicines and foodstuffs and for processes of manufacture), and the various criteria employed in the examination for novelty (printed publication, public prior use, protection for personal disclosure and display at exhibitions), are all briefly referred to."

Szirmai, Z, ed., *Law in Eastern Europe,* A. W. Sythoff-Leyden, Leyden, The Netherlands, 1964, 330 pages.

"The author presents the details of the development of the Soviet law of copyright and the law of publishing contracts and then discusses each aspect of present day law on these matters. The specific features of the Soviet pattern are thereby brought into relief: the publishing monopoly of the State enterprises, the uniform contracts between author and publisher, the liberty or otherwise of authors to express their thoughts and the financial position of the Soviet author and his heirs."

This is the eighth in a series of publications issued by the Documentation Office for East European Law of the University of Leyden.

PAMPHLETS AND PERIODICALS

"Accounting of Profits for Trade-Symbol Infringement Based Upon A Theory of Restitution," *Washington University Law Quarterly 1963* (April 1963), p. 243.

"Antitrust and Unfair Trade Practice Regulation in Utah," *Utah Law Review,* Vol. 8 (Winter 1963-1964), p. 339.

Arnold, A., and Ford, T., "Uniform

State Antitrust Act: Toward Creation of a National Antitrust Policy," *Western Reserve Law Review,* Vol. 15 (December 1963), p. 102.

Arnold, Tom, "A Philosophy on the Protections Afforded by Patent, Trademark, Copyright and Unfair Competition Law: The Sources and Nature of Product Simulation Law."

"A commentary upon the product simulation law of *Sears, Roebuck & Co. v. Stiffel Company,* 376 US 225, 53 TMR 217, 140 USPQ 524 (1964); *Compco Corp. v. Day-Brite Lighting, Inc.,* 376 US 234, 53 TMR 223, 140 USPQ 528 (1964); and In re *Mogen David Wine Corp.,* 140 USPQ 575 (CCPA 1964), *The Trademark Reporter,* Vol. 54 (June 1964), p. 413.

"These three decisions in the same week, plus the Supreme Court's unacknowledged conflict with its own landmark opinion by Mr. Justice Marshall in *Gibbons v. Ogden* make timely a philosophical review of the origins and philosophies of intellectual property law. By the direction of such a review, perhaps the strands of law can better be woven to provide a better total fabric of law."

Asper, L. D., "Reciprocity, Purchasing Power and Competition," *Minnesota Law Review,* Vol. 48 (January 1964), p. 523.

Baldwin, G. B., "Dependence of Science on Law and Government—the International Geophysical Year—A Case Study," *Wisconsin Law Review—1964* (January 1964), p. 78.

Baldwin, W. L. and McFarland, D., "Tying Arrangements in Law and Economics," *Antitrust Bulletin,* Vol. 8 (September-December 1963), p. 743.

Barton, E. E., "Competitive Injury Under the Robinson-Patman Act," *Business Lawyer,* Vol. 19 (April 1964), p. 649.

Bisgaier, H. G. and Price, M. E., "Quality Control and the Antitrust Laws in Trademark Licensing," *Trademark Reporter,* Vol. 53 (December 1963), p. 1130.

Browne, R. C., "Post Prosecution Amendments to Applications," *Trademark Reporter,* Vol. 53 (December 1963), p. 1118.

"Business Reciprocity and the Antitrust Laws," *Notre Dame Lawyer,* Vol. 39 (February 1964), p. 185.

Buxbaum, R. M., "Applicability of the German Cartel Law to Licenses of Foreign Patents," *Antitrust Bulletin,* Vol. 8 (September-December 1963), p. 925.

Charles, R., "ASCAP—A Half-Century of Progress," *Bulletin of the*

Copyright Society of the USA, Vol. 11 (February 1964), p. 133.

Cheairs, M. N., "Federal Prohibition of Discriminatory Pricing—The Clayton and Robinson-Patman Acts," *South Texas Law Journal,* Vol. 7 (Fall 1963), p. 44.

"Competition, the Right to Copy and Secondary Meaning," *Washington University Law Quarterly 1963* (April 1963), p. 224.

"Compulsory Licensing: A Controversial Topic in the Latest Revision of Our Copyright Law," *University of Cincinnati Law Review,* Vol. 33 (Winter 1964), p. 83.

Cooper, J. L., *"Wihtol v. Crow* (199 F Supp 682); Use Revisited," *UCLA Law Review,* Vol. 11 (November 1963), p. 56.

"Copyright and the Common Market," *George Washington Law Review,* Vol. 32 (December 1963), p. 365.

Copyright Law Symposium. Foreword, S. Adams; "Territoriality of Copyright: An Analysis of Assignability Under the Universal Copyright Convention," R. M. Milgrim; "Copyright Protection for the Collection and Representation of Facts," R. A. Gorman; "Sequel Rights in the Law of Literary Property," D. L. A. Kerson; "Rights of Federal Government Personnel Under the Copyright Act," D. Metz; "Copyrighting Reproductions of Physical Objects," M. D. Andrews; "The Scope of Protection of Copyrights and Design Patents in the United States," A. B. Silverman; "Divestive Publication — Two-Century Dilemma," J. G. Burciaga; "The Origins of the Statute of Anne," T. B. Morris, Jr.; "Statutory Remedies for Record Piracy," E. Wilmarth. *Copyright Law Symposium* (ASCAP), Vol. 12 (1963).

Davies, R. K., "Finding An Expert Witness In the Sciences," *Cleveland-Marshall Law Review,* Vol. 13 (May 1964), p. 309.

Davis, A. S., Jr., "Dialogue Upon the Ramparts," *Ohio State Law Journal,* Vol. 24 (Fall 1963), p. 609.

Davis, J. C., Navy Patent Matters," *JAG Journal,* Vol. 18 (January 1964), p. 214.

Davis, James Franklin, "Patent Licensing and the Anti-Trust Laws: Some Recent Developments," *Journal of the Patent Office Society,* Vol. 46, No. 1 (January 1964), pp. 12-38.

"(1) How do Section 3 of the Clayton Act and Section 1 of the Sherman Act affect the patent license drafter in view of recent court decisions?

"(2) What patent licensing problems may arise under Section 7 of the Clayton Act?

"(3) What practical patent licensing and anti-trust problems arise under the recent amendment to Section 135, Title 35 of the United States Code, which requires recording in the Patent Office, for the benefit of government agencies, of 'settlement agreements' between parties in patent interference?"

Dean, J., "Economic Aspects of Reciprocity, Competition and Mergers," *Antitrust Bulletin,* Vol. 8 (September - December 1963), p. 843.

"Defense of Misuse in Copyright Actions," *Denver Law Center Journal,* Vol. 41 (January-February 1964), p. 30.

De Guevara, A. L., "Socialized Medicine and Its Effects on Trademarks," *Trademark Reporter,* Vol. 53 (December 1963), p. 1109.

Deller, Anthony William, "Social and Economic Impact of Patents," *Journal of the Patent Office Society,* Vol. XLVI, No. 6 (June 1964), pp. 424-457.

"To cover this subject fully really involves a history of the development of our country from the enactment of the First Patent Act in 1790 up to the present time, as well as the story of the vital role played by inventions in this development. In view of the shortness of time, I will endeavor to give you a bird's eye view of the historical development and to point out some of the highlights of the social and economic impact of patents. Although our country only embraces a small part of the land mass of the world and although our population only amounts to a fraction of mankind of the world, nevertheless we have been able to build the strongest nation on the earth with the highest standard of living known to man. It is said that Americans consume approximately one half of the entire world's production of steel and oil and purchase approximately three quarters of its automobiles, radios and refrigerators and all other "necessities" of life, which foreigners consider luxuries. In my opinion, this was due in large measure to the American Patent System. And we have been able to accomplish this growth from a forested and untamed continent within a period of less than two centuries. Our accomplishment has been far superior and greater than the rest of civilization from the beginning of time until the drafting of our Constitution. In fact, our technological progress in the century from 1860 to 1960 has been greater than that which occurred in the rest of the world up to 1860."

DeSimone, A. R., "Report on Use of Trademark Attorneys by U. S. Corporations," *The Trademark Reporter,* Vol. 54, No. 4 (April 1964), pp. 287-290.

"Admittedly, this survey, relying as it does upon five basic questions, is rather limited in scope. Many more questions might have been asked to probe the matter more fully. However, it does indicate that a large segment of American industry does have a substantial amount of trademark activity both domestic and foreign. It indicates further that many companies are not satisfied to have their trademark matters handled on a part-time basis as an adjunct of other activities but are setting up separate trademark departments in their legal or patent areas, staffed by trained specialists to deal with them on a full-time basis."

Developments In the Law-Competitive Torts," *Harvard Law Review,* Vol. 77 (March 1964), p. 888.

"Dilution: Trademark Infringement or Will - O' - The - Wisp?" *Harvard Law Review,* Vol. 77 (January 1964), p. 520. *Trademark Reporter,* Vol. 54 (March 1964), p. 184.

Ellenbogen, Henry, "Automation in the Courts," *American Bar Association Journal,* Vol. 50, No. 7 (July 1964), pp. 655-658.

"The presiding judge of the eighth largest metropolitan court system in the United States describes how modern data-processing procedures and equipment are being used to provide the court's judges and staff with the necessary information to cope with the flood of litigation arising from the use of motor vehicles. Judge Ellenbogen details the system used in Pittsburgh."

"Entertainment Title Duplication Cases: A Process of Evolution," *Indiana Law Journal,* Vol. 39 (Fall 1963), p. 110.

Fiftieth Anniversary of the Federal Trade Commission: A Symposium. Introduction, M. Handler; "The Federal Trade Commission and the Need For Procedural Impartiality," E. E. Barton; "The Federal Trade Commission's Use of Economics," J. W. Markham; "The Federal Trade Commission's Administration of the Anti-price Discrimination Law," F. M. Rowe; "The Federal Trade Commission and False Advertising," I. M. Millstein; "The Federal Trade Commission and Mergers," E. M. Zimmerman; "Planning for Competition," J. M. Blair. *Columbia Law Review,* Vol. 64 (March 1964), p. 385.

"Fine Arts: What Constitutes Infringement," *Alabama Law Review,* Vol. 16 (Fall 1963), p. 41.

Fishman, David S., "An Analysis of the Combined Effect of 35 USC §119 and 35 USC §102(e), *Journal of the Patent Office Society,* Vol. 46, No. 3, pp. 181-213.

"This paper will examine the statutes and cases dealing with United States patents claiming priority to a foreign filing date for the purpose of determining the date which should be accorded to such patents for anticipatory reference purposes under the provisions of 35 USC §102e. Furthermore, this paper will attempt to demonstrate that such patents should be accorded the foreign filing date for reference purposes rather than the United States filing date as is the case with present Patent Office procedure."

Fleming, Lawrence, "Some Observations on Recent Trends in Invention," *Journal of the Patent Office Society,* Vol. 46, No. 5 (May 1964), pp. 315-330.

"It is widely alleged that we live today in a time of unprecedented technological progress. Newer and cheaper and better products, it is said, are bursting from the nation's laboratories. 'From this explosion,' a manufacturing executive writes, 'have come great advances in our standard of living and myriad of new products.'

"On the other hand, there is concern that technological innovation and invention in America, at least in the civilian area, are slowing down. The following is an attempt to summarize the more prominent data and opinion that bear on this question."

Freedman, R., "Is Choreography Copyrightable? A Study of the American and English Legal Interpretations of Drama," *Duquesne University Law Review,* Vol. 2 (Winter 1963), p. 77.

Fulda, C. H., "Significance of the Anti-Trust Laws of the European Economic Community," *Oklahoma Law Review,* Vol. 16 (November 1963), p. 415.

Galgay, J. J., "Anti-Trust Considerations In The Exchange of Price Information Among Competitors," *Antitrust Bulletin,* Vol. 8 (July-August 1963), p. 617.

Galgay, J. J., "Corporate Plans and Policies For Voluntary Antitrust Compliance," *Business Lawyer,* Vol. 19 (April 1964), p. 637.

Getz, L., "History of the Patentee's Obligations In Great Britain," *Journal of The Patent Office Society,* Vol. 46 (January, March 1964), pp. 62, 214.

Goldberg, G., "Copyrights and the Public Interest," *American Bar Association Journal,* Vol. 50 (January 1964), p. 56.

Goldsmith, S. Delvalle & Burnside, Michael, "Harmonization of Eu-

ropean Patent Laws," *American Bar Association Journal,* Vol. 50, No. 7 (July 1964), pp. 48-61.

"The actual form of the harmonization proposals of the Council of Europe therefore becomes of considerable interest to American inventors. A brief outline of the main provisions with comments thereon follows. This outline corresponds not to the original text as considered by the Zurich Conference but to a subsequently revised text drafted by the Council of Ministers to take into account some of the proposals of the AIPPI and other bodies."

Greenewalt, C. H., "Businessman Looks At the Antitrust Laws," *American Bar Association Section Of Antitrust Law,* Vol. 23 (1963), p. 337.

Groenke, T. A., "Anti-Trust Philosophy For Freedom," *Antitrust Bulletin,* Vol. 8 (September - December 1963), p. 895.

Handler, M., "What Is Wrong With The Anti-Trust Laws?" Celler, E., "What's Wrong With 'What Is Wrong With The Anti-Trust Laws?' " Rejoinder, M. Handler. *Antitrust Bulletin,* Vol. 8 (July-August 1963), p. 557.

Henderson, W., "Government Authorization and Consent to Infringe: Problems in Defense Procurement," *Federal Bar Journal,* Vol. 23 (Spring 1963), p. 134.

"Historical Patent Statistics 1791-1961," *Journal of the Patent Office Society,* Vol. 46 (February 1964), p. 89.

Jackson, R. V., " 'Fact Works'; Copyrightability and Infringement," *Journal of The Patent Office Society,* Vol. 45 (December 1963), p. 833.

Jacobs, A. A., Protecting An Invention," *Practical Lawyer,* Vol. 10 (March 1964), p. 65.

Kenny, Edward, "Commonwealth Copyright Law on Compilations and Telephone Directories," *American Bar Association Journal,* Vol. 50, No. 7 (July 1964), pp. 652-654.

Ladd, D. R., "ICIREPAT 1963—Progress, Pitfalls and Prospects," *Journal of The Patent Office Society,* Vol. 46 (January 1964), p. 39.

Lanzillotti, R. F., "Market Structure and Antitrust Vulnerability," *Antitrust Bulletin,* Vol. 8 (September-December 1963), p. 853.

LaRue, C. F., "Pitfalls for Price Competitors: State and Federal Restrictions on Below Cost or Unreasonably Low Prices," *Western Reserve Law Review,* Vol. 15 (December 1963), p. 35.

Lazerow, H. I., "Price Discrimination and The Treaty of Rome: The Jurisdictional Elements," *Federal Bar Journal,* Vol. 23 (Spring 1963), p. 147.

Leontief, W., "On Assessment of Patent Rights On Inventions Made Under Government Research Contracts," *Harvard Law Review,* Vol. 77 (January 1964), p. 492.

Lightman, J. M., "Protection of Generic Words Against Trademark Registration Abroad," *Trademark Reporter,* Vol. 54 (February 1964), p. 80.

Loevinger, L., "Antitrust in 1961-1962," *Antitrust Law Symposium* (1963), p. 6.

Loevinger, L., "Rule of Reason in Antitrust Law," *Virginia Law Review,* Vol. 50 (January 1964), p. 23.

Macdonald, David R., "Know-How Licensing and the Antitrust Laws," *The Trademark Reporter,* Vol. 54, No. 4 (April 1964), pp. 251-279.

"The purpose of this article, therefore, is to reanalyze the present antitrust status of know-how licensing for the purpose of clarifying the extent of the protection which the exploiter of know-how may accord himself without abusing the public interest in unfettered competition."

Mascarenas, C. E., "Los Modelos Y Dibujos Industriales En Derecho Comparado," *Revista Juridica de la Universidad de Puerto Rico,* Vol. 31 (1962), p. 93.

McDowell, J. H., "Caveat Emptor: Liability of Buyers for Inducing Violations of Sections 2(d) and 2(e) of the Robinson-Patman Act," *Boston College Industrial and Commercial Law Review,* Vol. 5 (Winter 1964), p. 261.

McPherson, J. H., "The Creative Patent Attorney," *Journal of the Patent Office Society,* Vol. XLVI, No. 4 (April 1964), pp. 292-300.

"The catalytic patent attorney is a man who is known for his support of inventiveness regardless of the human condition that carries it. He has many ways to behave. He can encourage, inspire, and help the faltering meet the demands of the patent office. He can help the over-enthusiastic and poorly prepared face reality without discouraging them. He has sufficient insight into the creative process that he can applaud individual actions and organizational actions that facilitate the process and he is sufficiently courageous to oppose negative forces and sufficiently tactful to manifest his opposition in such ways as to bring about progress. He is a tremendously vigorous, active force, far from the picture of an armchair bureaucrat who specializes in saying 'no' unclearly.

"He does not view himself as only a facilitator of the inventions of others but as an active and necessary partner in the success of our culture, our country, and our people."

Medow, A., "Bargaining for Lower Prices. Observations On Buyer's Liability Under Section 2(f) of Robinson-Patman Act," *Chicago Bar Record,* Vol. 45 (January 1964), p. 178.

Merna, James E., "A Current Look at the Business and Administrative Operations of the United States Patent Office," *Journal of the Patent Office Society,* Vol. XLVI, No. 6 (June 1964), pp. 405-423.

"While the examination and adjudication of applications for patents and trademark registrations are in essence the primary functions of the Patent Office, the processing of these applications, however, results in the continuous need for providing other corollary administrative and program services to the public. Inasmuch as the primary functions of the Office are already substantially well publicized and understood, the scope of this report will be limited intentionally to a general discussion of some of the related yet equally important public services which are rendered by the business management or administrative staff of the Patent Office."

Moyle, O. W., "Accounting Techniques for Establishing a Cost Differential Defense Under the Robinson-Patman Act," *Notre Dame Lawyer,* Vol. 39 (December 1963), p. 1.

Neal, Phil C., and Goldberg, Perry, "The Electrical Equipment Antitrust Cases: Novel Judicial Administration," *American Bar Association Journal,* Vol. 50, No. 7 (July 1964), pp. 621-628.

"What happens when more than 1,800 treble damage antitrust cases are filed in the federal courts against manufacturers of electrical equipment in a period of a couple of years? This is the problem the Judicial Conference of the United States faced in 1961. The story of how the problem is being met is told here authoritatively for the first time, with emphasis on uniform, nationwide pretrial procedures for the cases, which have common factual backgrounds."

Offner, E. D., "Benelux Trade Convention," *The Trademark Reporter,* Vol. 54 (February 1964), p. 102.

Oldham, A. H., "On Patentability," *Journal of the Patent Office Society,* Vol. 46, No. 1 (January 1964), pp. 5-11.

The author proposes: "If differences exist between the invention and the art and the differences are caught by any one of the negative

rules of invention then the burden of proof is on the inventor to show unobviousness by a preponderance of the law or evidence. If the differences are not caught by the negative rules of invention then the burden of proof is on the Examiner or a sued defendant to show by a preponderance of the law or evidence the obviousness of the differences."

Oppenheim, S. Chesterfield, "Antitrust Booms and Boomerangs," Reprinted from the *Northwestern University Law Review,* Vol. 59, No. 1 (March-April 1964), pp. 33-48.

"I end by reiterating my theme that the antitrust boom will not lose its steam so long as it is channeled within banks that keep it from overflowing into enforcement out of context with the work-a-day dynamics of the competitive process. Informed Americans are pragmatists. Their distrust of concentrated economic power is overborne by their recognition of the beneficial results of big enterprises. The Congress and the courts are also predominantly inclined toward a scale of pragmatic judgments. In retrospect, we have shown that Government and private parties have been curbed by judicial interpretations which boomeranged against attempts to make antitrust go against the grain of competitive realities. In prospect, we have expressed the belief that proposals for drastic deconcentration of oligopoly structures will also boomerang either in Congress or in the courts. Romantic and nostalgic images of American industry organized in small units and emotional slogans about the virtues of diffused economic power color the antitrust horizon. They do not appear to have made significant inroads on the acceptance by the American public of business bigness. The informed citizenry still regard bigness as essential a part of our economy as antitrust policy itself."

Osborne, J. C., "Trademark Law and Practice in Canada," *Trademark Reporter,* Vol. 54 (March 1964), p. 149.

Paillet, Y., "Note Re: Special Medicament Patents," *Journal of the Patent Office Society,* Vol. 46, No. 3 (March 1964), pp. 227-232.

"1) As it is expressly stated in the (French) law itself, the (Special Medicament Patents) can only protect a product which must, in addition, satisfy the two following conclusions:

On the one hand, that of being usable in human medicine,

On the other hand, that of being new, and more particularly of satisfying the requirements of absolute novelty, but only within the particular field of medicine.

The B. S. M. can also protect

pharmaceutical compositions, but on condition that such compositions have properties which are different from the sum of the known properties of their constituents.

2) Adopting a reasonable interpretation of the decree, we are of the opinion that a B. S. M. may protect a family of compounds, provided that such compounds satisfy the requirements of patentability, that they are capable of being characterized through a general, common definition, and provided that they possess in common similar curative, preventive or dietetic properties, or that they may be given to man for diagnostic purposes."

Parker, B., "Scientific Proof," *Revista Juridica de la Universidad de Puerto Rico,* Vol. 32 (1963), p. 201.

"Patent and Licence Transactions with Foreign Countries," Reprinted from *Monthly Report of the Deutsch Bundesbank,* Vol. 16, No. 4 (April 1964), pp. 21-27.

"In our reports on the Federal Republic of Germany's balance of payments we have occasionally published the receipts and outgoing payments on patent and licence transactions with foreign countries (including film business) as ascertained through the balance-of-payments statistics. In this category of services there were rising excesses of outgoings between the currency reform and 1962. Although the receipts and outgoings in question did not materially affect the balance of payments (they accounted for less than 1 per cent of the total turnover on goods and service transactions with foreign countries), the excesses of expenditure on patents and licences attracted public attention because many people regarded them as indicating the state of technical knowledge and research in the Federal Republic on an international comparison. In that context many quarters asked for further analysis of the available data, such as by separating film business and copyrights in works of music, literature and formative art from the totals previously published, as well as by classification of the industrial sector's patent and royalty payments according to the business lines of the German enterprises concerned or according to branches of research. The Bundesbank has tried to comply with these desires by eliminating the items not directly regardable as patent and royalty payments, and by regional and industrial classification—confined to 1963— of the receipts and expenditure on patent and licence transactions. The results are presented in the following study although, for reasons given later, their evidential value is limited. Conclusions regarding the state of technology in

the Federal Republic as compared with other countries can be drawn from them only subject to considerable qualifications."

Pennington, R. R., "Draft European Patent Convention," *Solicitors' Journal,* Vol. 108 (January 10-17, 1964), p. 25, 45.

Pennington, R. R., "Restrictive Trade Practices Decisions 1958-1963," *Solicitors' Journal,* Vol. 108 (January 24-February 14, 1964), pp. 63, 83, 109, 128.

"Peripheral Definition Theory v. Central Definition Theory in Patent Claim Interpretation. A Survey of the Federal Circuits," *George Washington Law Review,* Vol. 32 (March 1964), p. 609.

Prager, Frank D., "Examination of Inventions from the Middle Ages to 1836," *Journal of the Patent Office Society,* Vol. XLVI, No. 4 (April, 1964), pp. 268-291.

"This article relates to the origin and early history of patent examination. It will show that a simple examining procedure was used when patent grants were first considered in Europe, some five hundred to six hundred years ago, and that the practice then flourished and developed at certain places, while decaying elsewhere. We will describe the major ups and downs of the examining traditions from the recorded beginnings to 1836, the year in which America started a new epoch by creating the modern patent system."

"Product Appearance in the Law of Unfair Competition – Pre-Emp. tion or Protection?" *Yale Law Journal,* Vol. 73 (December 1963), p. 389.

"Product Imitation," *Cleveland-Marshall Law Review,* Vol. 13 (May 1964), p. 280.

"Protection of Trade Secrets in the Employer - Employee Relationship," *Notre Dame Lawyer,* Vol. 39 (February 1964), p. 200.

"Public Performance for Profit Through the Medium of Copyrighted Musical Compositions," *Mississippi Law Journal,* Vol. 35 (March 1964), p. 295.

Recent Developments in Antitrust: A Symposium. Introductory Remarks, H. T. Austern; "Significant New Commission Developments," R. P. Dixon; "Problems Confronting the Antitrust Division," W. H. Orrick, Jr.; "Developments in Federal Antitrust Legislation," E. H. Pewett; "Developments in Antitrust During the Past Year," R. E. Day. *American Bar Association Section of Antitrust Law,* Vol. 23 (1963), p. 49.

Robertson, L., "Dependent Claims

Based On Background Definitions," *Journal of the Patent Office Society,* Vol. 45 (December 1963), p. 828.

Savelson, R. S., "Electronic Music and the Copyright Law," *Bulletin of The Copyright Society of the USA,* Vol II (February 1964), p. 144.

Silverman, A. S., "Scope of Protection of Copyrights and Design Patents In The United States," *Copyright Law Symposium (ASCAP),* Vol. 12 (1963), p. 152.

"Statutory Copyright Protection for Books and Magazines Against Machine Copying," *Notre Dame Lawyer,* Vol. 39 February 1964), p. 161.

Stedman, J. C., "U. S. Patent System and Its Current Problems," *Texas Law Review,* Vol. 42 (March 1964), p. 450.

Stengel, G. W., "Intra-enterprise Conspiracy Under Section 1 of the Sherman Act," *Mississippi Law Journal,* Vol. 35 (December 1963), p. 5.

Stigler, G. J., "United States v. Loew's Inc. (83 Sup Ct 97) a note on block-booking," *Supreme Court Review, 1963* (1963), p. 152.

Stitelman, Joseph, "Information Retrieval Studies of Electronic Patents," *Journal of the Patent Office Society,* Vol. XLVI, No. 6 (June 1964), pp. 390-404.

"Many approaches are being actively pursued in the field of information storage and retrieval. One such approach is the study of the various techniques used in different types of search systems by actual construction and use of such systems. Another line of study is the development of methods for evaluation of search systems and various aspects of systems to permit the selection and comparison of systems and methods as to effectiveness and cost. A third area of study is the use of a digital computer as a search tool and as a tool in preparing search systems.

"In each of these approaches it may be necessary or desirable to have for study a body of documents organized into a search system. Obviously certain advantages and economies are to be had from the use of a single search system for study of all these approaches.

"An experimental search system of a group of patents whose subject matter is component electronic circuits using non-linear conductive devices has been constructed. This search system and its use in the three approaches in information retrieval studies, indicated above, will be described."

"Survey of Copyrighted Material Reproduction Practices in Scien-

tific and Technical Fields," *Bulletin of The Copyright Society of the USA,* Vol. 11 (December 1963), p. 69.

Swacker, F. W., "Foreign Business Operataions Under U. S. and Common Market Antitrust Laws," *Business Lawyer,* Vol. 19 (January 1964), p. 493.

Symposium—"Re-evaluation of the Impact of Present-Day Antitrust Policy on the Economy." Introductory Remarks, H. E. Chaffetz; Principal Address, E. T. Ghether; Panel Discussion (Markham, Fortas, Bork). *American Bar Association Section of Antitrust Law,* Vol. 23 (1963), p. 289.

Tierney, M., "Irish Trademark Law," *The Trademark Reporter,* Vol. 54 (January 1964), p. 1.

"Trade Secrets After Patent Publication: A Punitive Injunction," *Fordham Law Review,* Vol. 32 (December 1963), p. 313.

"Trademark Confusion Test—Good or Bad; Weak or Strong?" *Boston College Industrial and Commercial Law Review,* Vol. 5 (Winter 1964), p. 401.

Treece, J. M., "Copying Methods of Product Differentiation: Fair or Unfair Competition?" *Notre Dame Lawyer,* Vol. 38 (April 1963), p. 244. *The Trademark Reporter,* Vol. 64 (January 1964), p. 12.

Turner, G. B., "Some Comments With Respect to the Role of Outside Counsel in a Corporate Antitrust Compliance Program," *Record of the Association of the Bar of the City of New York,* Vol. 19 (March 1964), p. 143.

"Unfair Competition and the Doctrine of Functionality," *Columbia Law Review,* Vol. 64 (March 1964), p. 544.

"Unsolicited Creative Idea: A Copyright Perplexity, *Albany Law Review,* Vol. 28 (January 1964), p. 108.

van Themaat, P. VerLoren, "Antitrust Policy in the Common Market," *Antitrust Law Symposium, 1963* (1963), p. 41.

Vida, A., "The Law of Industrial Property in the Peoples' Democracies and the Soviet Union," *The Trademark Reporter,* Vol. 54, No. 4 (April 1964), pp. 280-286.

"A brief summary of this subject (trademark law of the Socialist States), still in the throes of transformation."

Viewpoints On the General Revision of the Copyright Law: A Symposium. Introduction, A. L. Kaminstein; "Copyright Law Revision – the Overall Picture," G. E. Frost; Authors, I. Karp; "Some Essentials in Copyright Revision For Motion Pictures,"

R. Colby; "Viewpoint of the Phonograph Record and Music Industries," A. C. Pasarow; "Viewpoint of the Copyright Office on General Revision of the Copyright Law," B. A. Ringer. *Bulletin of the Copyright Society of the USA,* Vol. 11 (Octotber 1963), p. 3.

Walden, J. L., "Antitrust In The Positive State," *Texas Law Review,* Vol. 41 (June 1963), p. 741, Vol. 42 (April 1964), p. 603.

Weihofen, Henry, "Word-Watching for Lawyers," *American Bar Association Journal,* Vol. 50, No. 7 (July) 1964), pp. 663-666.

"Since the written products of lawyers may survive to cause embarrassment and litigation, Professor Weihofen admonishes us to choose the right word, avoid vague words and cliches, eliminate enfeebling intensifiers and useless redundancy, repeat the right word, but use pronouns. He warns that word-watching requires patience and rewriting."

Withrow, J. R., Jr., "Antitrust Compliance Programs," *Record of the Association of the Bar of the City of New York,* Vol. 19 (March 1964), p. 151.

Wohlsetter, A., "Technology, Prediction, and Disorder," *Vanderbilt Law Review,* Vol. 17 (December 1963), p. 1.

Zines, L. R., "Revision of Copyright Law," *Australian Law Journal,* Vol. 37 (December 1963), p. 247.

REPORTS AND HEARINGS

Annual Report of the Register of Copyrights, For the fiscal year ending June 30, 1963, Sixty-sixth Annual Report of the Register of Copyrights, Copyright Office, The Library of Congress.

Current Projects on Economic and Social Implications of Science and Technology 1963, NSF 64-10, National Science Foundation.

Federal Funds for Research, Development, and other Scientific Activities (Formerly *Federal Funds for Science), Fiscal Years 1962, 1963, and 1964, Volume XII,"* NSF 64-11, National Science Foundation.

"This issue of *Federal Funds for Research, Development and other Scientific Activities* covers data obtained from a survey of Federal financing of three scientific activities. Part I discusses the part of the survey relating to research and development and R&D plant; Part II reports on the dissemination of scientific and technical information arising out of research and development; and

Part III pertains to the collection of general-purpose scientific data on natural and social phenomena. The latter activity is being introduced for the first time into this series."

Federal Funds for Science XI, Fiscal Years 1961, 1962 and 1963, NSF 63-11, National Science Foundation.

Patent Counsel in Industry — Studies in Business Policy, No. 112, A Research Report from the Conference Board, The National Industrial Conference Board.

"This report, which reviews prevailing patent practices in 251 industrial companies, is intended to help Board Associates re-examine their existing methods of handling patent work and perhaps improve them. It explains how companies organize to carry out the patent function and reports on how they are dealing with some of the administrative problems relating to patents. Included are many useful illustrations and case examples showing how specific companies assign responsibility for patent work and how they handle such matters as unsolicited ideas from outsiders and awards to employee inventors. A special section of the report describes the patent counsel's function in industry as viewed by a leading practicing attorney."

Patent Office Fees, Hearings before the Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary, United States Senate, Eighty-Eighth Congress, Second Session, on S. 2547 and H.R. 8190.

Patents, Trademarks, and Copyrights, Report of the Committee on the Judiciary, made by its subcommittee on Patents, Trademarks, and Copyrights, United States Senate, Eighty-eighth Congress. First Session, as extended, on S. Res. 65.

Research and Development in Industry 1961, NSF 64-9, National Science Foundation.

"This report presents and analyzes the final data from the 1961 survey of industrial research and development. Time series data in this report are of special value to scientists, engineers, economists, and other individuals interested in gaining a historical prospective of research and development. Of particular significance are the data presented on the division of industrial R&D activities by character of work including basic and applied research and development.

The Role of Patents in the Transfer of Technology to Under-Developed Countries, United Nations Economic and Social Council New York City, 183 pages.

The analysis presented in this re-

port covers the economic, legal and technical implications of the patent system for the economies of under-developed countries. The basic position from which the problem has been approached was that of the United Nations, i.e., that the economic progress of the under-developed countries is a matter of concern not only to themselves, but also to the world community at large, and that—as stated in General Assembly resolution 1713 (XVI)—"access to knowledge and experience in the field of applied science and technology is essential to accelerate the economic development of under-developed countries and to enlarge the over-all productivity of their economies."

The issue of patents to nationals and residents is one—though not the only—method at the disposal of Governments of under-developed countries for encouraging and rewarding invention and technical progress. The establishment of patent systems in under-developed countries for nationals and residents, moreover, raises no specific problems, subject to the possible need for technical assistance or pooling arrangements in administering such systems, and the general importance of conserving the scarce scientific manpower for directly productive tasks. In this direction, non-examination systems of patent issue may recommend themselves especially to under-developed countries. The possibility of utilizing international resources for the purpose of examination of patent applications from under-developed countries also clearly suggests itself.

The real issues revolve around the position of the foreign patentee—and it is with these that resolution 1713 (XVI) on the role of patents in the transfer of technology to under-developed countries is concerned. Where a patent granted to a foreign national is not worked in the under-developed country, there may result artificially high prices of the patented article when imported into the under-developed country, but such high prices may be the result of other factors than the exclusionary monopoly given the patentee. The patent system may thus be an element in the over-all picture of adverse terms of trade for under-developed countries, but its impact is not separably measurable. In this context, it has nothing to do with the balance of payments burden of royalties since no royalties are paid where the patented product is not locally produced. The situation may be eased from the point of view of under-developed countries if the more developed countries operate—as some often do—the patent system in a context of general (especially anti-trust) legislation which serves to reduce or counteract possible misuses of the system for restrictive or price-raising purposes, not only at home but also on operations abroad. The under-developed countries are also in a position to adopt, and many have in fact adopted, measures to control unreasonable prices and other abuses of the patent system.

Where the patented product or process should be advantageously introduced into the economy of under-developed countries, a number of issues arise. The case where this can be done without the technical co-operation or other resources is (of?) the foreign patentee or any other source outside the under-developed country is in practice exceptional; where such a case exists, provisions for compulsory working of licensing will deal with the situation if fairly and effectively administered. This will also be the case where the patent can be worked with such additional foreign know-how and resources as can be acquired from third parties or in the open market. The best course of action by the under-developed country will depend on whether it prefers the patentee to come and work his invention himself (possibly in a joint venture with local enterprise)—provided he is willing to do so on acceptable conditions—or whether it prefers the invention to be worked wholly by nationals. There may be sound economic reasons

for either preference in given cases. In spheres of production vital to the national interest and the development of special resources, or to public health, limitations on patentability, or provision for limitng the scope of the patent grant by special working or compulsory licensing in the public interest are natural, as is evidenced by the inclusion of such limitations in the legislation of many countries.

Where the technical services, management experience and perhaps capital resources as well as other connections of the foreign patentee himself are essential for the introduction of the patented process in the under-developed country, and cannot be procured elsewhere, his minimum terms and conditions will have to be met in one form or another if it is decided to bring the innovation to the under-developed country. In so far as this can be described as a one-sided relationship and may express itself in undue balance of payments burdens on the under-developed country (or else in undue delays in introducing the new technology), such results are not attributable to the patent system as such, nor is the resulting burden properly measured by the patent royalties.

The Governments of the developing countries have a legitimate interest in preventing excessive exploitation of their one-sided technological and financial dependence. One such possible method is the screening and control of license agreements, and avoidance of unduly restrictive features. The world community and the Governments of more developed countries can assist by inducing patentees not to be unduly restrictive in the conditions and terms on which they are willing to spread technology into under-developed countries; a variety of policy measures ranging from domestic compensation of patentees, provision of international funds for this purpose, equivalent investment guarantees and legislation against restrictive practices applying to business operations abroad, could be used for this purpose.

In its final paragraph, resolution 1713 (XVI) raises the question of the "advisability of holding an international conference in order to examine the problems regarding the granting, protection and use of patents." No views on this question have been expressed by any Governments in their replies to the Secretary-General's inquiry. In fact, as pointed out in the report, the problems arising in connection with the transfer of technology to developing countries, go much beyond the operation of national patent systems or the conduct of international patent relations, so that a Conference such as that contemplated in the resolution could only deal with part of the issues. More could be done through the adoption at the national level of appropriate legislative and administrative measures along the lines discussed in the Report. In the final analysis, the question of patents can be best seen in the broader context of facilitating the transfer of technology, patented and unpatented, to the developing countries, and enhancing the ability of the latter to adapt and use such foreign technology in the implementation of their development programs. This may be considered as falling within the scope of inquiry of the Advisory Committee on the Application of Science and Technology to Development, established by Economic and Social Council resolution 980 A (XXXVI), to whose attention the analysis presented in this Report may usefully be drawn.

NOTES

More on the PTC Journal Cover

For those readers who have followed the gradual metamorphosis of this *Journal* from its original blue cover with black lettering to the current issue, we hope you find the Summer issue's new format as attractive and readable as we do. The word IDEA as a title first made its appearance on the cover of our Spring *Journal.* In this issue, the word IDEA is again presented in bold letters and "The Patent, Trademark, and Copyright Journal of Research and Education," as a subtitle, follows IDEA in smaller print than before.

The transition issue was to introduce the word IDEA to *Journal* readers, to get you used to the change, to avoid unduly confusing libarians and, most importantly, to find out if you liked it. Your response, overwhelmingly in favor, indicated that you do. You also favored the grey, black and gold symbolic design of the man's head which is an integral part of our new *Journal* design. The same juxtaposition of IDEA in large letters and "The Patent, Trademark, and Copyright Journal of Research and Education" in smaller letters appears on the rib of the cover and in the table of contents and title pages.

There is a general agreement among our staff and readers that IDEA better conveys to the public the broad cultural content of our *Journal.* Rich in meaning, it communicates the type of subject matter of studies in industrial and intellectual property deals with. Intellectual property has been defined as "intangible creations of the mind, including inventions, useful 'know-how,' technical and ornamental designs, and literary, art and other products of man's ingenuity." "Idea" also communicates the knowledge that must be applied to our research and the knowledge resulting from our findings.

"Living Archives of Inventors" Under Consideration

The Research Institute is considering the development of a series of "Living Archives of Inventors." This series will consist of colored motion pictures, lasting from approximately one half to one hour. It is designed to provide clear and memorable impressions of outstanding living inventors, including the circumstances in which

their inventions originated and were applied. The films will underscore the relation of the industrial property systems to the protection, assignment, marketing, and so forth, of products of the mind.

The production of the films will be supervised by the Research Institute. The actors will be the actual inventors and, where possible, their actual associates. This program will afford an opportunity for researchers, students, professional people, and business administrators to examine first-hand the techniques employed by recognized creative individuals. The series will serve two major purposes: (1) it will make an educational instrument available to academic institutions, television and motion picture media, business firms, and other interested organizations throughout the country; and (2) it will provide a living archive for posterity. It will also offer an opportunity to honor leading creative people in a unique manner during their lifetimes. In these ways, the nation will become better acquainted with the accomplishments of outstanding creative minds, and the Research Institute will develop a vivid autobiographical record of technological pioneers for future and enduring reference.

Japanese Group Visits Research Institute

The Research Institute's Executive Director L. James Harris and members of the Research Staff were hosts to a group of thirty Japanese businessmen, professors and attorneys at a special briefing held on the University campus on Friday morning, July 10. The visitors, all members of the Tokyo Management Association, were on a six weeks tour of the United States and Europe where they planned to call upon leading industrial firms and government officials to survey industrial property systems. The PTC Research Institute of The George Washingtotn University was the only academic institution on their agenda.

In his request for an appointment with The Research Institute, the Tokyo Management Association's Program Planner, Yoshio Morokka, wrote:

". . . Our Association has organized a team to survey American and European industrial property system in order to meet the request of the industry in Japan going to liberalize Japanese foreign exchange control as a qualified country of Article 8 of IMF treaty from coming April. This team is consisted of patents specialists in leading companies and eminent patent attorneys in Japan as the name list shows. It aims to survey the items of industrial property system which attachment sheet contains and . . . to get acquainted with each other.

"We hope that their visit to Your Office would greatly contribute to

the development of Japan's industry. . . ."

When plans for the meeting were finalized, Executive Director Harris invited the members of the Research Staff based in Washington to be present. Also invited were Mr. Hajime William Tanaka, Washington attorney, and Mr. Kotaro Otani, of the Japanese Patent Office currently assigned to the United States Patent Office. They and members of the Research Staff arranged to attend the meeting and contributed greatly to its success. Staff members on hand were Dr. Harold F. Bright, Dr. Mary A. Holman, Dr. Barkev S. Sanders, Dr. Irving H. Seigel and Gerard J. Weiser, Esq.

The subject matter discussed ranged from purely legal questions on patent law and industrial property procedures and practices to the research, educational and publication activities of the Research Institute. The Japanese visitors indicated that they were very favorably impressed with the work and organization of the Research Institute, and its international implications.

Members of the Tokyo Management Association group included:

Mr. Nobuyoshi Sugibayashi, Professor and lawyer, Nihon University; Mr. Yoshio O'Hara, Lecturer, Chuo University Law School; Mr. Hiroshi Ashida, Magir of Patent Division, Nippon Electric Co., Ltd.; Mr. Takeo Maeda, Chief Patent Department, Shinko Electric Co., Ltd.; Mr. Kaku Kato, Patent Attorney; Mr. Jinnosuke Tsunoda, Chief of Patent Section, Oki Electric Industry Co., Ltd.; Mr. Takashi Takeuchi, Patent Department Assistant Director, Takeda Chemical Industries, Ltd.; Mr. Ryoji Honda, Manager of Development Department, Yoshitomi Pharmaceutical Industries Ltd.; Mr. Michio Akaoka, Chief Patent Section, Tanabe Pharmaceutical Co., Ltd.; Mr. Takashi Aoki, Patent Attorney Patent Department, Fujisawa Pharmaceutical Co., Ltd.; Mr. Hajime Matsuda, Manager Research & Development Dept., Daiichi Pharmaceutical Co., Ltd.; Mr. Ichiro Okano, Assistant General Manager, Technical Department, Kureha Chemical Industry Co., Ltd.; Mr. Takeo Sakano, Manager Technical Department, Toyo Spinning Co., Ltd.; Mr. Kenzaburo Hamada, First Patent Section, Patent Department, Toyo Rayon Co., Ltd.; Mr. Genji Watanabe, Patent Attorney, Nissan Motor Company, Ltd., Engineering Laboratories; Mr. Yasuo Sato, Chief Patent Section, Honda Research & Development Co., Ltd.; Mr. Seikichi Nishio, Chief of Investigation Section, Research Laboratory, Nippon Sheet Glass Co., Ltd.; Mr. Yasushi Yoshijima, Chief Patent Section, Technical Development Dept., Yawata Iron & Steel Co., Ltd.; Mr. Kunio Sato, President, Iwate Riowa Motor Co., Ltd.; Mr. Chuichi Nawa, Chief of Second Patent Section, Ajinomoto Co., Inc.; Mr. Shoji Kajitani, Patent Attorney; Mr. Yoshiharu Motobayashi, Barrister; Mr. Umejiro Okamoto, Barrister; Mr. Kichibee Takai, Barrister; Mr. Shizunobu Kamoda, Attorney at Law; Mr. Shogo Abbe, Lawyer; Mr. Tohei Hitosugi, Barrister; Mr. Kiyomi Nomura, Lawyer; Mr. Yoshihiro Dan, Lawyer and Patent Attorney; Mr. Yoshio Morooka, Planning Dept., Tokyo Management Assn.

Inventor of the Year Award

Nominations for the 1964 Inventor of the Year Award are now being received by The PTC Research Institute of The George Washington

University. Closing date for nominations is October 1, 1964. Members of the Research Institute and all other interested persons are invited to submit the names of candidates for the Board's consideration.

The Inventor of the Year Award will honor a journeyman or professional inventor who has made a significant patented invention or inventions over the years even though he may not have had wide public notice. Submissions should include information to clearly identify the candidate and contain sufficient specific evidence of his contributions and his character to enable the Board to make an evaluation. The personal qualities of the candidates will be considered, such as their dedication, their courage despite adversity, and their general capacity to rise above the problems of their environment.

Presented annually, the Inventor of the Year Award will reaffirm the Research Institute's continuing special interest in the accomplishments of creative people by providing a university forum for recognition.

The following distinguished panel constitute The Board of Awards:

The Honorable Edward J. Brenner, Commissioner of Patents.

Dr. Leonard Carmichael, Vice President for Research and Exploration, The National Geographic Society; Former Secretary, The Smithsonian Institution.

Dr. Michael Ference, Jr., Vice President Research, Ford Motor Company.

Dr. Earl T. McBee, Head, Department of Chemistry, Purdue University.

Dr. Paul L. Salzberg, Director, Central Research Department, E. I. Dupont de Nemours & Company.

Nominations for the 1964 Award should be addressed to The PTC Research Institute of The George Washington University, Washington, D. C., 20006.

First Clinic-Seminar to Be Held in the Fall

Among The PTC Research Institute's outstanding educational activities in the Fall is the first of a series of Seminar-Clinics on "Development, Management, and Use of Patents and Related Property Rights." The first Clinic will explore in depth certain aspects of *MANAGEMENT POLICIES* AND *PROBLEMS OF CORPORATE PATENT DEPARTMENTS*. This opening Clinic will deal with growth and frontier issues. It will seek the principles and broad public policies underlying such issues, take account of the laws involved, and serve as an instrument for the better understanding and utilization of the industrial property system.

The sessions, which will be held on the University campus, will be limited to a small group to permit informal discussion and exchange

among the participants. Invitations will be directed to experienced practitioners. To encourage open discussion, public reports of the proceedings will not be made unless all participants agree.

Constitutional Meeting of ASIPI Reported

We are printing for the benefit of our readers interested in Latin American industrial property developments, excerpts from a report by Dayton R. Stemple, Jr. (Chairman, Pan American Committee) on the Constitutional Assembly of the Inter-American Association of Industrial Property (ASIPI) which met at Acapulco, April 11-13 and in Mexico City, April 13-16, 1964:

". . . The Long Range Committee reported that the immediate objectives of the association should be (1) to institute a campaign designed to inform governments, industrial and commercial circles and the general public about the importance of industrial property for the rapid development of national economies, and (2) to establish an inventory of the legal questions, with a list of priority, which ASIPI should deal with in the field of patents, trademarks, industrial designs, unfair competition, know-how and other industrial property matters. Various other questions should be studied in the nearest future, such as (1) the impact of Latin American common markets on industrial property rights, (2) possibility of adoption of a uniform international classification for trademark goods and services, (3) legal and economic aspects of confirmation patents, (4) legal and economic aspects of licensing of patents, know-how and trademarks, and (5) the desirability of fostering the study of industrial property law in the universities.

Other resolutions passed by the committee concern (1) recommendation to simplify legalization of powers of attorney, (2) non-members of the Paris Union study the desirability of adhering thereto, (3) participation in meetings in which industrial property matters are dealt with, such as the Latin American Industrial Property Congress held in Bogota in July, 1964, and (4) making permanent contact with the Organization of American States to offer our cooperation in industrial property matters.

The Constitution and By-Laws Committee had the most difficult job and put in the most work in their meetings. Some of the main objectives, as outlined in the constitution, are (1) to bring together lawyers and agents who are concerned with industrial property matters with the aim of improving the systems and reducing the differences existing there between, (2) to promote the formation of national groups concerned with industrial property, (3) to cooperate with the

Bureau of the Paris Union and other entities, (4) to assist and encourage the American governments to secure the necessary and desirable revisions in present systems, (5) to prepare proposals to improve international and particularly inter-American relations and agreements relating to industrial property, (6) to maintain a permanent bureau of research and activity, (7) to organize periodic congresses, and (8) to promote a high level of ethics in professional practices by lawyers and agents. . . .

". . . The Nominating Committee selected the following officers, all of whom were duly elected:

Honorary President
Francis C. Browne
United States

President
Jose Barreda Moller
Peru

Vice President
Bernardo Gomez Vega
Mexico

Vice President
Peter Dirk Siemsen
Brazil

Secretary
Ernesto Aracama Zorraquin
Argentina

Treasurer
Jeremiah D. McAuliffe
United States

Since the assembly terminated, Ernesto R. Viteri of Guatemala has generously accepted the position of Secretary General."

The Taxation of Ideas

ROBERT B. BANGS*

THERE IS AN OLD SAYING to the effect that all things pleasant are illegal, immoral, or taxable. Ideas – those flashes of inspiration that come to people – are no exception; they are not free from taxation. The ideas of which I speak are not the fugitive thoughts we all have, but fully worked ideas, reduced to practice, and given special legal protection.

The concern of this Research Institute is with ideas in this fully developed stage as intellectual or industrial property. This note comments on one aspect of Federal income taxation on such property.

NATURE OF INTELLECTUAL AND INDUSTRIAL PROPERTY

Intellectual and industrial property, as I use the terms, include writings, compositions, drawings, designs, slogans, and inventions. All of these have in common the fact that they are products of human thought and ingenuity. These physical evidences of intellectual effort are property just as the product of a carpenter's labor is property. Ownership of such property is evidenced by copyrights, trademarks, or patents.

Our legal system in the United States opposes counterfeiting; it therefore attaches considerable importance to giving legal protection to the true originator of intellectual property; for example, to the inventor who first reduces an invention to practice or to the composer who originates a piece of music. The author or inventor gets first claim on the patent or copyright.

A patent or copyright is like a deed to real estate; that is to say, it is tangible evidence of ownership. In economics, we call such paper property rights capital claims. If I borrow money from you and give you my note, you have a capital claim on me. If you license your patent to me, you have a similar capital claim on me. To extinguish these claims, I must repay the borrowed money or pay the patent royalties. If I don't, you are entitled to take legal action agains me.

As economists, we say that capital claims have a circulation inde-

* Mr. Bangs is a member of the Research Staff of The PTC Research Institute.

pendent from that of the capital goods they represent. The mortgage on my house can be bought and sold, pledged and unpledged, even though the house itsself is not involved in any transaction. Similarly your patent may, if you give me an exclusive license, be sublicensed by me even though you are not consulted. If a license is less than exclusive, the situation is different.

If I write a book and copyright it, then make a contract with you, a publisher, to publish it, the copyright belongs initially to me but I may assign all or only a part of my rights to the publisher. If I have a good literary agent, he divides the rights up and sells the book rights to one publisher, the movie rights to another and the serial rights to a third. If you have a good patent attorney, he licenses the American rights to one company, the foreign rights to another. Basically, the literary agent and the patent attorney are in the same business, namely protection and marketing of ideas.

The common feature of all intellectual property is that it may have value. Consequently, the capital claims evidencing ownership of this property may be sources of income. If I publish my book and a few copies sell, both the publisher and I receive income. His is ordinary business income since publishing is his business. Mine is royalty income; writing may be either my business or my hobby. If you license your invention to a manufacturer, he gets ordinary income and you get royalties.

Taxation of Income from Ideas

An unfortunate feature of income in the United States and in most other industrial countries is that it gets taxed. In this country the Federal Government taxes incomes as do most state governments – 36 out of 50 – as well as some localities.

There are two kinds of income; namely, that which recurs every year, and that which is nonrecurring or sporadic. We might call the latter occasional income. I don't write a book every year nor do you always market an invention, unless you are an unusually prolific inventor.

The British income tax, running continuously since 1844, taxes annual income but does not tax sporadic or casual profits. These take a zero rate. The U. S. income tax, running continuously only since 1913, has always taxed both types of income. Casual or nonrecurring profits are called capital gains. Although taxed, they take a lower rate; namely, one half or less than the rate applicable to ordinary income.

Ordinary income is what you get from your trade or business; capital gains come from your hobbies, your investments, etc. In U. S. tax law, capital gains are gains not from trade or business or from selling stock-in-trade, but from other (unspecified) activities.

The Internal Revenue Code defines capital assets, the sale or exchange of which results in capital gains or losses, in the following manner:

> "Capital assets means property held by the taxpayer, whether or not connected with his trade or business, but does not include (1) stock-in-trade of the taxpayer, (2) property used in his business which is subject to an allowance for depreciation, (3) a copyright, literary, musical or artistic composition or similar property held by a taxpayer whose personal efforts created such property, or by a taxpayer in whose hands the basis of such property is determined for the purpose of determining gain from a sale or exchange, in whole or in part, by reference to the basis of such property in the hands of the person whose personal efforts created such property, (4) accounts or notes receivable acquired in the ordinary course of trade or business, (5) an obligation of the United States or any of its possessions, or of a state or territory issued on or after March 1, 1941, on a discount basis."[1]

The Amateur-Professional Tax Distinction

Intellectual property may be produced either as a business or as a hobby. We have professional authors, songwriters, playwrights, designers, and inventors. We also have amateurs in all these fields who just get a lucky idea, and execute it.

Creation of intellectual property is an uncertain business. One may write or invent for years and make very little from it. Suddenly one gets what is known in publishing a "lucky strike." This is not a cigarette but a hit — a best seller — a hit tune — a successful invention. Like the old prospector who finally strikes gold, you have "struck it rich."

As economists, we describe this situation by saying that income from creation of intellectual property is lumpy and discontinuous — big in some years, zero or small in others. Such income is struck with special severity by a progressive income tax. A fluctuating income will owe more tax over 20 years than a steady one of the same size if the rates, exemptions, etc., stay the same. This feature of a progressive income tax is definitely unfair to the recipients of fluctuating income. They are a large group including, in addition to authors, composers, and inventors, professional athletes, actors, cattle ranchers, wheat farmers, and many other occupational and industrial groups.

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[1] Internal Revenue Code, Sec. 1221.

The question is how to fix up the income tax so that fluctuating incomes will not be hurt too badly. Generally speaking, there are both income spreading and income averaging provisions available to do this.

There are two provisions presently in the Internal Revenue Code for mitigating the effect of progressive income tax rates on lumpy income.[2] When compensation is earned for services extending over a period of 36 months or more, the resulting income, instead of being taxed entirely in the year of receipt, may be spread or allocated to the entire period during which the services were performed. This reduces tax liability in many cases. The other provision, which became effective with the Revenue Act of 1964, is an averaging device. It provides that, whenever income from personal services exceeds the average of prior years' incomes from the same source by more than 30 per cent, the tax may be computed by taking one-fifth of the income, calculating the tax, and then multiplying the result by five. This averaging provision has the effect of making the tax rate brackets five times as wide as they would otherwise be for persons who meet the original test of having an unusually high income during a given year to the extent of thirty per cent or more of the previous average. Both provisions are extremely helpful to individuals and corporations having irregular and fluctuating incomes but neither is a full-blown averaging or spreading system such as would be required by strict equitable considerations.

A third possibility for eliminating the effect of progressive taxation on bunched incomes is giving these incomes capital gains treatment; this possibility works because the capital gains tax is imposed at only one-half the rate of tax on corresponding ordinary income. Capital gains treatment makes an appreciable saving to the taxpayer. Moreover, above the point at which the individual income tax rate becomes fifty percent, the rate on capital gains is flat and has no further progression. Therefore, any legislation or regulation which will allow income to be reported as capital gain instead of as ordinary income is extremely valuable to the taxpayer.

Congress has shown a reluctance to cope with the very difficult problems involved in income averaging; it therefore has solved the problem of inequity to the fluctuating income recipient by granting long-terms capital gains treatment to a number of special sources and forms of income. Until a few years ago, there was literally no form of ordinary income, except personal compensation, which could not be converted into capital gains with the exercise of sufficient ingenuity by a skillful

[2] Both are now included in Sec. 1301.

tax attorney or accountant. Today it is far more difficult to go that route, although the opportunities to convert ordinary income into long-term capital gains have by no means disappeared. They are still possible at many points in the Internal Revenue Code.

Capital gains treatment has been widely used in this country as a form of tax relief to lighten the impact of progressive rates upon bunched-income accounts. One might almost say that this is the primary basis on which capital gains tax treatment has been given out by the Congress during the last two decades.

Summary and Conclusion

We now come to the necessity for summarizing the various ways in which intellectual property is taxed in these United States. These ways may be set down as follows:

1. Gains from writing whether it be books, plays, magazine articles, or newspaper stories, are generally treated as ordinary income. The spreading and averaging provisions do apply so that extreme discontinuities in income from year-to-year can be taken account of.

2. Generally speaking, composing is treated in the same manner as writing. Any royalties from the sale of sheet music, phonograph records, and the like is royalty income and is subject to ordinary income rates of tax, although there have been frequent proposals to change this treatment.

3. Inventions treatreated a little differently than other forms of intellectual property. An invention evidenced by a patent is taxed according to the rule laid down in Section 1235 of the Internal Revenue Code. This section provides, in effect, that when an inventor reduces an invention to practice and secures a patent on it, he may, if he elects to sell all substantial rights, title, and interest to the property by giving an exclusive license for the full remaining period that the patent has to run, obtain capital gains treatment on the proceeds.

This tax rule has been an important source of encouragement to American inventors. This capital gains treatment does not apply to all holders of a patent but only to the inventor and to any investor in the invention before it was reduced to practice. A company employing the inventor does not automatically obtain capital gains treatment when the inventor assigns the patent to his employer, as he may be required to do, by the terms of his employment contract.

I should like to conclude this little dissertation on the economics of intellectual property and in particular on the taxation of the proceeds

from such effort and ingenuity with a question. Is this different tax treatment of the various forms of intellectual property congruent? For example, is it proper that the writer, the composer and the playwright should have to pay the ordinary income rates on the results of their efforts while the inventor should be taxed on a more favorable basis?

In effect, the Congress of the United States has said that inventing is more nearly in the national interest than is writing, composing, or similar artistic accomplishment. This may or may not be the case. One wonders, however, on what basis the Congress decided to make such a determination.

I leave to the reader to draw the moral, if any, from this story.

U. S. Government Controls Over Export of Technical Data

J. N. BEHRMAN*

SUMMARY

THE LEGAL BASIS FOR CONTROL of exports of technical data rests in several different statutes, and administration of the controls is in three major departments of government. The objective of control is to prevent acquisition of "significant" data by unfriendly countries. Foreign countries are treated according to their "unfriendliness," and different classes of commodities are controlled more or less stringently. The methods of control vary among and within departments responsible.

The problems of control stem from shifts in policy and procedures necessary to reflect changes in the international situation, from the lack of knowledge of the controls on the part of business and of industrial developments on the part of government, from slow processing of applications for export, and from a lack of coordination not only among governmental departments but also among control policies of free world governments.

CONTROL OVER THE EXPORT OF TECHNICAL DATA is closely related to the control over export of goods. There is no separate authority for technical data; but regulations concerning the transfer are issued under broad authority extended by each statute. The most pervasive control stems from the Export Control Act of 1949, under which the Department of Commerce regulates exports of all goods and technical data to both the free world and the Soviet and Sino countries. The Act does not spell out what precisely is to be controlled or to what countries. The Munitions Control Act (1954), administered by the State Department, covers export of technical data related to arms, ammunition, and other implements of war. Technical data related to nuclear mate-

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rial and equipment are controlled under the Atomic Energy Act of 1954, administered by the AEC. The transfer of technical data by overseas subsidiaries or licensed affiliates of United States companies is controlled both through the Export Control Act and the Trading with the Enemy Act. The latter was passed during World War I and provided the Treasury with authority to regulate transactions carried out by entities under its control during times of emergencies. Treasury promulgated three sets of regulations under the Act: Foreign Assets Control Regulations, adopted in 1950 to embargo transactions with Communist China; Transactions Control Regulations, published in 1953, preventing shipment of strategic items to the Soviet bloc and later to North Viet-Nam; and Cuban Assets Control Regulations, issued in 1963, requiring licenses for certain transactions with Cuban entities.

Objectives of Controls

The objective of each of these control statutes is to protect the national security and welfare of the United States. This is to be done by prohibiting the "enemy" from obtaining data or equipment which contribute significantly to making war, whether they are direct nuclear or munition items or data, or whether they are merely items or data significantly contributing directly to mobilization. For example, the Export Control Act, as amended, states that "The unrestricted export of materials without regard to their potential military and economic significance may adversely affect the national security of the United States"; and that the controls are to be used "to exercise the necessary vigilance over exports from the standpoint of their significance to the national security of the United States."

In the realm of technical data, two major problems arise in the definition of objectives: one relates to the control of different *means* of acquisition; the other to the definition of what is "significant." Technical data can be transferred in many forms—specifications, blueprints, MRO manuals, embodied in equipment (extractable or unextractable), or the minds of technicians who may be hired away. These transfers may be made at several different stages in the business relationship, again providing different problems of control, and under quite different business relations between the parties. Thus, some data is transferred in the negotiation itself—whether the negotiation is for a licensing agreement or erection of a plant. Other data is transferred in initial stages of construction; other only with start-up; and some only in the process of maintenance, repair and continuous operation. In the case of a licensing agreement, data may be transferred at

various stages, depending on the development of new data by the licensor.

In the case of a subsidiary or joint venture, there may be a loose or *no* definition of rights to data, since they may be transferred at the will of the parent. The complexity of these transfer-relationships presents a difficult problem of both defining the objective and implementing it. Obviously the objective does not include the complete prohibition of movement of people nor prevent all contractual relations. The objective must, therefore, be narrowed as to *what* types of data can and should be controlled and under what business relationships. The easiest data to select are those related to munitions; the next are those related to nuclear items; last are those related to industrial mobilization. An additional problem of definition arises when the data originates abroad from United States affiliates. Among each of these groups, there is the problem of definition of what is "significant" enough to control.

In the munitions area, it is not difficult to classify a tank or anti-aircraft gun and carrier as munitions and falling within the control requirements. It is more difficult to classify many electronic items which are used in radar and other sensitive equipment, but which are also used extensively commercially. The objective of preventing "significant" materiel from falling into "enemy" hands varies also by country. For example, small arms and ammunition may be merely sporting equipment in one country but may be the means of riot and revolution in another. A jeep may be a farm implement in one country but may become a machine-gun carrier in another—or, of course, may serve the two purposes in the same country. Thus, there is a continuing problem of definition even in the area of munitions. The same holds in the nuclear area, where there are many peaceful uses of data and where research and development is moving so fast that what was "strategic" last year may not be this year; that is, the data would give no substantial benefit to the acquirer in the balance of military power.

The problems of definition of objectives in the economic mobilization area are even more difficult not only because of the rapid changes and multiple uses of data but also because of the fact that much data can be obtained from sources outside of the United States. In this field, as in munitions and nuclear equipment, the problem of "lead-time" is as important as questions concerning the data itself. It may not be possible to prevent the ultimate acquisition of given data, but it might be possible to delay its acquisition "significantly." Also, in the economic mobilization area, the question arises as to whether the ob-

jective is to prevent *domestic* mobilization by the "enemy," or to slow his economic growth significantly, or to prevent his economic penetration into third areas, where he might subvert governments friendly to the United States.

Each of these objectives has to be defined as to the country of destination of the data, and any such definition must be molded according to other political and economic relationships and objectives with that country. Thus, control objectives will differ not only as between friendly and unfriendly countries but also among each of these two groups, depending on the overall policy toward them.

Methods and Structure of Control

Given the complexities of technical data themselves and of the objectives briefly described above, it would be a miracle if the control procedures were such as to gain precisely the objectives sought, with minimal interference in business decisions. It is necessary to describe these procedures before analyzing the problems confronting the government and the business community in formulating appropriate policies and methods to regulate the flow of technical data.

The Department of Commerce's control over technical data is the most pervasive among government agencies. It prohibits, subject to certain qualifications, the export of technical data from the United States unless a *general* license is established permitting export of specific types of data (or data referring to specific items) or a validated license permitting such export has been obtained from the Department's Office of Export Control. Technical data has been defined for these purposes as

> any professional, scientific or technical information, including any model, design, photograph, photographic film, document or other article or material, containing a plan, specification, or description of technical information of any kind which can be used or adapted for use in connection with any process, synthesis, or operation in the production, manufacture, utilization, or reconstruction of articles or materials.[1]

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[1]Section 385.1 of Export Regulations; see *Current Export Bulletin* 891, March 16, 1964.

This definition was said, in a consent order with Hydrocarbon Research Inc., to include also "any information or documents which a competent engineer . . . could furnish or prepare with his own mind using well-recognized engineering principles, texts, technical articles and patents. . . ." Thus, the sending of an engineer who takes nothing with him but his own skill and training constitutes an export of technical data. Provisions concerning technical data do not include "classified" data—i.e., confidential, secret, or top secret data—since these are controlled by the Department of State's Office of Munitions Control.

Commerce has established a series of general licenses permitting export of unclassified scientific or educational technical data (GTDS), other data which are not encompassed in this classification if they are generally available in published form (GTDP) and still other data in unpublished form (GTDU). All exports of data not included under these groups require a validated license. Publication of data in a form which makes them available without restriction to the public at stores or libraries thus removes the necessity for governmental approval of export. Data not freely available or unpublished are under several restrictions, depending on their nature or destination.

Unpublished data may be exported under general license unless it is going directly or indirectly to the Soviet or Sino countries, Poland or Cuba; however, data may be sent to these countries as part of a shipment of equipment which has been approved (approval is not given for shipments to the Sino countries). There are commodity exclusions also relating to civil aircraft, certain electronic commodities, and neutron generators. In addition, the exporter of the data must obtain written assurance that certain data will not be re-exported or provided either directly or indirectly to Soviet or Sino countries, Poland or Cuba; such assurance may be written into the licensing agreement or obtained by letter supplemental to the agreement, and will apply to all shipments made during the life of the agreement. A validated license is required if this assurance is not obtained. In addition, a validated license is required if the exporter knows or has reason to believe that certain direct products to be made by using the data are to be shipped directly or indirectly to Soviet or Sino countries, Poland or Cuba.[2] If the direct product of the data is a complete plant, then the written assurance must also apply to the product of the plant, else a validated license is required. Finally, a validated license is required for all data which cannot be exported under one of the general licenses.

The validation procedure requires that a potential exporter of technical data make application to the Department's Office of Export Control, providing information as to the data, the destination, its use, those who will use it, its value (where known), etc. The applicant is responsible for complete disclosure of all relevant facts concerning his relationship to the recipient of the data and other parties to the transaction, any agreements covering use of the data, etc. Re-export of

[2]These products relate to plants and processes for the treatment of petroleum or natural gas fractions or products thereof, to various gas compressors, turbine pumps, rotary and other pumps, heat exchangers, pipe valves, control equipment and other items related to petroleum development, recovering and processing.

such data normally requires a validated license, unless specific permission has been granted or, of course, it is authorized under one of the general licenses (GTDP, GTDU, or GTDS).

The filing of patents is also a transfer of technical data, but this can be done under one of the general licenses unless to one of the Soviet or Sino countries, for which a validated license may have to be obtained; it is normally granted.

The State Department maintains a Munitions List of items requiring licenses for export; technical data relating to these items and patent applications for filing abroad require approval. It is, therefore, necessary to obtain approval for manufacturing, technical assistance, or licensing arrangements entered into overseas concerning items on this List. Similarly, AEC approval is needed on exports of technical data relating to nuclear equipment or production.

The Treasury Department has issued regulations concerning transactions involving export or transfer of technical data to Soviet or Sino countries and Cuba. Such transfers may relate to any of the kinds of items under control by Commerce, State, or AEC, since Treasury's jurisdiction relates largely to data originating or being used outside the United States. Its authority over data originating in the United States and potentially destined for Soviet or Sino countries under foreign licensing arrangements was transferred in March 1964 to Commerce. It retained authority over activities of foreign subsidiaries or joint-ventures of United States firms, and under it prohibits *all* transactions with China and North Korea and certain transactions with North Viet-Nam and Cuba.

Until the transfer to Commerce, Treasury considered that all transactions of any kind with China and North Korea, through any contractual arrangements that involved United States goods or technical data, directly or indirectly, were prohibited. It also considered that assurances were required from licensees that they would not directly or indirectly transfer data to these countries and that no end-product (at any stage of processing) made from such data would go to these countries.

When Commerce assumed responsibility, it felt that such stringent controls were impossible to administer—as indeed they had not been rigorously administered by Treasury. Many companies did not know of the regulations and did not bother to find out about them. Treasury wrote interpretations of the regulations when asked specific questions, but made no extensive effort to educate the business community. Part of Treasury's reluctance apparently stemmed from the fact that prob-

lems with foreign countries would probably have arisen had attempts been made to apply such persuasive controls to foreign corporations.

The special controls relating to the Soviet or Sino countries, Poland, and Cuba have been mentioned. There are differences, however, in the degree of control over exports to other countries. Thus, there are only a few special controls vis-a-vis Canada, though the new controls of Commerce on technical data do apply to Canada; controls on exports to the Western Hemisphere have been less than to Europe or other areas; Yugoslavia is treated as a member of the Free World, though communist, while Poland has been treated somewhat more liberally than other Soviet countries; Rumania has recently joined the Polish classification. To complete the ranking, Russia and the remaining Soviet group are treated more stringently, while Cuba has largely been given the embargo treatment, along with the Sino countries.

Problems of Control

It is evident that neither policies nor procedures are ossified. Companies wishing to export technical data continue to face various difficulties—difficulties which are not uncommon in trying to match company activities to public policy. Some of them can be remedied and should be given careful examination to develop the best solutions. Others are inherent in the nature of a rapidly changing world.

First is the fact that the overall policy objective, while not changing, is adjusted frequently to meet the shifting international situation vis-a-vis the communist world. Thus, no change in the statutes was required to permit a tightening of the controls in 1961 and early 1962, nor any change to permit an easing later on. Rumania was moved to the more liberal classification without legislation or much advance notice to business. Categories of items are shifted, at times, from more to less restraint or vice versa, depending on political, economic, or technological developments. It is difficult for business to be constantly aware of these shifts, but it is not impossible. Closer attention to keeping contact with Washington will pay off well in this area.

Second is the fact that there is a complementary lack of knowledge on the part of government of what technical developments are in the offing and what is the significance of many types of data currently being transferred abroad. Thus, some companies blithely go on their way transferring technical data to affiliates overseas and never bother to obtain licenses or provide the government with knowledge as to the impact of that transfer. They have run serious risks in doing so. Historically, assurances against re-shipment or indirect transfer into un-

approved areas have been obtained more as part of the market-area provisions in the agreements rather than insisted on as a matter of governmental regulation. To avoid the labyrinth of controls, some companies have stated that they have simply published much of their technical data and then proceeded to transfer it under long-term arrangements. It is possible that one effect of controls is to increase publication of information, which may still be paid for by free world companies but which may be used without commercial obligation by countries in the Soviet or Sino spheres.

A third problem lies in the fact that the control procedure requires time which may seriously delay or interfere with the negotiations leading to a contractual arrangement. In some instances, the clearance procedure has taken several months. While these are small in number compared to the volume of license applications, the larger and more important the case, the greater the likelihood of delay—partly because of the novelty of the application (i.e., the technicians in the government not being fully familiar with the data or its uses or with the foreign recipients' potential uses) and partly because a new and different transfer of technical data may involve a policy issue that requires top level attention. In addition to causing a possibly serious delay in negotiations, this process of explanation to government is costly to the applicant, and he may not obtain the license approval in any event. It, thereby, causes many not to go after business which they might otherwise obtain.

In order to reduce processing time and to be able to provide the applicant a firm decision, regardless of the policy level at which it had to be made, the President established an interagency committee structure for clearance of sensitive cases. While most of the cases can be disposed of by staff officials in the Office of Export Control, the more sensitive, large, or difficult are processed through an interagency committee structure to obtain advise and consent of other interested officials. This structure starts with the Operating Committee composed of staffs of Commerce, State, and Defense, with other agencies invited to participate depending on the nature of the case before the group. The chairman will listen to arguments on a case and then make a recommendation to the Secretary of Commerce, which may be accepted or opposed by the officials representing other agencies. If there is no opposition, the recommendation goes to the Assistant Secretary for Domestic and International Business, who either accepts or rejects it; if accepted, it goes to the Secretary of Commerce for final decision. If the Assistant Secretary rejects it, the matter either goes back to the committee for further examination or argument, *or* to the Advisory

Committee on Export Policy, composed of Assistant Secretaries. If another agency appeals from the Operating Committee Chairman's decision, it may also request, within a stipulated time, that the matter be considered by the ACEP.

Again, a recommendation is made by the Chairman of ACEP to the Secretary of Commerce, from which other agencies may appeal to an Export Control Review Board composed of Secretaries of the departments concerned. The ECRB will obviously come to an Administration-wide decision or take the matter to the President or the National Security Council if it involves a complete change in policy and they are disagreed as to its advisability.

This procedure, if working smoothly and quickly will take 4 to 6 weeks; if the relevant officials are unavailable at the appropriate time, or if the matter must be re-examined and more information obtained, it may take some months. However, in only 3 instances during 3 years of operation of this system did the entire gamut have to be run. The mere existence of the process tends to hasten decisions, since each participating agency knows that, if there is disagreement, the matter immediately proceeds to a higher level.

The fourth problem stems from the fact that there is a lack of coordination among the government agencies responsible for the various sets of controls. Thus, there is no attempt to remove inconsistencies among munitions, nuclear, export, and foreign assets controls. The situation which developed when Treasury transferred authority over certain technical data to Commerce reflects this problem. Commerce assumed the authority under the Export Control Act of 1949 and obtained interagency approval to revamp the controls, but only after months of discussion. Treasury felt that the level of control it had ostensibly maintained should be imposed by Commerce, but the latter felt that it would be impossible to prevent each and every item made with United States technology abroad from going into China or North Korea. It also considered that the non-inclusion of North Viet-Nam and Cuba was inconsistent, as was the procedure of Treasury under which it ostensibly controlled data exported under *license agreements* but not data which was *sold.*

Commerce cut the list of items on which assurances were required against shipment to the Sino countries and Cuba to the Positive list plus the Polish GRO Exceptions list.[3] It also imposed the same re-

[3]What this meant was that a variety of items not on the Positive list could be shipped by foreign companies under license agreements with United States companies to the Sino countries or Cuba; Treasury continued to prohibit any items from being exported by United States subsidiaries or joint-ventures.

quirements on sales of technical data as on license agreements. And it removed the end-product control over shipments to Sino countries and Cuba save for the first product of the data—whether it be an end-product or a plant, and if the latter, the first product of the plant was included in the control.

These relaxations pointed up the anomolies in the different controls. Thus, a licensee can do things a foreign subsidiary cannot. And, if the complaints of United States constructing companies result in a return to requirements formerly imposed by Treasury, so that sales of technical data are excluded, then a company buying its data outright will be completely free of control. Not only is such a situation inconsistent in carrying out United States policy, but it also will tend to warp business decisions as to how to transfer technical data—to the detriment of the control objectives.

In addition, the rigorous implementation of such controls will undoubtedly arouse the ire of foreign governments, which feel that the levels of control they impose on exports to "unfriendly" countries are their business and should not be changed unilaterally by United States procedures. If concerted action is to be accomplished, it should be done by governmental agreement, through such mechanisms as the COCOM rather than attempted through business contracts whose provisions are altered by governmental fiat. Thus, the requirement that assurances be given that no first products will be shipped to Cuba has put some foreign countries, which have done a traditionally large business with that country, in an embarrassing position. As a result, from a competitive standpoint, United States contracting companies stand to lose opportunities abroad.[4]

In addition, two difficult legal problems are indemic in the requirement to obtain assurances: one relates to whether it was possible to obtain an assurance covering data yet to be transferred under an existing contractual arrangement; and the other relates to the possibility that if a licensee violated his pledge or the United States Government stopped the transfer, it might force abrogation of the contract if the assurance were written into the agreement; if only a letter had been received as assurance, the ability to force compliance is questionable. In either event, the question of liability for damages might arise. None of these questions has been satisfactorily answered as yet.

The problems of submitting detailed justifications and supporting

[4]The problems of obtaining assurances are such that Commerce suspended some of the requirements in August 1964 to permit time to review them with interested parties.

data, of waiting long periods for approvals or denials of licenses—in the event that assurances, which competitors did not require and which some foreign governments opposed, could not be obtained—plus the legal problems of penalty and sanction are matters which require careful consideration with government officials responsible before a clear policy and procedure can be formulated.

There remain other areas in which there is a lack of coordination among government departments. Though Treasury's controls were at times tied to Commerce lists of commodities, this is not true for State's control over Munitions, where there is often an overlap of potential jurisdiction. State at times takes a commodity off its control list, leaving Commerce to pick it up, but there is no agreed-upon set of criteria by which to refine the lists which each would control. In addition, State does not have the same set of regulations nor procedures that Commerce does, and there is no structure for interagency coordination. In fact, there is still considerable difficulty between State and Defense in the export of munitions, for the latter is interested in gaining dollars for sale of obsolete equipment, and the former is wary of selling munitions to many of the countries which want them. Given this conflict and the lack of clear definition as to what is and what is not a munition, it is small wonder that many businessmen are dissatisfied with the structure of the control system.

A final area in which there is a lack of cooperation lies between the United States and its NATO allies. Although there is a gentlemen's agreement among fifteen countries that they will not export certain items and technical data (known as the COCOM list) to the Soviet countries, and that others (known as the CHINCOM list) shall not be exported to China and North Korea, there remains a long list of items and related data which the United States controls that is not under control by other countries. This list, which comprises the rest of the Positive list and those items not under the general license to Soviet countries (GLSA), was realistic so long as the United States was far advanced over other countries and was the principal supplier to the rest of the world. As other countries have advanced and become able to export not only goods but technical data, such an additional list has required careful scrutiny. Despite regular modifications in the United States list and the COCOM and CHINCOM lists, the United States controls many more items than its allies. As a consequence, the latter have expanded trade with bloc countries each year and some are now extending substantial credits. As a consequence, United States control objectives are frequently frustrated. The ra-

tionale for the United States controls, therefore, requires a thorough re-examination, so as to achieve as much of its objectives as it can but without burdening greatly the business relations which permit transfers of know-how.

In summary, there remain some serious problems of both policy and procedures for implementing the various controls over export of technical data. If they are to be resolved, which they will not be unless officials in both business and government escalate them among the priorities of foreign economic affairs, extensive discussion and careful analysis must be given to at least three areas requiring closer cooperation:

1) In the area of business-government cooperation, means should be devised of informing government agencies responsible for controls of new technical developments, so that technical data which should no longer be controlled can be deleted from the lists and new data can be properly controlled. Procedures should be streamlined for getting into the government's hands information necessary to make appropriate decisions on particular applications. And business must be willing and able to inform government officials of the costs (both operating and in lost business) of the controls, so that they may be balanced against the benefits sought. Finally, business must be willing to stand up and be counted on policy matters such as the relaxation or tightening of controls vis-a-vis particular countries.
2) In the realm of interagency cooperation within the government, close examination should be given to the desirability of centralizing all control authority in one agency—or at least of establishing a formal means of coordination of policy and implementing procedures. Only in this way will business be served effectively, without inducing possible violations of the regulations of one or more agencies.
3) In inter-governmental cooperation, the structure of the 1962 amendment to the Export Control Act urging that the levels of control among COCOM members be brought closer together should be given full consideration,[5] even if this requires the adjustment to be made largely on the part of the United States. The

[5]"The Congress further declares that it is the policy of the United States to formulate, reformulate, and apply such controls to the maximum extent possible in cooperation with all nations with which the United States has defense treaty commitments, and to formulate a unified commercial and trading policy to be observed by the non-Communist-dominated nations or areas in their dealings with the Communist-dominated nations."

Positive list, which relates not to items proscribed to the bloc countries but to items for which a license is required to the free world, should be re-examined in the light of full knowledge from United States business as to the competition overseas and the probability of frustration of United States objectives by European or other companies. The same should be done for technical data on which assurances against re-shipment should be required. Obviously, where member-countries of COCOM already restrict such transfers out of their borders to the bloc, such assurances need not be required—and are not currently required by Commerce. But where the United States may have such advanced technology that it does have effective control, it should seek such assurances, first obtaining the agreement of foreign governments that assurances given by private companies will be honored by the government.

These actions will require considerably more knowledge on the part of the business communities here and abroad concerning both policies and procedures and a greater willingness on the part of governments to accommodate themselves to the necessities of doing business in rapidly changing competitive situations overseas.

Attitude Survey on Patent Office Relocation

L. JAMES HARRIS* AND IRVING H. SIEGEL**

SUMMARY

A SURVEY MADE OF THE OPINIONS of members and associates of The PTC Research Institute in the summer of 1964 indicates an overwhelming preference for retention of a Washington location for the Patent Office. The response rate for the two-month period in which replies were accumulated for this report was 42.3 percent, even though no follow-up was made. Those who favored relocation along the lines of the General Accounting Office's proposal stressed the prospect of acquiring more ample space and better facilities for the Patent Office while opponents emphasized inconvenience and greater business costs.

OCCASION FOR STUDY

DECISIONS TAKEN BY THE PUBLIC WORKS COMMITTEES of the Senate and House precipitated considerable public and professional discussion in mid-1964 of possible relocation of the U. S. Patent Office to a site near Baltimore. Both these Committees approved the General Accounting Office (GAO) "Prospectus for Proposed Construction Under the Public Buildings Act of 1959," which begins with the following description of a new Patent Office structure: "This project contemplates the construction of a Federal facility, with fallout shelter, to rehouse the Patent Office of the Department of Commerce, the facility to be relocated on a suitable Government-owned site available for this purpose, or on a suitable site to be acquired by donation in Howard or Anne Arundel Counties in the vicinity of the City of Baltimore, Maryland."[1]

Although the issue of Patent Office relocation had long been pending, the decisions of the two Congressional committees spurred those

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[1]*GAO, Prospectus for Proposed Construction Under the Public Buildings Act of 1959, Project 49926 (As Revised),* March 18, 1963.

affected to take strong positions.[2] Various professional societies sought to ascertain the sentiment of their members, and in some instances they publicized the results.[3] Many practitioners and interested citizens expressed their views to Congress and to the press.[4]

The PTC Research Institute decided that a useful contribution to the public interest might be made in this charged atmosphere through the conduct of a study of sentiment among its own members. These members, of course, represent a significant cross section of the Patent Office's regular clientele.

Space Requirements for Growth

It was inevitable that a nation depending so vitally on the evolution and application of technology for the well-being of an expanding population would from time to time require more space and more modern facilities for a Patent Office. Moves within the Washington area to different quarters,[5] including the fractionation of Patent Office activities,[6] have become part of a familiar pattern during the past three decades. Despite such shifts, however, the focus of operations has remained in the Washington area.

The space problems of the Patent Office are, perhaps, widely ap-

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[2]See *Memorandom of Carol Palmer, Chairman, Patent Office Building Committee of the Patent, Trademark and Copyright Law Section of the Bar Association, District of Columbia, June 24, 1964, Re: GSA Proposal 49926 (as revised) To Move the Patent Office To a Rural Area Between Baltimore and Washington.* See also the *Resolution of the Executive Committee of the Patent Office Society, May 11, 1964,* concerning a new Patent Office building.

[3]*Washington Post,* November 3, 1964, section B-1.

[4]See *Washington Post,* Sunday, June 14, 1964, Section B. Also, letter in *Chemical and Engineering News,* July 27, 1964, p. 5; and an editorial entitled "Murky Proposal" and letter entitled "Patent Office Site," in Washington *Evening Star,* June 19, 1964.

[5]"From 1840 to 1932, the Patent Office occupied a building at Seventh and F Streets, N. W. . . . In 1924, it required not only all available space in the Patent Office Building, (206,384 sq. ft.), but also additional space in the Land Office Building (23,126 sq. ft.). . . . In 1932, the Patent Office moved to its present location in the Department of Commerce Building." (See "Background—A New Patent Office Building," a paper presented and summarized by Dr. J. Herbert Hollomon at a meeting arranged by the Patent Office Society, September 9, 1964, p. 2.)

[6]Part of the Patent Office's administrative activity was moved to temporary building T-5 on Constitution Avenue in 1956. In the 1960's, the Office of Research & Development was located in a building near Fourteenth and G Streets, N.W. The Board of Appeals, Trademark Examining Operations, Trademark Trial and Appeal Board, Board of Patent Interferences, and Patent Classification operations were also relocated. (*Ibid.,* pp. 3-4)

preciated. The Department of Commerce has recently reported that over 2,500 employees of the Patent Office occupy about 546,000 sq. ft. of space—but "this was the amount of space recognized as needed 50 years ago for 900 people, a third of today's staff."[7] With the growth of the patent system over the years, the demand for space for storage has increased sharply. Examiners must have convenient access to accumulating files of reference matter; the result is "a deplorable overcrowding of highly skilled professional employees"[8] and a serious limitation on government business with inventors and attorneys. Furthermore, although it has become customary to think of Patent Office work loads as relatively static from year to year, patent applications have actually risen during the past decade from about 75,000 annually to more than 87,000.[9]

Looking ahead, we must consider new space needs related to the rise of R&D expenditures since World War II, to the significant increase of the number of potential inventors in the labor force, to intensifying foreign economic competition, and to the continuation of international tensions. It has recently been calculated that the size of the Patent Office examining staff needed if recent backlogs are to grow no larger (on the assumption "that no substantial administrative or statutory changes were made") would be 1,700 by 1975 and 2,350 by 1985. (The present examining staff numbers 1,050.)[10] On the other hand, if the number of examiners is not raised substantially and if radical adjustments in practice cannot be made, the backlog could rise from something like 220,000 in 1964 to 535,000 in 1975 and to at least a million by 1985.[11]

Some Relocation Considerations

The recent proposal to relocate the Patent Office some distance from the capital has been pressed despite what opponents regard as adverse past experience.[12] During World War II, as an emergency measure, a

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[7]*Ibid.*, p. 4.

[8]*Ibid.*, p. 5.

[9]*Ibid.*, p. 6.

[10]See remarks of Commissioner of Patents Edward J. Brenner at a panel discussion of the American Patent Law Association, Sheraton-Park Hotel, Washington, D. C., October 15, 1964.

[11]*Ibid.*

[12]See story by William J. Raspberry in *Washington Post,* June 14, 1964, Section B-1.

distant relocation was undertaken—to Richmond, Virginia.[13] As material cited later indicates, the attendant inconvenience to practitioners, employees, and other government agencies apparently provided a major motivation for return to Washington with the end of hostilities.

Although the two Congressional Committees note the desirability of limiting the disruption incident to a move,[14] opponents of the proposal take a dim view of a shift even to such neighboring counties as Howard or Anne Arundel. As our study indicates, even this relocation would seem to require a drastic revision of established relationships and entail increased business costs and inconvenience.

Arguments commonly given against a move to Howard or Anne Arundel County are actually cited in the GAO Prospectus in justification of the "location of the new facilities within commuting distance of Washington."[15] In the GAO's view, a move to either of these two neighboring counties, being limited to "commuting distance", would not impose undue hardships compared to anticipated benefits.

The GAO Prospectus contemplates two alternatives, but only one is actually elaborated. The language cited at the outset envisages lo-

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[13]"From 1942 to 1946 the examining operations and some of the program service units were relocated in Richmond, Virginia. This move had become necessary to accommodate several wartime agencies in the Commerce Building. The examining operations and other units returned to the Commerce Building in 1946 with a larger staff." (Hollomon, "Background—A New Patent Office Building," p. 3)

[14]"The following factors underlie the decision to recommend location of the new facilities within commuting distance of Washington: (1) There is a heavy concentration of patent specialists—lawyers, agents, researchers, scientific and semi-professional personnel—in the Washington area, some of whose practices have been established in Washington for decades; (2) it is necessary to retain the Patent Office staff, which is technically and legally unique; (3) access is required by Patent Office personnel to educational facilities in the Washington area with unique programs adapted for the continuing education of Patent Office personnel; (4) decisions of the Patent Office, by statute, must be reviewed by the Court of Customs and Patent Appeals, which sits only in Washington, and by the U. S. District Court for the District of Columbia; (5) optimal transportation services for the nationwide clientele of the Patent Office—inventors, patent lawyers, scientists and researchers—are required; (6) by statute the Patent Office must work closely with the Department of Defense, National Aeronautics and Space Administration, and the Atomic Energy Commission in processing highly classified documents relating to inventions effected with the national security; and (7) the Patent Office research and development program is necessarily conducted in close collaboration with the National Bureau of Standards, and incidentally, other Government agencies such as the Census Bureau, the Armed Services Technical Information Agency, the relevant units of which are all located in the Washington area." [Prospectus For Proposed Construction Under The Public Buildings Act of 1959, Project 49926 (as revised), pp. 2-3.]

[15]*Ibid.*, p. 3.

cation of a new facility "on a suitable Government-owned site available for this purpose" as well as the possibility of relocation in a neighboring county in the vicinity of Baltimore. The Prospectus seems to reject the first alternative as undesirable or unfeasible. GAO asserts that "the Patent Office is engaged in operations carrying out established policies and programs within well defined areas, requiring only limited headquarters supervision. Therefore, its activities can be carried on elsewhere 'without excessive cost or significant loss of efficiency.'"

An additional factor pertinent to any decision on relocation is the peculiar metropolitan character of the Washington-Baltimore region as the southern end of what has been called "Megalopolis." Two recognized metropolitan areas are growing rapidly toward intersection with each other. Major changes are accordingly occurring in regional traffic patterns, land values, and the availability of suitable housing and housing sites. Additional important changes impend in this growing population center that happens also to include the nation's capital.

Study Findings

In August 1964, The PTC Research Institute sent questionnaires to its members and associates concerning their attitudes toward the pending Congressional proposal for relocation of the Patent Office. Although no follow-up was made, over 42.3 percent of the canvassed organizations and individuals responded within two months. About four-fifths of the 210 respondents (169) unequivocally opposed transfer outside the Washington area, while about one-tenth (22) expressed themselves in favor of the move. Most of the remainder (15), recognizing both good and bad features of the proposed relocation, are tabulated as "neutral". Finally, a bare handful (4) had no opinon.

An analysis of the 210 returns by kind and size of respondent shows that opposition is widespread (see Table I). Thus, industrial companies, accounting for 113 of the replies, opposed the move in 91 instances and favored it in only 11. In 9 other cases, the merits of both positions were recognized, while 2 company replies offered no opinion. When the company returns are examined by size category (large, medium, and small), the negative vote is seen to be overwhelming in each. Opposition by 7 is indicated in a separate tally of 10 persons responding on company stationery but on their own account. The replies submitted by law firms show 59 opponents among the 72 respondents—a lower opposition ratio than was recorded for industrial firms, but still four out of five. Here too, an examination of the

TABLE 1

Opinions on Patent Office Relocation Proposal* of Respondents Classified according to Kind and Size of Organization

Respondents	Number of Replies	Nature of Response			
		Opposed	Favored	Neutral	No Opinion
Total responses	*210*[1]	*169*[1]	*22*[1]	*15*	*4*
Companies	*113*	*91*	*11*	*9*	*2*
Large	37	29	3	3	2
Medium	42	34	3	5	0
Small	34	28	5	1	0
Law Firms	*72*	*59*	*7*	*5*	*1*
Large	19	15	1	2	1
Medium	31	27	3	1	0
Small	22	17	3	2	0
*Individuals*** in companies classified as	*10*	*7*	*1*	*1*	*1*
Large	8	5	1	1	1
Medium	2	2	0	0	0
Small	0	0	0	0	0
*Individuals**** in law firms classified as	*10*	*8*	*2*	*0*	*0*
Large	8	7	1	0	0
Medium	2	1	1	0	0
Small	0	0	0	0	0

* *GAO, Prospectus for Proposed Construction under the Public Buildings Act of 1959 Project 49926 (As Revised).*

** Individuals replying in own behalf on company stationery.

*** Individuals replying in own behalf on firm stationery.

[1] Four replies not classified in the table have been added to the total of those opposed: two from professional societies, one from a university professor, and one from a publishing house. A fifth unclassified response, favoring the proposal, was sent anonymously; it too has been added to the total.

returns by size and class reveals a persistent pattern of strong opposition. A separate count of 10 additional replies from individuals connected with law firms but speaking on their own behalf shows 8 opposed the move.

Five of the 210 replies have not yet been mentioned. One of them came from a news publication opposing the move. A second, from a university professor, also expressed opposition. A third, from an anonymous source, favored the move. The remaining two came from

TABLE 2

Opinions on Patent Office Relocation Proposal* of Respondents Classified according to Location

Respondents	Number of replies	Companies			Law Firms			Individuals employed by: Companies**			Individuals employed by: Law Firms***		
		Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small
Total responses	(209)[7]	(37)	(41)	(35)	(19)	(31)	(22)	(8)	(2)	(0)	(8)	(2)	(0)
Zone A[1]													
Opposed	12[8]	0	0	0	5	1	2	1	0	0	1	0	0
Favored	1	0	0	0	0	0	1	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Zone B[2]													
Opposed	71[9]	14	20	10	5	11	6	1	2	0	1	0	0
Favored	14	2	1	4	1	2	2	1	0	0	0	1	0
Other	7	3	2	0	1	0	0	1	0	0	0	0	0
Zone C[3]													
Opposed	43[10]	7	5	10	2	7	3	3	0	0	5	0	0
Favored	3	0	1	0	0	1	0	0	0	0	1	0	0
Other	5	1	1	1	1	0	0	1	0	0	0	0	0
Zone D[4]													
Opposed	18	1	3	4	3	5	2	0	0	0	0	0	0
Favored	1	1	0	0	0	0	0	0	0	0	0	0	0
Other	6	1	2	0	1	1	1	0	0	0	0	0	0

Zone E[5]													
Opposed	10	3	0	0	0	2	1	0	0	0	0	1	0
Favored	1	0	0	1	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Zone F[6]													
Opposed	15	4	2	5	0	1	3	0	0	0	0	0	0
Favored	1	0	1	0	0	0	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	1	0	0	0	0	0	0

* *GAO, Prospectus for Proposed Construction under the Public Buildings Act of 1959, Project 49926 (As Revised).*

** Individuals replying in own behalf on company stationery.

*** Individuals replying in own behalf on firm stationery.

[1] Consists of Washington, D. C.

[2] Comprises the area within a radius of 246.5 miles from, but not including, Washington, D. C. Includes such cities as Philadelphia, New York, and Pittsburgh, and the entire States of Delaware and New Jersey.

[3] Comprises the circular band within a radius of 246.5 to 419 miles from Washington, D. C. Includes such cities as Rochester, Buffalo, Cleveland, Akron, Columbus, Cincinnati, Dayton, and Detroit and the entire State of Massachusetts.

[4] Comprises the circular band within a radius of 419 to 665.5 miles from Washington, D. C. Includes such cities as Milwaukee and Chicago and most of the State of Michigan.

[5] Comprises the circular band within a radius of 665.5 to 936.5 miles from Washington, D. C. Includes such cities as Minneapolis, St. Paul, St. Louis, and Miami.

[6] Consists of all areas lying outside a radius of 936.5 miles from Washington, D. C.

[7] One reply from an anonymous respondent could not be classified by zone.

[8] Two replies not classified in the table have been added to this total: one from a professional society and one from a publishing house.

[9] One reply from a professional society has been added to this total.

[10] One reply from a university professor has been added to this total.

societies—viz. a response from the Patent Office Society stating that the membership (over 1,000) was "generally opposed", and a reply signed by an official of a leading patent bar also reporting membership disfavor.

A geographic analysis of the 210 replies shows strong opposition in every identified region (See Table II). In the Washington area and in each of the other 5 zones defined around it by concentric circles of increasing radii, very sizable majorities prefer retention of the Patent Office in the capital or the near vicinity.

In successive batches of returned questionnaires, the opposition ratio varied but nevertheless remained high (see Table III). Furthermore, this ratio rose sharply after the fourth week. This upturn, prior to the two-month cut-off date adopted as the flow of returns diminished, suggested that a follow-up would not alter the broad conclusions reached on the basis of the cumulated 42.3 percent response. Furthermore, a mailing of the *PTC News Note* devoted to a preliminary tabulation of responses received by September 3 served as a reminder

TABLE 3

Opinions on Patent Office Relocation Proposal* of Respondents Classified according to Period of Receipt

Week Ending—	Total replies per week	Cumulative Totals	Opposed	Favored	Neutral	No Opinion
August 15, 1964						
Number	129	129	106	15	5	3
Percent			82.2	11.6	3.9	2.3
August 22, 1964						
Number	31	160	24	3	4	0
Percent			77.4	9.7	12.9	0.0
August 29, 1964						
Number	16	176	11	1	3	1
Percent			68.7	6.3	18.7	6.3
September 5, 1964						
Number	16	192	12	2	2	0
Percent			75.0	12.5	12.5	0.0
After September 5, 1964						
Number	18	210	16	1	1	0
Percent			88.8	5.6	5.6	0.0

* *GAO, Prospectus for Proposed Construction under the Public Buildings Act of 1959, Project 49926 (As Revised).*

to members having strong sentiments either way to register their opinions.

The questionnaire also solicited reasons for favoring or opposing the proposed relocation. When reasons cited by supporters of the move are summarized under a few heads, we find that these amount to the following: the assured prospect of more ample space and better facilities for Patent Office operations; an expected improvement of working conditions for employees; the accessibility of proposed new quarters; and relief from congested center-city traffic (see Table IV). Opponents offered a wider variety of reasons which, when grouped, showed the following to be dominant: the prospect of greater travel

TABLE 4

Reasons Given in Favor of Patent Office Relocation Proposal*

Respondents	Coded[1] Reasons for Favoring Proposal				
	A	B	C	D	E
Companies	*16*	*4*	*2*	*1*	*1*
Large	5	2	1	0	1
Medium	6	1	1	0	0
Small	5	1	0	1	0
Law Firms	*10*	*3*	*0*	*0*	*4*
Large	3	2	0	0	1
Medium	3	1	0	0	1
Small	4	0	0	0	2
*Individuals***					
in companies classified as	*1*	*1*	*0*	*0*	*1*
Large	1	1	0	0	1
Medium	0	0	0	0	0
Small	0	0	0	0	0
*Individuals****					
in law firms classified as	*1*	*0*	*1*	*0*	*0*
Large	0	0	1	0	0
Medium	1	0	0	0	0
Small	0	0	0	0	0

* *GAO, Prospectus for Proposed Construction under the Public Buildings Act of 1959, Project 49926 (As Revised).*

** Individuals replying in own behalf on company stationery.

*** Individuals replying in own behalf on firm stationery.

[1] A—Increased space and improved consolidated facilities.
B—Better working conditions for employees of the Patent Office.
C—Best over-all solution in view of all circumstances.
D—Means of avoiding use of mass transportation.
E—Means of avoiding congested area in center of city.

TABLE 5

Reasons Given in Opposition of Patent Office Relocation Proposal*

Respondents	Coded[1] Reasons for Opposing Proposal												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Companies	*13*	*20*	*40*	*49*	*23*	*55*	*23*	*12*	*6*	*4*	*8*	*6*	*1*
Large	5	5	10	20	9	17	6	4	2	0	3	1	0
Medium	3	7	18	18	9	22	10	4	3	2	2	0	0
Small	5	8	12	11	5	16	7	4	1	2	3	5	1
Law Firms	*17*	*13*	*15*	*19*	*2*	*23*	*14*	*4*	*9*	*7*	*7*	*2*	*1*
Large	6	2	8	4	1	8	4	1	2	2	4	2	0
Medium	7	7	4	10	0	8	6	2	5	3	1	0	1
Small	4	4	3	5	1	7	4	1	2	2	2	0	0
*Individuals***													
in companies classified as	*2*	*1*	*2*	*2*	*0*	*3*	*3*	*0*	*1*	*1*	*2*	*1*	*0*
Large	2	1	2	1	0	2	2	0	1	0	2	0	0
Medium	0	0	0	1	0	1	1	0	0	1	0	1	0
Small	0	0	0	0	0	0	0	0	0	0	0	0	0
*Individuals****													
in law firms classified as	*1*	*1*	*2*	*3*	*0*	*3*	*2*	*0*	*1*	*0*	*0*	*0*	*0*
Large	1	1	2	3	0	2	2	0	1	0	0	0	0
Medium	0	0	0	0	0	1	0	0	0	0	0	0	0
Small	0	0	0	0	0	0	0	0	0	0	0	0	0

* *GAO, Prospectus for Proposed Construction under the Public Buildings Act of 1959, Project 49926 (As Revised).*
** Individuals replying in own behalf on company stationery.
*** Individuals replying in own behalf on firm stationery.
[1] A—General inconvenience to staff of company or law firm.
B—General inconvenience to Patent Office staff.
C—Burden on, and disruption of, D. C. Bar as well as increased cost to clients.
D—Removal from vicinity of law and technical school facilities.
E—Absence of accommodations.
F—Increased cost of, or inaccessibility by, air or other rapid common carrier.
G—Need for proximity to other government agencies.
H—Inconvenience resulting from only partial relocation of Patent Office.
I—General opposition.
J—Undesirability of leaving D. C. (e.g., status symbol).
K—General increase in expense.
L—Inconvenience to inventor.
M—Questionable political motivation.

cost for company representatives and visiting patent attorneys; inconvenience and higher cost for the sizable District patent bar; difficulty of pursuing legal and technical education in the metropolitan Washington area's unusual complex of institutions of higher learning; and hardship in transacting business with other Government agencies not located in the same vicinity (see Table V). Opponents who would be disadvantaged by the move are obviously not persuaded by the argument that the Patent Office is especially eligible for relocation as part of the long-range program for dispersal of Federal agencies.

Many of the respondents opposing the move proposed alternative

TABLE 6

Alternatives Suggested by Opponents of Patent Office Relocation Proposal*

Respondents	Coded[1] Alternative Locations						
	A	B	C	D	E	F	G
Companies	*87*	*21*	*1*	*0*	*2*	*1*	*6*
Large	29	7	1	0	0	0	3
Medium	33	11	0	0	0	0	2
Small	25	3	0	0	2	1	1
Law Firms	*61*	*13*	*0*	*2*	*5*	*0*	*3*
Large	15	3	0	0	1	0	0
Medium	27	2	0	1	2	0	3
Small	18	7	0	1	0	0	0
*Individuals***							
in companies classified as	*6*	*1*	*0*	*1*	*1*	*0*	*1*
Large	4	1	0	1	1	0	1
Medium	2	0	0	0	0	0	0
Small	0	0	0	0	0	0	0
*Individuals****							
in law firms classified as	*6*	*1*	*0*	*1*	*2*	*0*	*0*
Large	5	1	0	1	1	0	0
Medium	1	0	0	0	1	0	0
Small	0	0	0	0	0	0	0

* *GAO, Prospectus for Proposed Construction under the Public Buildings Act of 1959, Project 49926 (As Revised).*

** Individuals replying in own behalf on company stationery.

*** Individuals replying in own behalf on firm stationery.

[1] A—Relocate in D. C.
B—Relocate adjacent to or near D. C.
C—Long-term lease of privately constructed building in D. C.
D—Maintain status quo by leaving Patent Office where it is.
E—Increase Patent Office space in the Commerce Building.
F—Move part of Patent Office out of the Commerce Building.
G—Move entire Patent Office to a new city, preferably in center of country.

TABLE 7

Response Rates on Patent Office Relocation Proposal*

Respondents	Questionnaires Sent	Responses		Zone A		Zone B		Zone C		Zone D		Zone E		Zone F	
		Number	Percent	Responses	Percent	Responses	Percent	Responses	Percent	Responses	Percent	Responses	Percent	Responses	Percent
Total	*496*[1,5]	*210*[6]	*42.0*	*14*[2]	*50.0*	*92*[3]	*43.2*	*51*[4]	*42.2*	*25*	*33.4*	*11*	*55.0*	*17*	*41.5*
Companies	*226*	*113*	*50.0*	*0*	*0*	*56*	*57.2*	*26*	*44.1*	*12*	*31.6*	*7*	*77.8*	*12*	*57.2*
Large	66	37	56.1	0	0	19	59.0	8	57.2	3	37.5	3	75.0	4	50.0
Medium	72	41	57.0	0	0	23	64.0	7	39.0	5	41.7	3	100.0	3	100.0
Small	88	35	39.8	0	0	14	46.7	11	41.0	4	22.3	1	50.0	5	50.0
Law Firms	*161*	*72*	*44.8*	*9*	*42.9*	*28*	*49.2*	*14*	*43.8*	*13*	*52.0*	*3*	*37.5*	*5*	*27.8*
Large	26	19	73.1	5	83.4	7	58.4	3	75.0	4	100.0	0	0	0	0
Medium	61	31	50.9	1	33.4	13	59.1	8	53.4	6	46.2	2	66.7	1	20.0
Small	74	22	29.8	3	25.0	8	34.8	3	23.1	3	37.5	1	20.0	4	30.8
*Individuals*** in companies classified as	*44*	*10*	*22.8*	*1*	*100.0*	*5*	*21.8*	*4*	*40.0*	*0*	*0*	*0*	*0*	*0*	*0*
Large	30	8	26.7	1	100.0	3	21.5	4	44.5	0	0	0	0	0	0
Medium	8	2	25.0	0	0	2	28.6	0	0	0	0	0	0	0	0
Small	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*Individuals**** in law firms classified as	*58*	*10*	*17.3*	*1*	*100.0*	*2*	*5.9*	*6*	*35.3*	*0*	*0*	*1*	*100.0*	*0*	*0*
Large	43	8	18.7	1	100.0	1	4.4	6	37.5	0	0	0	0	0	0
Medium	15	2	13.4	0	0	1	9.1	0	0	0	0	1	100.0	0	0
Small	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* *GAO, Prospectus for Proposed Construction under the Public Buildings Act of 1959, Project 49926 (As Revised).*

** Individuals replying in own behalf on company stationery.

*** Individuals replying in own behalf on firm stationery.

[1] Certain members of the Research Institute are also the designated representatives of companies in which they are employed. Actually, 505 questionnaires were distributed.

[2] Two unclassified responses have been included in this total.

[3] One unclassified response has been included in this total.

[4] One unclassified response has been included in this total.

[5] Seven unclassified questionnaires have been included in this total.

[6] Five unclassified responses have been included in this total. Four of these five can be located within a zone.

measures to meet Patent Office requirements for additional suitable space (see Table VI). Room could be provided, according to some opponents, in new stories to be added to the Commerce Building, in the Naval Observatory, in the Government Printing Office, in the Bureau of Standards structures, in the Pentagon, at the Naval Weapons Plant, or at the National Training School. New sites for construction that were mentioned include the Anacostia-Bolling urban renewal area, the Andrews Air Base, and the National Institutes of Health grounds.

An analysis of response rates suggests uneven interest in the topic of relocation among the various categories of questionnaire recipients. Among industrial companies and among law firms, the response rate was lowest for small units (see Table VII). Outside the Washington area, there was a tendency for the industrial response rate to decline as opinions were solicited in Zones B, C, and D, where Institute membership is largely concentrated. For law firms, however, the response rate was geographically more uniform.

Illustrative Comments

It also seems useful to present in this report a sampling of opinions expressed by Institute respondents, who constitute an especially informed and interested component of the public served directly by the Patent Office. These observations illuminate, and add an additional dimension to, the statistical findings summarized above in the text and tables.

A letter received from a large chemical company in Zone D favoring the move asserts, however, that "The type of office facilities that the Patent Office can offer is more important . . . than the convenience of members of the patent profession." Recognizing that the proposed change raises a major question of accessibility, the respondent nevertheless observes: "The inconvenience to members of the patent profession in Washington will be considerable, but the necessity of moving one's domicile and setting up new offices is a situation which is or has been faced by every member of the patent profession outside of Washington."

A patent attorney connected with a large household chemical company in Zone C but responding in his own behalf stated the following in opposition to the proposed relocation:

> If the Patent Office is to be moved at all, I would suggest that it should be closer to the geographic center of the

> United States. Is it fair to ask inventors from the far reaches of this country to bear the expense of constantly traveling all the way to Washington? Wouldn't it be more equitable to have a site equidistant between the East and West coasts?

An equipment producer of medium size in Zone F comments thus in favor of the proposed move:

> The most attractive feature . . . is the construction of modern physical facilities adequate to the present and future needs of the Patent Office. I believe the physical inadequacies of the present Patent Office have contributed materially to the backlog problem and to the problem of excessive personnel turnover. One has only to see the German Patent Office in Munich to realize the relatively low status of the patent system in the United States.

An opponent of relocation responding in the name of a small equipment producer in Zone B emphasizes the desirability of a "central location in Washington . . . from which examiners could easily continue their legal and technical graduate educations at suitable, approved schools." As "a survivor" of the wartime "migration" to Richmond, this one-time patent examiner is "appalled" by the prospect of another major move away from Washington.

Responding for a small chemical equipment producer in Zone B, a patent attorney stresses the danger of loss of experienced personnel as a result of the proposed move:

> . . . employees of the Patent Office, particularly the newer employees and those in the non-professional jobs, would, in many cases, leave the Patent Office. The Patent Office is in active competition in Washington with the other Government agencies and bureaus, and a large number of the Patent Office staff would be readily employable in some other Government function at a more convenient location. In its professional staff, the Patent Office is in competition not only with other Government operations, but with technical industry throughout the land.

In addition, this respondent remarks:

> The system is a national expression of our collective confidence in the ability of the individual as distinguished from the systems which recognize only the merit of the state. Rather than moving the Patent Office out of the District

> of Columbia, I think it would be much more appropriate and in keeping with the needs of the times to build the Patent Office a prominent, completely modern headquarters building in the center of the city.

A small chemical company in Zone D objects on the following ground, among others: "Transportation costs will be greater and costs for Washington legal associate services will increase."

The president of a small electronics firm in Zone B indicates "violent" opposition. One reason is that: "This Company is heavily engaged in research and development of new products and has constant contact with the Patent Office, not only in prosecution of patents, but in searches of the relative arts as part of its research program." Another reason is that:

> We have a resident attorney and make use of several other attorneys and law firms in this area. The move to the location proposed would make their almost daily contact with the Patent Office more difficult and the cost to us in time and money far greater. . . . I, personally, like to browse through the Patent Office files and travelling to the proposed location would seriously curtail this personal contact with the Patent Office, if not eliminate it completely.

A Washington partner of a large Zone B law firm gives these reasons for opposition to the intended move:

> First and foremost is the inaccessibility of the proposed location and the inevitable increase in time and expense involved in getting there. I have personally experienced the inconvenience created by removal of the offices of the Atomic Energy Commission to Germantown, Maryland, so my fears with regard to the proposed move of the Patent Office are not purely imaginary.
>
> For many years the . . . firm of which I am a member has maintained an office in Washington to facilitate not only our business with the Patent Office, but with other Government agencies and the courts. If the Patent Office is moved to one of the proposed locations, we would have to locate another office in the vicinity of the new Patent Office while continuing to maintain the office in Washington. The personnel problems and the expense involved would be very burdensome, and the inconvenience and expense referred to . . . above would remain.

An associate of a large Washington law firm considers a move to Howard or Anne Arundel County a

> most ill-advised step which would have an adverse effect generally on the functioning of the Patent Office and our patent system. . . . For the small businessman and the smaller corporation, it is a matter

> of great importance and advantage for them to be able in a single visit of perhaps only one day in Washington to confer with their patent counsel, perhaps even attend an interview in the Patent Office regarding a critically important patent application, and also visit other Government agencies having control or an effect on the operation of that business. . . . I doubt very much that those proposing the removal of the Patent Office from Washington have any knowledge whatsoever of the fact that every client represented by a patent attorney *must* have a local representative in Washington, regardless of his own geographical representation elsewhere.

A spokesman for a large law firm in Zone B is inclined to see both good and bad features in the proposed relocation. Despite inconvenience to patent attorneys who must interview examiners, he believes that: "Requirements of adequate space, good light, avoidance of commuting travel and attractive working conditions apply in the case of the patent examiners just as much as they apply in the case of engineering and scientific establishments which have moved into the country." On the other hand, a Washington location is essential for a public search room, for "the hand-filing of applications," the Board of Appeals, the Board of Interference Examiners, Trademark Trial and Appeal Board, and so forth. In short, "the overlooked point in the present controversy . . . is that there are *some* functions of the Patent Office which would benefit from relocation . . . and *other* functions which could be moved away from Washington only at the cost of great public inconvenience."

A partner of a medium-size law firm in Zone B would find very objectionable the geographic fractionation of patent operations: "I find myself in Washington probably once a month, for one or two days' work and find it convenient to take up many matters on any one trip." He also refers to educational needs:

> The idea that the recruits will be able to go to law school at night to advance themselves in the Patent Office specifically or in the patent profession generally, has always been a strong impetus in securing Patent Examiners. I understand that the Patent Office would prefer not to permit their personnel to go to law school so easily so as to avoid their leaving the Patent Office for outside patent positions. This to me appears to be as shortsighted as the corporate executive who refuses to employ capable assistants because the executive is afraid of competition for his position. If such is the case, the corporation ultimately suffers as would the Patent Office if they pursue a policy of discouraging Examiners who are interested in bettering themselves either in or out of the Patent Office.

He further remarks that the relocation problem must be viewed in a larger setting:

> There are many problems facing the patent system today and I would like to see the matter of a new building tied in with many of

> the other problems, rather than taking it up as an isolated matter as it has apparently been done. . . . It seems to me that the entire problem of prior art to our research organizations, to industry and to anyone else is going to require a major effort on the part of the public through the Government which will sooner or later lead to a Cabinet status Department of Science, which is much more important today than, for example, the Department of Agriculture, the Department of the Interior or the Post Office Department, which in and of themselves, are important Departments, nonetheless.
> I think that ultimately we will have a Science Department which will attack the classification and availability of prior art and that the Patent Office should become an inherent and important aspect of such a Department. To my knowledge, there is no other classification system as broad and comprehensive as that used by the Patent Department which could be a starter to classify all prior art on a worldwide basis and not just primarily patent literature, such as is now done. . . . With the library as I visualize it, we could seriously consider an international searching system that will be available, not only to Patent Offices all over the world if they desire it, but to industry, colleges, research institutes and even the individual public to secure searches that would be second-to-none other available.
> In addition to just making better searching facilities available, this could also ultimately improve the examination system here and abroad and thus improve the patents that are granted. It would be truly a public facility and, therefore, merit true public support from the government and avoid part of the argument we now have of the patent system being supported largely by the applicants and patent owners.

The senior partner of a medium-size law firm in Zone B opposes the move on practical grounds and also sees the need for symbolic location in the Washington area:

> The Library of Congress is exemplary of the results of the copyright system. The Smithsonian Museum and the Science Museum are exemplary of the results of the inventive effort of our people. The new Patent Office should be built in a location near the Library of Congress and the Science Museum, thus combining in physical relationship and theory and three building blocks—the seat of the copyright system, the seat of the patent system, and the exhibition of inventors' efforts—by means of which science and the useful arts have advanced in the United States.

Finally, a partner of a medium-size law firm in Zone B expresses strong opposition on the grounds of inconvenience to practitioners and Patent Office personnel. He observes, in part, that "the utter ridiculousness of this situation (i.e., the proposed move to a location near Baltimore) was the set-up during World War II in Richmond."

APPENDIX

QUESTIONNAIRE SENT TO MEMBERS AND ASSOCIATES OF THE PTC RESEARCH INSTITUTE IN THE SUMMER OF 1964:



IDEA

THE PATENT, TRADEMARK, AND COPYRIGHT RESEARCH INSTITUTE OF THE GEORGE WASHINGTON UNIVERSITY • WASHINGTON, D.C., 20006

We are expanding our range of surveys on current issues. We now plan to survey more systematically attitudes on timely topics in accordance with our research objectives as outlined in the Bulletin of the Research Institute. Thus, Area IV of our research program comprises studies in the PUBLIC sector (e.g., from the standpoint of the general state of opinion or knowledge, as reflected in polls and news media).

We are also planning a series of inquiries which arise from our Annual Public Conference. These will involve technical data and be addressed to different small samplings of our membership and, perhaps, non-members too. These technical surveys will consist of a limited number of questions and will test the feasibility of larger studies as well as provide useful preliminary information. Others, like the attitude survey with which this letter is primarily concerned, do not involve technical data and may be addressed to all our membership.

* * * * *

In the Prospectus for Proposed Construction under Public Buildings Act of 1959, Project 49926 (Revised), it is proposed that the Patent Office be relocated in Howard or Anne Arundel County, Maryland. In view of the widespread professional interest in this subject and the importance that seems to be attached to the location of the Patent Office by persons in the field of industrial property, we are polling our membership on their attitude toward the

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Formerly The Patent, Trademark and Copyright Foundation of The George Washington University

proposed change.

It is not the purpose of the Research Institute to take a position on the contempated move. The Research Institute's aim is to provide a public service in developing information from its representative membership of patent and trademark users. The Research Institute is especially qualified to engage in empirical research.

We should like to have your replies to the following questions:

1. Are you generally in favor of, or opposed to, the proposed move?

2. If in favor, what specific features of the change would you find favorable?

3. If opposed, what specific features of the change would you find objectionable?

4. If you regard the contemplated move as generally objectionable, what alternative (s) would you regard as more desirable?

Expeditious response would be appreciated.

Sincerely,

L. James Harris

LJH:lb

Longevity of Patented Inventions Put to Commercial Use

BARKEV S. SANDERS*

SUMMARY

THERE IS NO BASIS to the common inference that patented inventions become obsolete in a very brief time, at most within two to three years. On the basis of assigned patents issued in 1938, 1948, and 1952, which were reported in current use at the end of 1956, and again early in 1962, we infer that about 50 percent of these inventions put to commercial use remained in use for 20 to 26 years. Unassigned patents appear to have a shorter span of time of commercial utilization, but even of the unassigned patents possibly as many as 40 percent of those put to commercial use continue in use beyond 17 years—considerably beyond the official life of the patent.

More specific information supplied by assignees regarding the date when patented inventions were put to use and the date of termination of such use—despite the low precision of such information, suggest that 60 percent of the patented inventions put to use remain in use well beyond 10 to 16 years (see Charts I and II).

THE SECOND INTERIM REPORT based on the Patent Utilization Study stressed in a sense the rapid obsolescence as an important contribution to the current non-use of many patented inventions.[1] From current literature on inventions and innovations one also gains the impression that there has been a progressive acceleration in the obsolescence rates of patented inventions so that today most patented inventions become obsolete and economically worthless shortly after they are conceived. Thus, Professor Machlup, writing in[2] *Science* observes:

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[1]Sanders, B. S., Rossman, J., and Harris, L. J., "The Non-Use of Patented Inventions"; *PTC J. Res. & Ed. (IDEA)* Vol. 2, No. 1, (March 1958) pp. 1-60.

[2]Machlup, Fritz, "Patents and Inventive Effort." The evidence is insufficient to prove or disprove the claim that the patent protection promotes inventive effort; *Science,* Vol. 133, No. 3463, May 12, 1961, pp. 1463-1466.

> . . . no firm in competition with a few others can afford to let its rivals steal a march upon it as far as the technological base of its competitive position is concerned. The research and development work is essential for the maintenance of its position. It cannot allow itself to fall seriously behind in the technological race, regardless of whether inventions promise it a 17-year patent protection, which in fact as *a result of obsolescence means usually no more than a few years, or whether inventions promise it only a head start of two or three years or even a means of catching up with the rivals.* Hence, it is not likely that the patent system makes much difference regarding the research and development expenditures of large firms:[3]

Similarly in emphasizing the importance of inventions and innovations one frequently finds in the literature assertions that in various industries such as drugs, a high proportion (70 or 80 percent) of those found on the current market have been developed in the last 5 or 10 years.[4] In all probability there has been some acceleration in putting patented inventions to commercial use,[5] therefore, some measure of rapid obsolescence has perhaps occured, but it would be erroneous to conclude on the basis of this, as Professor Machlup seems to do, that all or even most patented inventions put to use are obsolete in two or three years, if not sooner.

I have seen no empirical data given in support of these assertions about rapid obsolescence. From our analysis of renewal payments on foreign patents[6] we found that: "Despite the apparent acceleration of new inventions many inventions put to commercial use remain in use for many decades, and some indefinitely."[7]

In that study we show that the average number of years that British

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[3]*Ibid.* p. 1463-1464. Emphasis added.

[4]Report of the Commission on . . . The Cost of Medical Care, Volume 1, General Report, Am. Med. Assn. p. 17.

See also Machinery and Allied Product Institute/Council for Technological Advancement. *Federal Patent Policy,* 1959; p. 63. This latter observation is with respect to any commercially useful patented inventions put to use—not limited to drugs.

See finally *The Wall Street Journal,* Vol. CLXIV, No. 88, (Mon., Nov. 2, 1964) p. 1—"The Innovating Urge".

[5]See Sanders, B.S., "Speedy Entry of Patented Inventions into Commercial Use;" *PTC J. Res. & Ed. (IDEA)* Vol. 6, No. 1, (Spring 1962) pp. 87-116.

[6]Sanders, B.S., "The Upgrading of Patented Inventions and their Use Here and Abroad;" *PTC J. Res. & Ed. (IDEA)* Vol. 7, No. 1, (Spring 1963), pp. 45-83, and Vol. 7, No. 2, (Summer 1963), pp. 185-228.

[7]*Ibid.* p. 46.

patents were kept in force (by payment of renewal fees beyond the 4th year) was 5.3 years in 1884, with a 14 year maximum protection period, it arose to an average of 10.3 years in 1940, with a maximum of 16 years. Only a small part of this rise was attributable to the increase in the maximum duration. With a cut off to 14 years, the average life of British patents issued in 1940 was 9.8 years. For the latest year, 1946, for which experience was available the mean duration of all patents kept in force was 8.3 and 8.7 years, the first for a 14 year cut off, and the second for the maximum duration of 16 years.[8]

For Germany the mean life of a patent was 3.73 years in 1891 with a maximum duration of 15 years. In 1929 the latest year for which observations for 15 years are available the mean life after 15th years was 6.92.[9]

In Switzerland the mean duration of patent life for patents issued in 1888 was 4.41 years, the corresponding average for those issued in 1945 was 6.42.[10]

In Denmark there was no clear cut increase in the retention of patents in force. In Austria the average retention at the end of 12 years was 3.53 years, for patents issued in 1899, the corresponding average for patents issued in 1950 was 6.65 years.[11]

In The Netherlands the proportion of patents kept in force through the 11th year for those issued in 1930-39 was 13.4 percent, the corresponding percentage for patents issued in 1951 was 29.8, again showing marked increase in the maintenance in force of patents through the payment of renewal fees.[12]

In France only 4.7 percent of the patents issued in 1897-1910 remained in force through the 15th year. For patents issued in 1937 this average was 6.8 percent.[13]

The above statistics show unmistakably that the retention time of patents through the payment of renewal fees has increased markedly over the years for almost every country for which such statistics could be found. To us this means that there has been an upgrading of inventions that are patented, more of the inventions patented prove themselves of economic value and over a much longer period of time today than before, contrary to Professor Machlup's implications of

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[8] *Ibid.* p. 79, Table 6.
[9] *Ibid.* pp. 196-197, Table 10.
[10] *Ibid.* pp. 200-201. Table 12.
[11] *Ibid.* pp. 210-211, Table 15.
[12] *Ibid.* p. 215, Table 17.
[13] *Ibid.* p. 223.

decreasing economic value of patented inventions today because of rapid obsolescence.[14]

This objective evidence also runs counter to all other impressionistic assertions regarding an acceleration in the obsolescence rates of patented inventions put to use in recent years as compared with earlier times.

In the United States we have no requirement for renewal payments. A study of the United States inventions patented abroad in countries with renewal payments, comparing the longevity of patents issued to residents of different countries would be revealing. Unfortunately we know no such study. In our own study of retention of foreign patents we did consider a bit of information of this nature. Maarschalk gave the distribution of The Netherlands patents kept in force issued to residents of different countries for the period 1914 to 1941. Our analysis of these data showed that the average longevity of both assigned and unassigned patents issued to residents of the United States was higher than the averages for the patents issued to other nationals. More important still, from the standpoint of our immediate concern, the *increment* in the average life of the patent was highest of all for those issued to the residents of the United States. Thus the mean retention for patents issued to the residents of the United States in 1914 was 3.70 years and those issued in 1924, 5.69 years, this represented the highest increment in the retention rate of patents in force in The Netherlands in the series analyzed.[15]

Patents Reported In Current Use

Some idea of the longevity of use of inventions patented in the United States might be obtained by a study of the proportion of patents reported in current use for patents issued in specific years. Table 1 demonstrates this.

Table 1 shows the percentage of assigned patented inventions re-

[14]In part, the increasing retention of patents may reflect the progressive transformation of patented inventions owned by individual inventors to those owned by corporations. But this shift in itself has qualitative implications as well; the average assigned patent would be of a higher quality than such an average taken from the universe of unassigned patented inventions. Furthermore, in The Netherlands, for which we had some patent survival statistics separately for unassigned and assigned patents, the progressive upgrading is apparent for both the assigned and unassigned and appears to be somewhat more marked among the assigned patents. There is evidence, therefore, that the increase in longevity of patents cannot be attributed entirely, or even largely, to the increase in the proportion of assigned patents—but rather it reflects a qualitative change for the better in patented inventions.

[15]*Ibid.* pp. 214-222.

TABLE 1

The number and percentage of assigned patents issued in specified years that were reported in current or past use by assignees in the initial and or the follow-up questionnaires.

Current or Past Use	*Initial*								*Follow-Up*							
	1938		*1948*		*1952*		*Total*		*1938*		*1948*		*1952*		*Total*	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
In current use	48	51.6	41	59.4	90	69.2	179	61.3	31	54.4	28	57.1	69	68.3	128	61.8
In past use	45	48.4	28	40.6	40	30.8	113	38.7	26	45.6	21	42.9	32	31.7	79	38.2
Total	93	100.0	69	100.0	130	100.0	292	100.0	57	100.0	49	100.0	101	100.0	207	100.0

ported in current use to the total number reported used (exclusive of those reported in future use). Columns 2 through 9 refer to initial questionnaires, mailed in 1955 and 56 and returned by and large by the end of 1956. The columns 10 through 17 are based on the postal card follow-up questionnaires. These were mailed out at the beginning of 1962 and returned in that year. Follow-up questionnaires were mailed only to assignees who had responded to the initial questionnaire. The utilization status of patented inventions analyzed in Table 1 is based on assignee replies.

On the basis of the initial returns (1956-57) for patents issued in 1938 that were put to commercial use, nearly 52 percent were still in use approximately as of the end of 1956. From our previous analysis we have seen that for almost 40 percent of patented inventions that are used commercially, such use begins prior to the date of application. For another 55 percent or so the use begins between the time of application and the time of issue, and only for about 5 percent the commercial use of the patented invention begins after the patent is issued.[16] It would appear, therefore, that on the average the patents issued in 1938 that are reported still in current use, had been in use for an average of over 20 years at the end of 1956. In 1962 postal card follow-up, the assignees that responded indicated that 54 percent of the patented inventions issued in 1938 that had been put to use were still in current use.[17] The maximum mean duration that these patented inventions have been in use would be about 26 years.

For patents issued in 1948 over 59 percent were reported in current use on the basis of the initial returns, and 57 percent on the basis of the follow-up questionnaires. This would suggest a minimal duration

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[16]Sanders, B.S., "Speedy Entry of Patented Inventions into Commercial Use"; *PTC J. Res. & Ed. (IDEA)* Vol. 6, No. 1, (Spring 1962), pp. 87-116.

[17]The requirement of extensive search necessary for replying to the initial questionnaire for used patents and the probability of missing information on past use and reporting a patent never used is considered at some length in the interim report by this same writer entitled, "Upgrading of Patented Inventions and Their Use Here and Abroad;" *PTC J. Res. & Ed. (IDEA)* Vol. 7, No. 1, (Spring 1963) pp. 52-60. The greater deficit of patents used in the past in the follow-up questionnaires could account for the apparent increase in survival time particularly since the rate of discontinuance of use would tend to diminish very gradually for patented inventions that have remained in use for more than 20 years (see Charts I and II). The most significant observations are with respect to patents issued in 1938, since they have been under observation the longest. For 1938 our observations suggest that more than 50 percent of patented inventions that are put to commercial use remain in use beyond 20 to 26 years. This is remarkable in terms of longevity of economic usefulness of patented inventions.

of 12 and 18 years[18] for all of these patents. For patents issued in 1952, the percentages are somewhat over 69 on the basis of initial replies and 68 on the basis of the follow-up returns. The maximum average duration of use for these patented inventions is 8 and 14 years, respectively.

From the figures in Table 1 one might infer the following general pattern of the percentage of patented inventions used for a minimum number of years and longer.

1938	For	26	years	or	longer	50	to	54	percent
1938	"	20	"	"	"	52	"	54+	"
1948	"	18	"	"	"	55	"	57	"
1948	"	14	"	"	"	59	"	62	"
1952	"	12	"	"	"	59	"	60+	"
1952	"	8	"	"	"	68	"	70	"

To be sure these gross figures based on follow-up and initial questionnaires respectively are not entirely consistent but they both support a broad pattern of marked longevity of patented inventions in commercial use.

Even though we regard the information with respect to commercial use of the patented invention supplied by the assignee much more reliable than that supplied by the inventor, nevertheless, we have deemed it worthy of some interest to consider the proportion of patented inventions reported in current use by inventors both for assigned and unassigned patents. These are shown in Table 2.

For assigned patents by and large the inventor replies suggest even higher survival periods then that derived from assignee replies, therefore, they tend to strengthen the significance of assignee replies with respect to the proportion of patented inventions put to commercial use that were still continuing in such use after a specified number of years.

But Table 2 in addition to its corroborative value is of special interest in giving us a clue, however rough, of the persistence in use of unassigned patented inventions that are put to commercial use. In interpreting the lapsed time in use for the unassigned patents we cannot make the same assumption as we made for the assigned patents, that a vast majority of them are put to commercial use before the patent is issued. Even though we have made no empirical inquiry of this matter a priori considerations lead us to believe that for un-

[18]In making the crude estimates account is taken roughly of the fact that the interval between application and the issuance of patents was considerably longer in 1948 and also in 1952 in comparison with 1938.

TABLE 2

The number and percentage of patents issued in specified years that were reported in current or past use by inventors for assigned and unassigned patents respectively.

Current or Past Use	*Assigned Patents*								*Unassigned Patents*							
	1938		*1948*		*1952*		*Total*		*1938*		*1948*		*1952*		*Total*	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
In current use	43	48.3	57	65.5	161	77.0	261	67.8	4	40.0	21	84.0	38	77.6	63	75.0
In past use	46	51.7	30	34.5	48	23.0	124	32.2	6	60.0	4	16.0	11	22.4	21	25.0
Total	89	100.0	87	100.0	209	100.0	385	100.0	10	100.0	25	100.0	49	100.0	84	100.0

assigned patents commercial use seldom precedes the date on which the patent is issued, and in fact, in most of them commercial use probably begins at least one or two years subsequent to the issuance of the patent. On the basis of this assumption the crude percentage of unassigned patents continuing in use for a specified number of years or longer inferred from Table 2 for unassigned patents would be about as follows:

UNASSIGNED PATENTS

1938	In use for 17 years or longer	40 percent
1948	" " " 7 " " "	84 "
1952	" " " 3 " " "	78 "

The apparent anomaly for 7 years compared to 3 years might indicate special delays with respect to inventions made in the war years.[19] If these figures are of any significance they suggest a shorter period of commercial use for unassigned as against assigned patents which seems plausible. Aside from this comparative relationship the figures in columns 10 through 17 of Table 2 would suggest a lower economic return from unassigned patented inventions, even those that are put to commercial use in comparison to assigned patented inventions put to use. Even for unassigned patented inventions put to use, however, a significant proportion remain in use well beyond the expiration date of the patent[20]—which in the United States is 17 years after the date of issue.

A More Rigorous Attempt to Measure Longevity of Use of Patented Inventions

In the Patent Utilization Study we were aware of the economic significance of the time period over which patented inventions continue in commercial use. We were dubious of the value of asking the individual inventor for precise information of the date when his patented invention was put to use and the date when such use stopped. But we felt the assignee would be in position to give us this sort of information. Therefore, question 10 in the assignee questionnaire

[19]In all probability a much larger proportion of the patent applications filed in 1948 had a national defense objective. This would delay the issuance of patents on these and could easily account for the apparent discrepancy when 1948 experience is compared with that for 1952.

[20]If it is correct that nearly 40 percent of the unassigned patented inventions remain in force for more than 17 years, since utilization of these patents starts sometime following their issuance, it would seem 50 percent or so of these patented inventions could be still in use when the patent protection ends.

asks the date when the patented invention was put to use first, and question 11, the date when such use was discontinued.[21]

As every researcher doing research based on questionnaires knows, every question added to a questionnaire tends to reduce the proportion of those who would return a completed questionnaire. The inhibitive effect of a question is associated with the worthwhileness of the question as judged by the respondent and the amount of additional work required of him in answering the questionnaire, all other things remaining the same.[22] We have no way of assessing how many assignees were there who would have returned a questionnaire had questions 10 and 11 not been included—but we believe that the returns would have been higher had these questions, which must have required considerable searching of the records, not been included in the questionnaire. We do know that a large proportion of the assignees failed to respond to our questionnaires. Failure to return a questionnaire was more common for smaller firms than for larger ones.[23] Also the returns are lowest for patents issued in 1938 and highest for those issued in 1948. These percentages for assigned patents were:

For all three years	51.3
" 1938	44.6
" 1948	55.7
" 1952	54.2

Assigned patents included all those where the patent was issued to a corporation,[24] as well as those where according to some other authoritative source of information, such as the assignment files of the United States Patent Office, indicated the subsequent assignment of the patent.[25]

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[21]Question 10 in the assignee questionnaire reads:

"If the sampled invention is or was ever used in production, what is the date when it was first used? (month and year)—."

Question 11 reads: "If the sampled invention was in use but is no longer in use, what is the date when it was last used? (month and year)—."

PTC J. Res. & Ed., (IDEA) Vol. 1, No. 1, (June 1957), p. 110.

[22]In questionnaires sent to corporations fear of revealing information that might be useful to competitors or to outsiders in general is another consideration affecting the inclination of the respondent to ignore the questionnaire or, at least, not to answer a specific question.

[23]See Sanders, B.S., "Patterns of Commercial Exploitation of Patented Inventions by Large and Small Corporations;" *IDEA, PTC J. Res. & Ed.*, Vol. 8, No. 1, (Spring 1964) p. 60, Table 1.

[24]Where a patent is assigned prior to issue the name of the assignee appears on the face of the patent letter as the assignee.

[25]These files were searched in 1956, but not since then.

From the proportion of those who returned the questionnaire without supplying information with respect to questions 10 and 11 we are led to infer that a significant proportion were discouraged to return the questionnaire at all because of the inclusion of these two questions.

The proportion of those who returned the questionnaire but failed to supply any information on questions 10 and 11 is shown by Table 3.

Line 3, column 5 indicates that on the average 84 percent of the assignees who returned a questionnaire and who reported the patented invention had been used commercially in the past answered question 10, i.e., gave some date apparently when commercial use of the sampled invention began. Line 10, column 5, for patents in current use, shows the same average percentage giving the date when commercial use began. For individual years, line 3 for patented inventions used in the past shows the highest percentage, 87.5 for patents issued in 1952, and the percentages are almost the same for 1948 and 1938 patents, about 82. Line 10 for patented inventions in current use shows the highest response to the question for patents issued in 1948, 92.7 percent and the lowest 81.3 for those issued in 1938.

In the follow-up questionnaire sent to those only who had returned the initial questionnaire the percentage replying to question 10 was consistently higher. The average for 3 years for patented inventions reported in the past, line 3 column 9, was 92.4 percent, and for patents reported in current use the corresponding percentage was 91.4. The percentage for individual years for line 3 is highest for patents issued in 1952, 96.9 percent, and lowest for 1938, 84.6. For line 10, referring to patents in current use, the highest percentage supplying date when use began is 92.9, also for 1948, and the lowest 90.3 for 1938. Of course some of these variations might be attributable completely to chance—but by and large the information is least adequate for patented inventions issued in 1938.

With respect to patents used in the past, the date when the patented invention was used last was also requested (question 11). Line 5 indicates that in the initial returns 70.8 percent of the assignees returning a completed questionnaire supplied this information. The percentage was 75.0, the highest, for patents issued in 1952, and 66.7, the lowest for those issued in 1938. By and large these statistics suggest an improvement in the percentage of completed responses for the more recent patents—suggesting greater interest and perhaps the ease and ready availability of the files.

In the follow-up study the percentage returning a questionnaire who

TABLE 3

The number and percentage of assigned patented inventions issued in specified years reported used in the past for which information on date when commercial use began and the last date of use are given. The number and percentage reported in current use for which the date when use began are also reported in the initial and follow-up assignee questionnaires.

Line	Captions	Initial				Follow-Up			
		1938	*1948*	*1952*	*Total*	*1938*	*1948*	*1952*	*Total*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Number of patents reported used in the past	45	28	40	113	26	21	32	79
2.	Number for which date when use began is given	37	23	35	95	22	20	31	73
3.	Percentage of (2) to (1)	82.2	82.1	87.5	84.1	84.6	95.2	96.9	92.4
4.	No. of patents for which date of cessation of use is given	30	20	30	80	19	18	28	65
5.	Percentage of (4) to (1)	66.7	71.4	75.0	70.8	73.1	85.7	87.5	82.3
6.	Number of patents for which both beginning and termination dates are shown	30	20	28	78	19	18	28	65
7.	Percentage of (6) to (1)	66.7	71.4	70.0	69.0	73.1	85.7	87.5	82.3
8.	Number of patents reported in current use	48	41	90	179	31	28	69	128
9.	No. giving date when use began	39	38	74	151	28	26	63	117
10.	Percentage of (9) to (8)	81.3	92.7	82.2	84.4	90.3	92.9	91.3	91.4

failed to supply the date when the patented invention was last used, was again smaller than in the initial returns. The average proportion supplying the desired information was 82.3 (line 5 column 9). Again the highest response rate was found for patents issued in 1952, 87.5 and the lowest for patents issued in 1938, 73.1.

For patents no longer in use for which both the date of first and last use are given we can study the time pattern of use. In the initial return this information was supplied for about two thirds of 1938 assigned patents reported used in the past and 71 and 70 percent for patents issued in 1948 and 1952, respectively. The corresponding percentages for patents with a follow-up questionnaire is 73.1 for those issued in 1938, 85.7 percent for those issued in 1948, and 87.5 percent for those issued in 1952 (line 7). The average for the three years is about 82 percent, considerably higher than 69, the average based on initial questionnaires.

This researcher has been most eager for an opportunity to validate the findings from the Patent Utilization Study but to date no resources have been found to carry on an appropriate validation study. We do not know, therefore, what is the nature of the reported information on the basis of which the queries in our questionnaires were answered. Since we do not know the nature and objectivity of the information on the basis of which one determines whether a given patented invention is being used or not used, how is the date of the initial use determined? To what extent is the date of last use subject to judgment and to modification as a result of subsequent orders which could not have been anticipated?

On an a priori basis it would seem that failure to answer a specific question would be a rough index of the difficulty of answering the question, either in terms of looking for the appropriate information or of being ready to supply a specific answer where judgmental considerations enter in the determination of an appropriate response. In terms of this assumption, we have tabulated the percentage of nonresponse or an entry of "don't know" for the different questions of the initial assignee questionnaire arranged according to incompleteness of responses. On the basis of this criterion question 10 ranks in difficulty as the 15th and question 11 as the 11th.

Consistency of Answers

Table 3 has indicated a higher proportion of response to the follow-up questionnaire but this per se may not mean more reliable or more complete information. Some insight into the objectivity and reliability and consistency of information in responding to questions 10 and 11

TABLE 4

Comparative consistency of assignee replies on the initial and follow-up questionnaires regarding the utilization status of sampled patents and the time when these patented inventions were first put to commercial use and when such use terminated—for patents used in the past. (Limited to patents with both initial and follow-up questionnaires).

Line	*Captions*	*1938*	*1948*	*1952*	*Total*
1.	Number of patents reported used in the past in the initial or follow-up questionaire	46	32	47	125
2.	Number of patents reported used in the past-initial questionnaires	34	20	31	85
3.	Number of patants reported used in the past in the follow-up questionnaires	26	21	32	79
4.	Number for which date when use began is reported in the initial questionnaire	27	18	27	72
5.	Number for which date when use began is reported in the follow-up questionnaire	22	20	31	73
6.	Number for which date when use began is reported both in the initial and the follow-up questionnaires	21 (100.0)	16 (100.0)	26 (100.0)	63 (100.0)
7.	Percent (of 6) where the dates given are the same	9 (42.9)	5 (31.3)	13 (50.0)	27 (42.9)
8.	Percent (of 6) when the date given initially is no more than 1 year earlier		1 (6.3)	2 (7.7)	3 (4.8)
9.	Percent (of 6) when the date given initially is 1 to 2 years earlier	4 (19.0)	4 (25.0)	3 (11.5)	11 (17.5)
10.	Percent (of 6) when the date given initially is 2 to 3 years earlier	1 (4.8)			1 (1.6)
11.	Percent (of 6) when date given initially is 3 or more years earlier	1 (4.8)		2 (7.7)	3 (4.8)
12.	Percent (of 6) when date given initially is less than 1 year later	1 (4.8)	1 (6.3)	2 (11.5)	5 (7.9)
13.	Percent (of 6) when date given initially is 1 to 2 years later	5 (23.8)	2 (12.5)	3 (11.5)	10 (15.9)
14.	Percent (of 6) when date given initially is 2 to 3 years later		2 (6.3)		1 (1.6)
15.	Percent (of 6) when date given initially is 3 or more years later		2 (12.5)		2 (3.2)
16.	Number for which date when last used is reported in the initial questionnaires	23	16	23	62
17.	Number for which date when last used is reported in the follow-up questionaires	19	18	28	65
18.	Number for which date when last used is reported both in the initial and follow-up questionnaires	9 (100.0)	6 (100.0)	15 (100.0)	30 (100.0)
19.	Percent (of 18) when dates given are the same	3 (33.0)	1 (16.7)	7 (46.7)	11 (36.7)
20.	Percent (of 18) when the date given initially is no more than 1 year earlier			1 (6.7)	1 (3.3)
21.	Percent (of 18) when the date given initially is 1 to 2 years earlier		1 (16.7)	4 (26.7)	5 (16.7)
22.	Percent (of 18) when the date given initially is 2 or 3 years earlier	1 (11.1)			1 (3.3)
23.	Percent (of 18) when the date given initially is 3 or more years earlier	3 (33.3)	1 (16.7)	1 (6.7)	5 (16.7)
24.	Percent (of 18) when date given initially is less than 1 year late				
25.	Percent (of 18) when date given initially is 1 to 2 years later	1 (11.1)	1 (16.7)		2 (6.7)
26.	Percent (of 18) when date given initially is 2 to 3 years later			1 (6.7)	1 (3.3)
27.	Percent (of 18) when date given initially is 3 or more years later	1 (11.1)	2 (33.3)	1 (6.7)	4 (13.3)

might be gained by a comparison of answers given to question 10 in the initial questionnaire with the appropriate answers given in the follow-up questionnaires for the identical sampled patents. The same comparison may also be made for information regarding the date of last use. Such comparisons are shown in Tables 4 and 5.

The first 3 lines of Table 4 suggest considerable inconsistency in determining whether a specific patented invention has been used in the past or otherwise. Thus, limiting our consideration only to patents for which there were both initial and follow-up assignee questionnaires, we see wide discrepancies in the initial and follow-up replies as to whether a specific patented invention had been put to use or not. Of the 46 patented inventions issued in 1938 for which on one or the other return the answer with respect to utilization is given as "past use", only in 15 instances the two replies are consistent[26] both on the initial and follow-up questionnaires, in 25 instances they are completely contradictory and incompatible. For patents issued in 1948, of the 32 cases the answers are consistent in 17, and contradictory in 12 cases; and in patents issued in 1952 of the 47 cases the answers are consistent in 22 cases and completely contradictory in 17. It would seem the consistency of replies is somewhat better for patents issued in later years as compared with those issued in the earlier year.

For the total 125 patents in the three years which were reported used in the past on either or both questionnaires only in 54 instances (43 percent) the information regarding use was consistent. In 17 (14 percent), it was uncertain, and in 54 (43 percent) it was definitely contradictory.

With respect to those reported in past use (the proportion for the date when such use began is given) we have already shown that it is somewhat higher for the follow-up questionnaires. Line 6 compared with line 5 would indicate that in a certain proportion of patented inventions, not very high to be sure, the information on date when use began was not given initially though the information must have been available since it was supplied by the follow-up questionnaire. Line 6 indicates that in the three years 63 patents reported used in the past, both the initial and follow-up questionnaires supply dates on which presumably the commercial use of the patented invention began. But only in 27, i.e. 43 percent of these, the date given on both questionnaires is the same. In 28.7 percent the initially given date was one or more years earlier. In another 28.6 percent the initially reported date

[26]A consistent reply with respect to utilization need not be identical for the initial and follow-up questionnaires.

of first use was by one or more years later than that reported in the follow-up questionnaire. If one ignores differences of plus or minus one year, still, in less than 56 percent the reported time when use began would be the same or the variation would be no more than one year. There is apparent uncertainty on the basis of assignee replies as to the date when a patented invention was put to use; how this uncertainty comes about we do not know.

What has been said about reporting when use began applies even more forcefully for the information supplied with respect to the date when the patented invention was used last. While for 63 patented inventions reported used in the past the date when use began is given, only in 30 (line 18) the date when last used is given both on the initial and follow-up questionnaire. Of these 30, only in 11 the date given on the initial questionnaire and on the follow-up are the same, i.e. in 36.7 percent, even lower than that observed in reporting consistently the date when use began. In 40.0 percent the date of last use given in the initial questionnaire was earlier. A possible explanation might be that some patented inventions might be called upon infrequently, and one might judge that the use of a given invention has come to an end but this might not be the case, new orders might come in and revive its use. In 23 percent of the cases where answers as to the date when last used were given, the follow-up questionnaire gave an earlier date when last used than that given in the initial questionnaire—this sort of inconsistency cannot be accounted for by the explanation suggested above.

In general we are forced to conclude that the information supplied with respect to utilization status and with respect to the date when the use of the patented invention began, and the date when such use was terminated are all pretty refractory in nature and lack in precision. Nevertheless, we hope the information is suggestive of the general span of time over which patented inventions put to commercial use remain in such use. Our analysis of percentage of patents remaining in use after a specified number of months should be considered, keeping in mind this discrepancy. This low level of consistency is confirmed by Table 5 which shows a similar analysis of patented inventions reported in current use regarding the date when the use began on the basis of the initial questionnaire compared with the follow-up questionnaire.

Table 5 shows somewhat greater consistency as far as information on utilization status is concerned for patents in current use as compared with patents reported used in the past. This would tend to

TABLE 5

Comparative consistency of assignee replies on the initial and follow-up questionnaires regarding the utilization status of sampled patents and the time when these inventions were first put to commercial use for patents in current use. (Limited to patents with both initial and follow-up questionnaires).

Line	*Captions*	*1938*	*1948*	*1952*	*Total*
1.	Number of patents reported in current use in the initial or follow-up questionnaires	48	36	86	170
2.	Number of patents reported in current use in the initial questionnaire	39	30	72	141
3.	Number reported used in current use in the follow-up questionnaire	31	28	69	128
4.	Number for which date when use began is reported in the initial questionnaire	31	27	59	117
5.	Number for which date when use began is reported in the initial questionnaire	28	26	63	117
6.	Number for which date when use began is reported both in the initial and follow-up questionnaires	25 (100.0)	28 (100.0)	59 (100.0)	112 (100.0)
7.	Percent (of 6) where the dates given are the same	10 (40.0)	8 (28.6)	19 (32.2)	37 (33.0)
8.	Percent (of 6) when the date given initially is no more than 1 year earlier	3 (12.0)	1 (3.6)	5 (8.5)	9 (8.0)
9.	Percent (of 6) when the date given initially is 1 to 2 years earlier	4 (16.0)	6 (21.4)	9 (15.2)	19 (17.0)
10.	Percent (of 6) when the date given initially is 2 to 3 years earlier		1 (3.6)	1 (1.7)	2 (1.8)
11.	Percent (of 6) when the date given initially is 3 or more years earlier		1 (3.6)	5 (8.5)	6 (5.4)
12.	Percent (of 6) when date given initially is less than 1 year earlier	1 (4.0)	6 (21.4)	8 (13.6)	15 (13.4)
13.	Percent (of 6) when date given initially is 1 to 2 years later	5 (20.0)	3 (10.7)	9 (15.2)	17 (15.2)
14.	Percent (of 6) when date given initially is 2 to 3 years later		1 (3.6)	2 (3.4)	3 (2.7)
15.	Percent (of 6) when date given initially is 3 or more years later	2 (8.0)	1 (3.6)	1 (1.7)	4 (3.6)

confirm our supposition of the importance of ready availability of the records. Perhaps the extra effort required to obtain correctly the desired information for the older patents which have not been in commercial use recently contributes heavily to the inconsistent replies.

With respect to patented inventions reported in current use as those in past use, though not to the same extent, there is inconsistency between the information supplied by initial and follow-up questionnaires. Thus, there are 48 patented inventions issued in 1938 where on one or the other or both questionnaires the utilization status is given as in current use. Of this total, in 23 the answers given in both questionnaires are the same; in 18 they are contradictory. For the 36 patents issued in 1948 said to be currently used, in at least one of the two questionnaires in 31, the entries on the two questionnaires are consistent, and in 2 are inconsistent. Of the 86 patents issued in 1952, in 61 the answers are consistent and in 9 contradictory. Thus, for the entire group of 170 patented inventions reported in current use on one or both questionnaires, in 115 or about 68 percent, the two answers are consistent and in 29, or at least 17 percent, they are contradictory. This is somewhat better than the agreement which we found for patented inventions reported used in the past, but still far from ideal. Also, as we had already seen in Table 3, for a higher proportion of patents reported in current use the information as to the date when such use began is given in comparison with patents used in the past. But the comparison of the date when use began, given in the initial questionnaire with that given in the follow-up questionnaire, shows that the consistency is no better for patented inventions reported in current use than for those reported in past use, analyzed in Table 4, if anything the consistency is even lower in Table 5. Only in one third of the cases the identical date was reported in both instances. In 32 percent the date given in the initial questionnaire was earlier and in 35 percent it was later than the date given in the follow-up questionnaire. Even if we ignore differences of a year or less, those for which the reported time was consistent would account for only 54 percent. In the remaining 46 percent the disparity of the time reported when the sampled patented invention was put to commercial use has a time disparity in excess of one year.

This uncertainty of the date when commercial use began and ended stresses the need for an intensive investigation of the nature of recorded information available, the objectivity of such information, and the diligence used in abstracting the recorded information for replying to the Research Institute's questionnaires on these matters. In the

meantime the availability of this information justifies our analysis of it, even though from what has been shown on consistency the reader should be on his guard as to the precision level of the information at hand. But despite the low precision level, the general pattern may still prove instructive and perhaps valid in a broad sense.

Patent Survival Tables

Following the practice of actuaries, we have used the initial and terminal dates when a patented invention was put to use as the dates of birth and death evolving a life table for patented inventions remaining in commercial use. By this procedure we have constructed what one might label by analogy as utility life table of patented inventions issued in a given year. In constructing our tables, because of wide discrepancy in the date of birth and death of the useful life of patented inventions as shown in Tables 4 and 5, we have constructed separate life tables on the basis of the dates supplied in the initial questionnaires and the dates supplied in the follow-up questionnaires. These termination rates in terms of various percentiles are summarized in Table 6. As to assumptions and methods in deriving Table 6, see the Technical notes which follow the discussion of Table 6.

In Table 6, the summary for the three years (Column 8) shows on the basis of replies to initial questionnaires that 25 percent of the patented inventions which were the first to become obsolete remained

TABLE 6

Percentage of patents put to commercial use which become obsolete after a specified number of months based on assignee replies as to utilization status and the date when commercial use began and the date of termination for patented inventions no longer in use. Separate terminations were estimated on the basis of replies to initial and follow-up questionnaires for patents issued in a specific year.

(Time of Obsolescence in Months)

Percentile of obsolesence	*1938*		*1948*		*1952*		*Three years*	
	Initial	*Follow-up*	*Initial*	*Follow-up*	*Initial*	*Follow-up*	*Initial*	*Follow-up*
(1)	(2)	(3)	(4)	(6)	(6)	(7)	(8)	(9)
5	3.8	14.0	11.3	14.8	10.0	7.2	8.5	10.4
10	11.9	35.1	21.6	28.2	24.4	23.1	20.0	27.4
20	57.5	61.4	45.3	55.7	49.3	47.0	50.8	52.8
25	64.8	72.8	62.5	60.0	61.1	68.3	62.6	65.2
30	80.7	97.7	90.8	118.0	68.0	104.8	77.9	112.1
40	172.0	192.0	119.5	163.6		144.0	150.8	163.6
50				187.7				187.7

in use for varying periods of time up to about 5 years and 3 months. On the basis of initial questionnaires about 60 percent of the patented inventions remained in commercial use beyond 12 years. The information supplied on the follow-up questionnaires shows consistently somewhat greater longevity. Only in part this excess could be attributed to the oversight to identify patented inventions used for very short intervals of time. On the basis of the three year summary based on assignee replies (Column 9) in response to the follow-up questionnaires, the 25 percentile of used patents with the shortest utilization time become obsolete by the time 5 years 5 months have elapsed. Some 60 percent of the patented inventions were still reported in use after they had been in use for almost 14 years, and 50 percent of those observed up to nearly 16 years remained in use.

The three year percentiles represent the weighted averages for the three years' observations. As one would expect, the opportunity for the longest time under observation was available for patented inventions issued in 1938. The exposure was invariably longer for the follow-up questionnaires. But despite the marked variations the averages around the central portion especially are reasonably similar. This might be seen more clearly in Charts I and II.

In Chart I the tabular values shown in Table 6 are given graphically while in Chart II the original reported time intervals are shown. It is seen that the smoothed percentile values in Chart I do no violence to the observed rates of obsolescence, and that both the information reported on the initial and the follow-up questionnaires, despite their disparity, show a fairly distinct broad band for the individual years within which the observations regarding the obsolescence rates of patented inventions lie. The outstanding fact is that some 50 percent or so of the patented inventions put to commercial use continue in such use beyond 13 to 14 years, and not two to three years as Professor Machlup suggests.

What is needed is more effective collaboration with various corporations to understand better the objective bases on which input and output for inventions can be appraised and their economic effects understood—instead of broad generalizations in the absence of empirical information—such as the Research Institute has pursued.

Technical Notes

Some explanation is advisable with respect to Table 6. To prepare Table 6 the assigned patents for which an assignee questionnaire was received were separated according to the year of issue, i.e. 1938, 48 and 52. Patents reported used in the past in the initial questionnaire

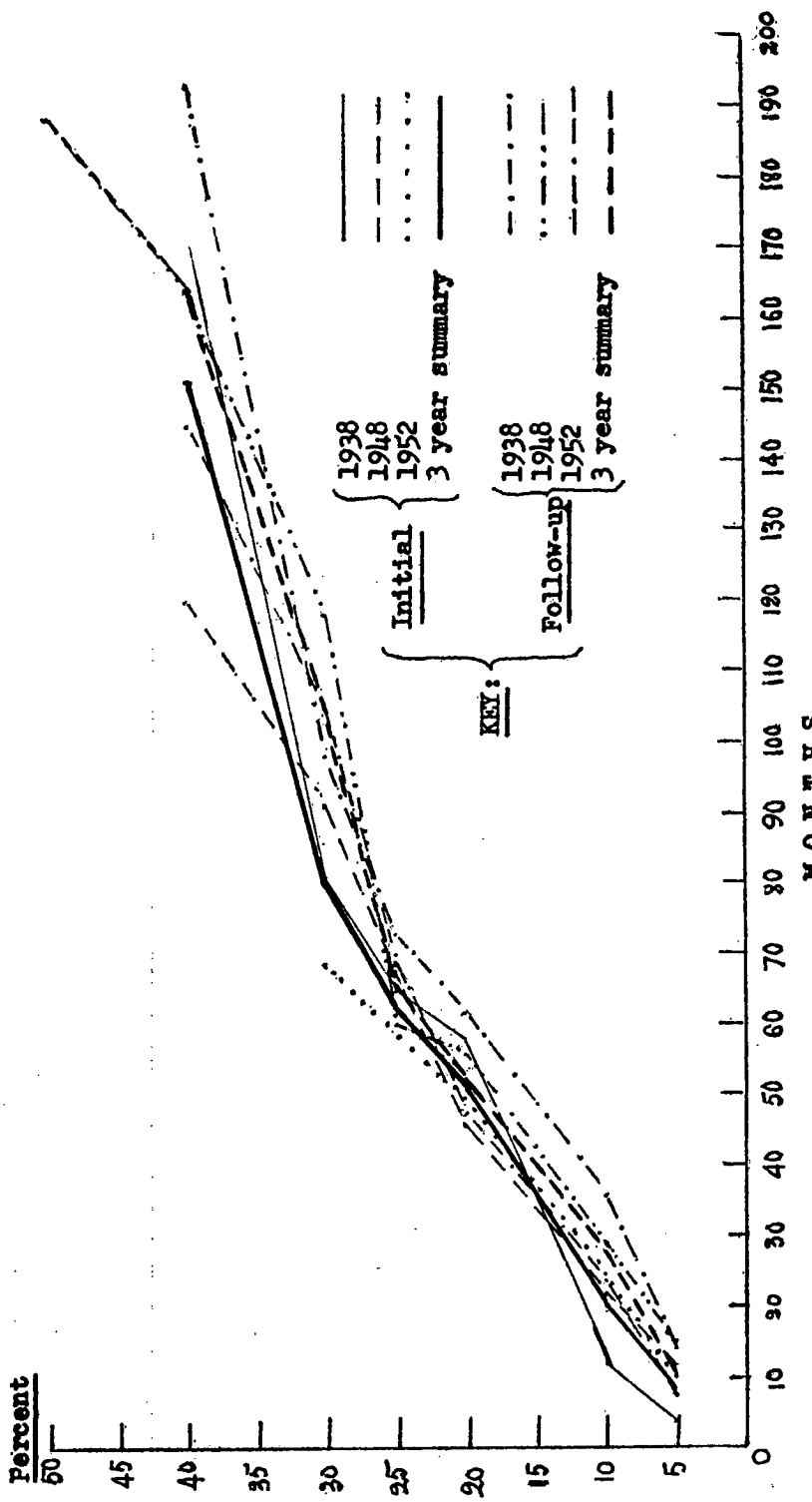


CHART I. Estimated percentiles of patents becoming obsolete after a specified number of months—separate annual and composite estimates for obsolescence rates based on assignee replies in the initial and follow-up questionnaires, respectively.

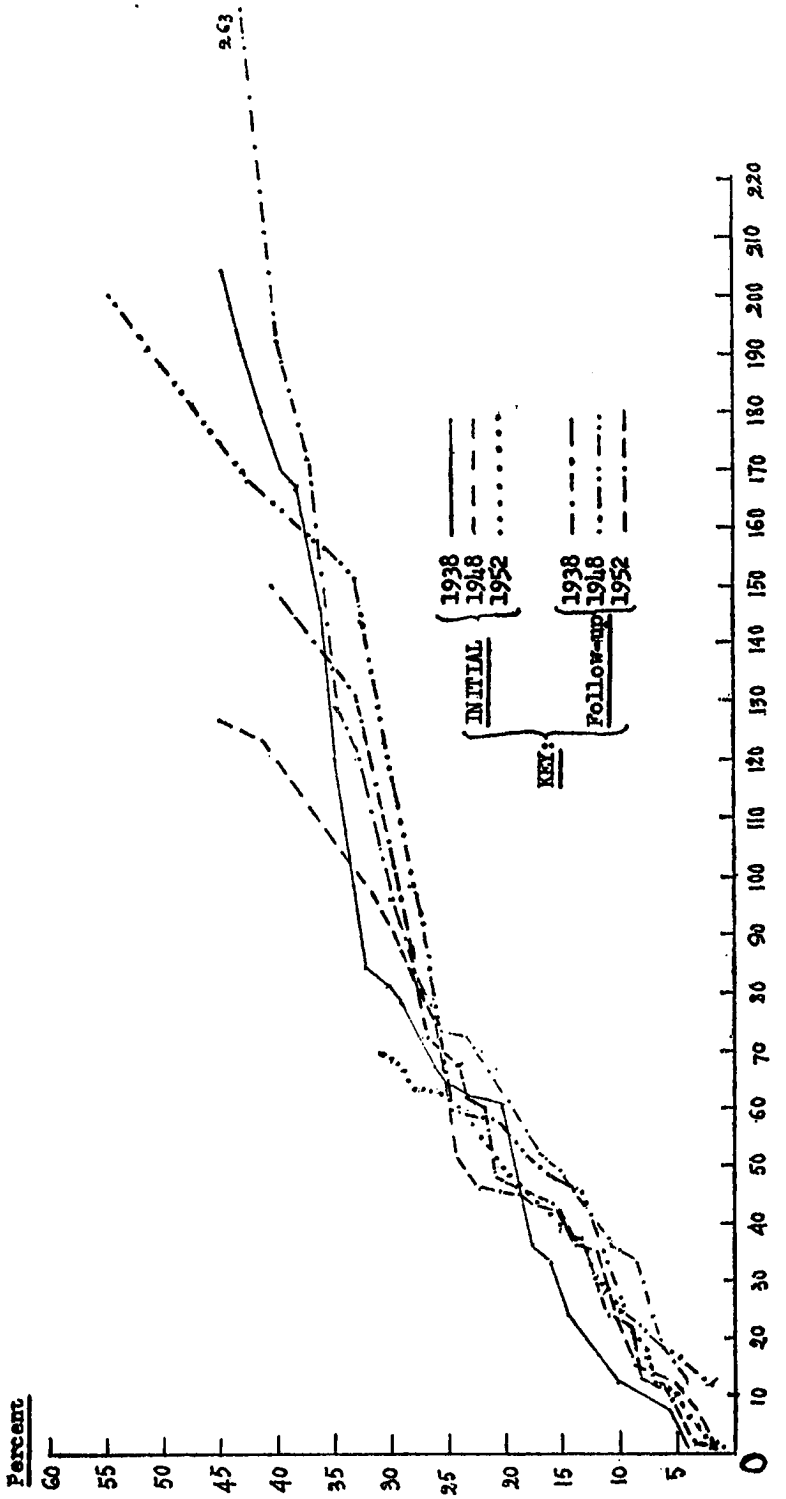


CHART II. Percentage of patented inventions kept under observation which went out of commercial use after a specified number of months based on assignee replies in the initial and follow-up questionnaires, respectively, by year of issue.

were arrayed according to the length of time lapsed between the date when it was said the use began and the date when last used. This gave us an array of the length of time that patented inventions reported to have been used in the past had remained in use. Patented inventions reported in current use were also arrayed on the basis of the length of time that they had been under observation and had not become obsolete. The initial point of this span was the date given by the assignee as to when use began for the specific sampled invention. The terminal date for patents in current use was set arbitrarily at 1/1/57 for those reported in the initial questionnaire.

In fixing the 5th percentile, for instance, we took as the base (100%) all the patented inventions reported used in the past plus those reported in current use. We cumulated the patented inventions used in the past until we got to the observed frequency nearest to 5 percent of the total in the array of patented inventions used in the past, we interpolated the time lapse assuming uniform density around the observed percentile nearest to 5, so as to estimate the most probable time at the point of 5 percentile. This procedure was repeated for all other percentiles. As the time lapsed became longer it went beyond the time over which some of the patented inventions reported in current use had been under observation—whenever this occured the total number of patents under observation used as the base in computing the percentages was reduced.

At the two extremes where the frequencies are relatively thin, wide variations are bound to occur. But these relatively wide variations occur at the extremes largely and should not invalidate the basic soundness of the method if the basic information is reasonably precise and the observations numerous enough to reduce wide chance variations.

Of course, in our case the information is not too precise, but nevertheless we deem the findings basically significant of the long time that patented inventions remain in commercial use.

What was done with the information when use began and terminated, based on initial questionnaires, was repeated in terms of the information supplied by the follow-up questionnaire. Except for the follow-up questionnaire, patented inventions reported in current use meant they had been under observations until 1/1/62, instead of 1/1/57.

Protection Of Trade Secrets: Initial Report

L. JAMES HARRIS* AND IRVING H. SIEGEL**

SUMMARY

A LIMITED SURVEY OF RESEARCH INSTITUTE members and an examination of some of the case literature suggest plausible lines of future development in private and public arrangements for the protection of trade secrets. More companies may be expected to enter into agreements with employees and even third parties, and litigation to enforce such agreements will probably become more common. Improvements will be sought in the standards of ethical conduct of professional employees, in Federal Law applicable to the theft of intangibles, and in the geographic coverage and uniformity of state laws. International provisions for protection of trade secrets will also receive more attention.

OCCASION FOR STUDY

THE EIGHTH ANNUAL CONFERENCE of The Patent, Trademark, and Copyright Research Institute, held in June, 1964, confirmed that the protection of trade secrets was a major "current and emerging problem" meriting early and fuller investigation.[1] Accordingly, the Research Institute initiated further study of this problem, starting with a brief technical survey of the experience and opinions of a small selected random sample of its industrial members. (See questionnaire in Appendix). This article, which constitutes the first of a series of Institute reports on trade secrets, takes account of the survey findings and other pertinent material.

ORIGIN AND NATURE

Trade-secret difficulties are not of recent origin. Even in Roman times unfair trade problems with respect to technical knowledge were

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[1]See *IDEA, PTC J. Res. & Ed.*, Vol. 8 Conference Number 1964, p. 36.

familiar. Thus, a master was granted protection against third persons who corrupted his slave into betraying trade secrets.[2] In the Middle Ages the problems of protecting such secrets multiplied, for the guild system permitted greater freedom to employees. The advent of the industrial revolution made secrets of a technical nature still more prevalent, and arrangements between employer and employee have assumed greater sophistication. Only in the last hundred years or so has much law been developed in England and the United States for protection of trade secrets against unauthorized disclosure,[3] providing numerous precedents for more recent cases. However, modern manufacturing technology and modern communication methods have created novel circumstances for the interpretation of earlier statutes and court decisions.

The variety of trade secrets cannot easily be comprehended in a short definition, but their nature and quality are elaborated in many judicial opinions. According to the Restatement of the Law of Torts: "A trade secret may consist of any formula, pattern, device, plan, or compilation of information which is used in one's business and which gives him an opportunity to obtain an advantage over competitors who do not know it or do not use it."[4] The question as to whether or not trade secrets constitute property has never been definitively decided.[5] In *E. I. du Pont de Nemours Powder Company* v. *Masland,* Mr. Justice Holmes wrote: "The property may be denied but the confidence cannot be. Therefore the starting point of the present matter is not property . . . but that the defendant stood in confidential relations with the plaintiffs, or one of them." In cases involving taxation[6] or third parties,[7] the question as to whether or not trade secrets constitute property may be pertinent. The law may be invoked by owners of trade secrets not only against those in a confidential relation but also against those having actual or implied knowledge of such a relation.[8] Other characteristics of trade secrets will emerge from the discussion that follows.

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[2]Arthur A. Schiller, "Trade Secrets and the Roman Law," 30 *Columbia Law Review* 837 (1930).

[3]Amedee E. Turner, *The Law of Trade Secrets,* Sweet and Maxwell Ltd. (London) 1962, pp. v 183-205.

[4]4 Restatement of Torts Section 757.

[5]Turner, *op. cit.,* p. 12.

[6]See John F. Creed and Robert B. Bangs, "Know-How Licensing and Capital Gains," *PTC J. Res. & Ed. (IDEA),* Vol. 4 No. 2 (Summer 1960) p. 93.

[7]For the British approach to this question see Saltman Engineering Company v. Campbell Engineering Company, 65 R.P.C. 203 (1948).

[8]See Herold v. Herold China and Pottery Company, 257 F911 (1919).

COMPANY PROCEDURAL SAFEGUARDS

The protectibility of trade secrets by companies has been argued in many recent widely publicized cases, such as *Dupont* v. *Von Kohorn Inc.*,[9] *B. F. Goodrich Company* v. *Wohlgemuth*,[10] *American Cyanamid Company* v. *Fox et al.*,[11] *Rohm and Haas* v. *Aries*,[12] *Merck and Co.* v. *Aries*,[13] *Monsanto Chemical Company* v. *Miller et al.*,[14] and *Sperry Rand Corporation* v. *Rothlein et al.*[14a] These involve, among other issues, the rights of employers, employees (including consultants), and third parties (often competing employers).

Like other intangible property, trade secrets pose special difficulties for companies wishing protection of these assets.[15] In characterizing and evaluating trade secrets, the courts emphasize the time and effort involved in development rather than the quality of the technical contribution as in the case of patents. However, there must be more than a minimal advance in the state of the art.[16] The owner of a trade secret, as distinguished from the owner of a patent, has no legal right to exclude others from use. As one recent court decision held: "Relief is only granted when someone attempts to use the secret in violation of some general duty of good faith such as an abuse of confidence. Such an abuse results in unfair competition and equity will then intervene if called upon."[17]

The concept of abuse of confidence is elaborated in another frequently quoted court decision[18] wherein Judge Coleman referred to

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[9]See "DuPont Sues Von Kohorn on Trade Secrets," *Chemical and Engineering News* (Dec. 11, 1961) p. 38.

[10]137 USPQ 804 (1963); See J. H. Munster, Jr. and J. C. Smith, "Savants, Sandwiches and Space Suits," *Science* (Sept. 18, 1964), pp. 1276-1281.

[11]140 USPQ 199, N. Y. Supreme Court (1964); See "A Federal Grand Jury has Indicted Three Former Employees of American Cyanamid's Lederle Laboratories Division," *Chemical and Engineering News,* (Nov. 5, 1962) p. 17; *IDEA, PTC J. Res. & Ed.,* Vol. 8 Conference Number 1964, p. 42.

[12]Merck and Company v. Aries et al, Rohm and Haas v. Aries et al, Sprague Electric Company v. Aries et al, consent judgments were entered on March 18, 1964, U.S. District Court for the District of Connecticut.

[13]*Ibid.* "Amprolium Coccidiostat is the Subject of a French Lawsuit Involving Merck and Dr. Robert S. Aries," *Chemical and Engineering News* (Feb. 26, 1962), p. 17.

[14]118 USPQ 74 (1958).

[14a]143 USPQ 172 (1964).

[15]See Worth Wade, *Industrial Espionage and Mis-Use of Trade Secrets,* Advance House (Ardmore, Penn.) 1964.

[16]Mycalex Corporation of America v. Pemco Corporation, 64 F. Supp. 420 (1946). affirmed 159 F. 2d 907 (1947); Bell and Bogart Soap Company v. Petrolia Manufacturing Company, 25 N. Y. Misc. 66 (1898).

[17]Schulenburg et al, doing business as Time-O-Matic Company, et al v. Signatrol, Inc. et al, 142 USPQ 511 (1964).

[18]Mycalex Corporation, *op. cit. supra* note 16.

the Restatement of the Law of Torts:

> One who discloses or uses another's trade secret, without a privilege to do so, is liable to the other if . . .
>
> (a) he discovered the secret by improper means, or
>
> (b) his disclosure or use constitutes a breach of confidence reposed in him by the other in disclosing the secret to him. . . .

Additional grounds have been cited by courts for the legal protectibility of trade secrets. For example, secrets have been recognized as quasi-contracts and also protected against abuse for unjust enrichment.[19] In English courts, however, only the first of these additional grounds is emphasized.[20]

In modern circumstances of employment, many individuals necessarily share in the development of company trade secrets. Furthermore, since employee migration and the establishment of new businesses are normal phenomena of American industrial life, there is constant danger of diffusion of trade secrets without consent by, or compensation to, the original sponsoring firms. Since lines of distinction are hard to draw, courts have recognized the unwisdom of characterizing the general knowledge and skill of employees as trade secrets, and they have also acknowledged that employees may leave with information derived and with abilities enhanced in the course of employment.[21]

Despite the complications involved, courts tend to agree that the rights of employees to acquire knowledge must be balanced against the need of companies to protect vital information. In a 1946 case[22] it was held that "covenants against disclosures and the use of confidential information are incapable of effective enforcement, except by means of enforcing the covenant against competitive employment." Another court has held that restraint on the right of an employee to use his knowledge in earning his livelihood should be no greater than is reasonably necessary for safeguarding company secrets.[23] Additional court findings will be mentioned in context below.

The Institute survey adds to our understanding of the current situation. All of the companies responding to the questionaire—the small

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[19]Smoleg v. The New Jersey Zinc Company, 24 F. Supp. 294 (1938); affirmed 106 F. 2d 314 (1939); E. I. Bruce Company v. Bradley Lumber Company, 79 F. Supp. 176 (1948).

[20]Turner, *op. cit. supra,* pp. 265-267, 346-361.

[21]Schulenburg, *op. cit., supra,* note 17.

[22]Irvington Varnish and Insulator Company v. Van Norde, 138 N. J. Eq. 99 (1946).

[23]In Larx Company, Inc. v. Nicol 71 USPQ 115 (1946) the court stated that "[t]he test applied is the reasonableness of the restraint imposed. . . ."

and medium as well as large—have some security arrangements in force. These arrangements include the identification and classification of sensitive company data, the insertion of limiting clauses in employment agreements, the publication of security bulletins, the promulgation of security regulations, the issuance of recurrent admonitions to technical staff, clearance procedures for proposed technical papers and reports by a cognizant company authority, restriction of access of personnel to secrets on a "need-to-know" basis, agreements with suppliers, the requirement of surrender of vital documents upon termination of employment, the execution of secrecy agreements with departing employees, and contact with new employers regarding the restraints sought for former personnel.[24] Some illustrative comments by responding companies follow.

A major petrochemical producer reported these protective measures:

a) Secrecy agreements with employees
b) Secrecy agreements if information is disclosed outside of Company
c) Review by Patent Division and Management of all proposed
   (i) Publications
   (ii) Technical papers
   (iii) Release of technical reports

A large food and chemical company forwarded to the Institute a copy of its employment agreement with technical personnel. This agreement contains the following provisions regarding confidential information, in addition to the familiar clauses governing employee-employer rights to inventions:

> I will not, during or at any time after the period of my employment by the Company use for myself or others, or divulge to others, any secret or confidential information, knowledge or data of the Company obtained by me as a result of my employment unless authorized by the Company in writing.

A medium-size producer of pharmaceuticals and other fine chemicals reported the following arrangements affecting trade secrets:

> Employees are bound by contract to keep in confidence all confidential information which they obtain incidental to their employment. Precautions are taken to see that documents containing confidential information do not fall into the hands of persons not having legitimate reasons for

[24]Also of interest is C. E. McTiernan, "Trade Secret the Predicament of the Employer," *1964 Institute on Patent Law Developments,* Matthew Bender and Company (Albany, N. Y.), 1964.

having access thereto. Access to research and plant facilities, and to records, is limited to persons having an approved "need to know" what is in them.

A medium-size producer of mechanical equipment reported not only efforts to assure confidentiality during employment but also steps to retain such confidentiality thereafter:

> All . . . key employees sign an Employee Patent and Confidential Information Agreement which, in addition to providing for assignment of certain of the employee's inventions to the Company, also includes the following provisions:
>
> > I recognize that during my employment I may receive, develop, or otherwise acquire various kinds of information which is of a secret or confidential nature. Except as the Company may consent in writing, I will not disclose or use, directly or indirectly, at any time either during or subsequent to my employment any information of the Company which I obtain during the course of my employment relating to inventions, products, product specifications, processes, procedures, machinery, apparatus, prices, discounts, manufacturing costs, business affairs, future plans, ideas, technical data or otherwise which is of a secret or confidential nature (whether or not acquired or developed by me).
>
> As used above "key personnel" means practically all Company employees except those doing production work in the factory and certain clerical and stenographic employees. In addition to the foregoing, we issue instructions from time to time on the subject of trade secrets; and we have a program whereby we send reminder letters, with a copy of their respective Employee Patent and Confidential Information Agreements, to many employees who have been in sensitive positions with . . . but who leave and go with other companies, particularly those going with competitors. Also, we sometimes send similar letters or copies of such letters to the new employers.

A medium-size producer of building materials advises the Institute of special precautions to prevent the loss of information affecting its competitive position:

> . . . our Company has published a bulletin to all employees

> stating that it is our policy to treat as secret and confidential any information, etc. used in our business which gives us an opportunity to secure an advantage over our competitors and which would be of benefit if revealed to competitors who do not know or use the information, etc. In addition, we attempt to limit dissemination of information in this category within the Company to the persons who actually require the information for their work.

Two small manufacturers of automotive equipment cite a variety of arrangements pertaining to information vital to their business. One of these companies states that it has "from time to time required suppliers of special machinery to execute an agreement that they will not disclose information regarding such machinery to others." The other company reports that a trade-secrets clause is included in the employment contract for technical personnel. Furthermore, "only a limited number of personnel is informed of the specific identity of compositions sold by the company. Usually papers for publication are screened to preclude revealing trade secrets."

Interplay of Patentability and Trade Secrets

A subtle balance must be maintained by a company between reliance upon trade secrets and its dependence on patents. The considerations affecting policy are numerous.

First, we note some factors favoring reliance on trade secrets. As industrial arts expand and become more complex, the chances of obtaining patents diminish and the danger of invalidity of issued patents increases. Furthermore, the increasing difficulty of reconstruction of products such as chemicals places a premium on secrecy. To be patentable, as is well known, an invention must come within one of the statutory classes of invention: process, machine, manufacture, or composition of matter. Other hurdles have to be negotiated; questions of public use, novelty, utility, and unobviousness must be determined. A company has to decide whether the use of matter disclosed can be policed, whether adequate claims can be obtained, whether the litigation costs incident to enforcement are worth the gain. Another pertinent consideration is that trade secrets, if they can be guarded, are a means of exercising a longer period of exclusivity than the seventeen-year right authorized by patents.

Next, we note factors favorable to patenting. Once a trade secret[25]

[25]To be considered as a trade secret legally, the knowledge involved must be secret, as indicated by the intent of the employer, the subject matter must have some novelty and some value, and its disclosure should amount to a violation of good faith. See Ackermans v. General Motors et al, 95 USPQ 214 (1952), 96 USPQ 281 (1953).

is made public it is generally no longer protectible.[26] At numerous interfaces in the firm[27] and in contacts with outsiders in the same industry, in other industries,[28] and in government, opportunities for dispersion of privileged information without due compensation exist.[29] A confidential disclosure is more difficult to protect legally than the essential subject matter of a patent.[29a] Public sentiment and historical experience, furthermore, support protected disclosure over the maintenance of secrecy as the surer road to technological progress.

Many court decisions acknowledge the responsibility of key corporate officials to safeguard company secrets and the similar responsibility of contractors to maintain confidentiality. For example, it was held in a 1948 case that corporation executives necessarily enter into implied agreements with their firms to maintain secrecy;[30] and, in an earlier case, it had been held that a company under contract is obligated not to disclose technical information to another firm.[31]

Restraints upon employee conduct have been spelled out in several familiar cases. According to the decision in one of these, it is sufficient

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[26]See Hartman v. John D. Park & Sons Company, 145 F. 358 (1906); Judge Learned Hand in Cheney Bros. v. Doris Silk Corporation, 35 F.2d 279 (1929) pointed out that, "In the absence of some recognized right at common law, or under the statutes . . . a man's property is limited to the chattels which embody his invention. Others may imitate these at their pleasure." The court in Sandlin v. Johnson, 152 F. 2d 8, (1945) quotes from the Restatement of the Law of Torts: "Matters which are completely disclosed by the goods which one markets cannot be his secret."

There are different lines of cases concerning the use of trade secrets after public disclosure (e.g. patenting) by one who had prior confidential knowledge of the secret. Use was forbidden by confidant after publication in Shellmar Products Company v. Allen-Quallery Company, 87 F.2d 104 (1936) (7th Circuit); only person without fault was permitted to use trade secrets in Northup v. Reisch, 100 F. 2d 924 (1953) (2nd Circuit); confidant was permitted to use without restriction after publication in Conmar Products Corporation v. Universal Slide Fastener Company, Inc., 172 F.2d 150 (1949) (2nd Circuit); and confidant was permitted to use, but damages were assessed against him in Schreyer v. Casco Products Corporation, 190 F.2d 921 (1951) (2nd Circuit). See George R. Powers, "Relief in Trade Secret Cases After Publication," *PTC J. Res. & Ed. (IDEA)*, Vol. 5, Number 1 (Spring 1961) p. 70.

[27]Gamlen Chemical Company v. Gamlen, 79 F Supp 622 (1948).

[28]Mitchell Metal Products v. The Berkeley Equipment Company, 36 F. Supp 1010.

[29]See *IDEA, PTC J. Res. & Ed.*, Vol. 8 Conference Number 1964, pp. 36, 48.

[29a]Also see reference to possible effect of the Supreme Court's decision in Sears [Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225 (1964)] and Compco [Compco Corp. v. Day-Brite Lighting, Inc. 376 U.S. 234 (1964)] cases on the body of trade secret law, in Milton Handler, "Sharing in Product Goodwill—A Tort or a Constitutional Privilege?" *Columbia Law Review*, Vol. 64, (Nov. 1964) pp. 1189-09.

[30]*Op. cit., supra*, note 27.

[31]*Op. cit., supra*, note 28.

for a company to advise its employees that certain specified information has a confidential character. The restraint against disclosure applies not only to research workers but also to fellow employees engaged in carrying out commercially the processes developed by them and to personnel in administrative positions.[32]

In general the replies to the Institute's questionnaire suggest that smaller companies are increasing their reliance on trade secrets, while medium and larger ones report no similar trend. One medium-size company that does report increasing reliance on trade secrets cites difficulty of successful enforcement of patent rights as a reason. A small company reporting increasing dependence on trade secrets cites the increasing complexity of technology and the difficulty of obtaining patents.

The tendency of medium and larger companies to report little or no change in their reliance on trade secrets may be explained in various ways. Some have doubtless recognized the economic importance of such information and are satisfied with the arrangements instituted for protecting its secrecy. At least one large chemical company reporting no change in policy nevertheless implies stronger enforcement efforts. Diffusion of responsibility, personnel turnover, and impersonality of relationships tend to be major obstacles to the maintenance of confidentiality by large firms. Medium-size companies generally place great store by their patent assets. A large petrochemical company reporting no change with respect to trade secrets cites its patent consciousness and effort "to patent most of the significant developments of our research." Another large chemical company states: "We have consistently preferred to patent our developments where possible in view of the recognized problems in connection with the complete protection of trade secrets."

The relatively few medium and large companies reporting increasing dependence on trade secrets correlate this attitude with disappointing patent experience. Thus, a large food and chemical producer refers to the difficulty of policing process patents. A medium-size manufacturer of building materials states an increasing preference "not to file patent applications on developments but to keep all or certain phases of the development secret." It gives the reason that "the successful enforcement of a patent is becoming more and more problematical or subject to chance." A medium-size equipment manufacturer cites "the enormously increasing costs of patent litigation, . . . substantial delays

[32]Spiselman v. Rabinowitz, 61 NYS 2d 138 (1946); Risdale Ellis, *Trade Secrets*, Baker, Voorhis & Co. Inc. (New York), 1953, pp. 79-80.

incident to the issuance of patents, and . . . the substantial variance between the standards of invention applied by the federal courts . . . [and those] applied by the Patent Office."

Trade-Secret Losses

Cases already named or discussed deal typically with instances of trade-secret loss. The responses of companies to the Institute questionnaire amplify the record.

Most of the companies queried by the Institute report instances of loss. The following forms are mentioned:

1. "Shop talk" with friends in other companies.
2. "Transfer of key personnel" to other employment, sometimes with competitors.
3. Sale of confidential reports "by disloyal employees" and subsequent resale to third parties.
4. Entry of former employees into own businesses.
5. Innocent disclosure by former employees.

Many companies suspect that they are being victimized but cannot tell for sure. A large chemical company states: "An occasional loss is suspected through resignation of personnel to take another position but proof is difficult. . . ." A small electrical equipment company reports: "We do not know for sure but we imagine that when senior personnel leave us and work for our competitors, some know-how transfers, either accidentally or deliberately." Another small company writes: "In some instances former employees have used what we consider company trade secrets for their personal benefit."

Employee Attitudes to Restraint

One of the ways in which companies seek to safeguard trade secrets is through control of professional communication. The restraints include not only prohibition against public disclosure of certain information but also, in some instances, delay of professional publication for company convenience or advantage. Such delay is often considered desirable, for example, for retention of company options for future patenting. Answers of companies to the fifth query in the Institute questionnaire shed light on employee attitudes toward restrictions.

Respondents report little objection on the part of research personnel. One large chemical company, noting objection to occasional "refusal to publish", states that "we try to keep pertinent personnel completely informed as to the basis of any decision which is made against publication." This company believes that such a policy, supplemented by one

of "active patent coverage" has led to "a minimum of dissatisfaction." A large food and chemical company, acknowledging occasional objection by personnel, reports that "in the main they are willing to yield to the company interest." A building materials producer remarked that objecting employees concur in the trade secret policy "after it has been fully explained to them." A small equipment manufacturer surmises that employees "are fully cognizant that by revealing trade secrets the company's competitive advantage would be lost."

Most companies, however, gave short replies to the question because they had no dissatisfaction to report. For example, two large chemical companies state unequivocally that exception has not been taken by researchers to the official policy on trade secrets. Almost all of the medium-size and small companies responding to the Institute questionnaire make similar statements.

Foreign Laws and International Arrangements

Although none of the companies responding to the Institute's questionnaire reported significant experience with foreign laws regarding trade secrets, it would be unreasonable to conclude that such experience is nil. Indeed, it is probable that matters relating to the protection of trade secrets in foreign countries are not referred to the United States offices of parent companies. Since many different legal systems are in effect abroad, it would seem necessary to rely upon specialists in the law of each country. It may be hazarded that dependence on foreign expertise is even greater for trade secrets than for patents since the former are less subject to national codification and have not been regulated specifically by international agreement.

The laws of foreign countries, particularly the European, are considerably more penal than our own. The statutes of most European countries contain provisions relating to unauthorized delivery, theft, misuse, or fraudulent disclosure of intangible property, including trade secrets, and these provisions are enforced by imprisonment. The French Penal Code[33] provides up to five years of imprisonment, the German[34] and Belgian[35] up to three years, and the Italian[36] up to two. As might

[33]See Article 418 of the French Penal Code.

[34]See Sections 17 and 18 of the German Law of 1909 against Unfair Competition. Provisions similar to those in the German Unfair Competition Act exist in the Austrian, Norwegian, Danish and Swedish laws. (See Stephen P. Ladas, "Legal Protection of Know-How," *PTC J. Res. & Ed.* (*IDEA*), Vol. 7, Number 4 (Winter 63-64), p. 405.

[35]See Article 309 of the Belgian Penal Code.

[36]See Article 623 of the Italian Penal Code.

be expected in view of its common law heritage, Great Britain does not generally regard the theft of a trade secret as a criminal offense. In Canada, however, where the law has well-developed civil- and common-law roots, a criminal action against the theft of trade secrets is available.

Basically, in both the common-law countries (including the United States) and the civil-law countries, the courts apply the principles of unfair competition to issues involving trade secrets. A specialist in foreign laws affecting industrial property explains the theory as follows: "Indeed, the conduct prohibited involves not so much the revelation, wrongful appropriation, or misuse of know-how as such, but the economic implication of interference with an advantageous competitive position represented by the value of the know-how to the owner thereof."[37] This comment applies to trade secrets insofar as know-how is covered by them.

Increasing account is being taken of trade secrets (as well as the know-how that may be protected by them) in international arrangements. Article 10 bis of the International Convention for the Protection of Industrial Property states in part: "The countries of the Union are bound to assure to persons entitled to the benefits of the Union effective protection against unfair competition." The International Chamber of Commerce adopted a resolution concerning trade secrets in 1961 based on an examination of the laws of a number of countries. In addition, Regulation 17 of the Common Market dispenses from notification "agreements to which two enterprises only participate and which have the sole effect to impose . . . upon the beneficiary of contracts involving the transfer or licensing of manufacturing processes or knowledge relative to use and application of industrial techniques, limitations in the exercise of these rights."[38]

Legislative Gaps

The transfer of technical information is subject to state and federal jurisdiction, but the current federal laws seem especially inadequate to the emerging needs while the state statutes lack uniformity. The National Stolen Property Act[39] refers to tangible "goods" and concerns only a person who "transports in interstate or foreign commerce." Defendant Fox of *American Cyanamid* v. *Fox*[40] was indicted in 1962

[37]Ladas, *op. cit., supra,* note 34, p. 407

[38]*Ibid.,* pp. 397-417.

[39]The National Stolen Property Act, 18 U. S. Code Sec. 2311-2317.

[40]See *supra* note 11.

by a grand jury in the U. S. District Court in New York for violation of this Act. Representative McDowell introduced a bill in the 88th Congress, H. R. 5217, "to amend title 18 of the U. S. Code to make it a crime to steal certain trade secrets or to transport stolen trade secrets in interstate or foreign commerce. . . . "

The courts consider that there is a lack of federal jurisdiction in an action based on trade secrets unless there is a diversity of citizenship or a claim of unfair competition joined with a substantial and related claim under the patent, trademark or copyright laws.[41] Trade secrets must also yield to the police power of the state. The Supreme Court unequivocally supports the exercise of the police power where "the purpose of the requirement is to secure from adulteration and misbranding. . . . " Indeed, "The right of a manufacturer to maintain secrecy as to his compounds and processes must be held subject to the right of the state in the exercise of its police power and in the promotion of fair dealing to require that the nature of the product be clearly set forth. . . . ."[42]

While there is no general statutory basis for protection of trade secrets, recognition and protection for governmental purposes are provided in a number of federal statutes such as the FTC Act, the Tariff Act of 1930, and the Federal Food, Drug, and Cosmetic Act. In addition, 35 USC Sec. 24, concerning testimony to be taken for use in contested cases in the Patent Office, reads in part: "No witness shall be deemed guilty of contempt for disobeying such subpoena . . . nor for refusing to disclose any secret matter except upon appropriate order of the court which issued the subpoena."

The relief available under our state laws is generally of a civil character although there are penal laws in such States as New York[43] and New Jersey. Because of the difficulty of specific demarcation of the metes and bounds of a secret, the problem of differentiating a secret from the skill of an employee, and a lack of uniformity in court decisions, trade secrets seem to be a poor subject for criminal law. The civil remedies that can be applied include an injunction against disclosure or use, damages, or an accounting of profits. The court may determine a reasonable royalty, and it may also allow costs, attorney fees, and punitive damages.

Some respondents to the Institute's inquiry see a need for legislation; others emphasize the lack of definition of trade secrets. Concern

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[41]See Schreyer v. Casco Products Corporation, 190 F.2d 921; Telechron, Inc. v. Parissi 197 F.2d 757 (1952).

[42]Corn Products Refining Company v Eddy 249 U. S. 427.

[43]Wade, *op. cit., supra*, note 15, pp. 93-96.

is also expressed with respect to pending legislation relating to employer-employee invention arrangements. Several firms do "not favor" or see no need for additional legislation at this time.

Opposition to additional legislation may sometimes be based on concern for the soundness of existing arrangements. For example, one large chemical company in response to the Institute questionnaire notes that "legislation is pending which might serve to undermine the trade secret theories by way of prohibiting a contractual obligation that employees assign inventions to the employer. This seems undesirable as an interference with a perfectly normal and sound contractual relationship based on services given in return for compensation." A medium-size mechanical equipment company states that "it might be desirable to provide statutory protection for trade secrets. Possibly carefully drafted and considered legislation in this area would be beneficial." However, the same respondent also says "that the protection already available in this area is generally adequate." Another medium-size mechanical equipment company expresses apprehension in view of the unsettled condition of the law and points out that "the principal problem relates to an adequate definition for a secret, particularly with regard to the degree of novelty required for something to constitute a secret." This respondent, however, is "skeptical that the Federal courts will pay any more attention to such a definition than they did for the standards of patentability as set up in the 1952 Patent Act."

Proponents of additional legislation cite inadequacies in the existing law. A large food and chemical company declares in its completed questionnaire that "it might help if more states would have statutes on trade secrets like New York now has. Also, a Federal Unfair Competition Law might help." A medium-size producer of fine chemicals responds that "the theft of trade secrets, apart from any tangible objects associated therewith, is not a criminal offense. We strongly favor a change in the law making it a criminal offense punishable by fine and/or imprisonment." A small equipment manufacturer suggests legislation better to define where "restricted trade secret information leaves off, and information useable by the employee in general development begins."

Conclusion

Although this initial inquiry into trade secrets does not claim to be more than cursory, it nevertheless indicates several directions of future development that may reasonably be expected. Thus:

(1) More companies will seek explicit arrangements with employees and even third parties as the business community becomes increasingly alert to the danger of losing valuable trade secrets.

(2) Litigation concerning trade secrets will become more extensive as companies endeavor to enforce arrangements to compensate for theft and to establish favorable precedents; and as the nation's corps of technically trained and technically experienced personnel continues to grow and to pursue its economic opportunities.

(3) The standards of ethical conduct of technical employees and consultants will become a more familiar topic of professional and public discussion.

(4) Efforts will be made by interested parties to remedy major deficiencies in the body of Federal law applicable to trade secrets—especially to introduce coverage for intangibles.

(5) Pressures will be exerted by interested parties to extend, to strengthen, and to render more uniform the state laws covering trade secrets.

(6) Government and private groups will give greater attention to the protection of trade secrets in treaties, conventions and other international arrangements.

(7) Proposals for legally sharpening the definition and scope of trade secrets will encourage strong counter pressures to preserve the principle of regulated disclosure embodied in patent systems as a satisfactory coexistence between property protection and rapid technological advance is sought.

These prospects highlight the emergence of an "economics of information." Although knowledge has always been as important as matter and energy, it is nowadays being recognized increasingly as a source of economic value in its own right. The change is related to the growth since World War II of research and development activity, of federal contracting for goods and services, of scientific and engineering education, and of the volume of technical literature. It is also related to increasing international competition, to intensifying regional competition within the country, and to needs for diversification and conversion to new products by defense-oriented companies. In these new challenging circumstances, patents and trade secrets assume new significance as valuable technological resources. Even as in the past, the desire to conceal and the need to reveal technical information will have to be accommodated in the public and private interest.

APPENDIX

QUESTIONNAIRE SENT TO SELECTED RANDOM SAMPLE OF THE INDUSTRIAL MEMBERS OF THE RESEARCH INSTITUTE IN AUGUST, 1964.



IDEA

THE PATENT, TRADEMARK, AND COPYRIGHT RESEARCH INSTITUTE
OF THE GEORGE WASHINGTON UNIVERSITY • WASHINGTON, D.C., 20006

Gentlemen:

In furtherance of one of the major objectives of our Annual Public Conference (viz., to provide guidance on the planning of the future work of the Research Institute), we are preparing a series of pilot surveys consisting of a limited number of questions on current issues raised at the last Conference. Directed to different small samplings of our membership, these limited surveys will test the feasibility of larger studies as well as provide some useful preliminary information on public issues relating to industrial property.

In view of the interest manifested at the Conference in trade secrets, and in accordance with our objective to continue to represent timely and policy-oriented research in our total program, we have chosen trade secrets as the subject for the present inquiry.

We should like to have your response to the following questions:

1. What procedural safeguards has your company instituted for the protection of its trade secrets? Please enumerate.

2. Is your company's reliance on trade secrets increasing or decreasing? Please explain.

O. S. COLCLOUGH—DIRECTOR • L. JAMES HARRIS—EXECUTIVE DIRECTOR • S. CHESTERFIELD OPPENHEIM—ADVISER ON RESEARCH

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REPRESENTATIVE EMANUEL CELLER
CHAIRMAN,
JUDICIARY COMMITTEE

Formerly The Patent, Trademark and Copyright Foundation of The George Washington University

3. If your reliance on trade secrets has increased or decreased, is this trend due to a change in the patentability of the subject matter involved? Please explain.

4. Have you had any recent losses of trade secrets? Please indicate the general nature of such losses (e.g., illegal disclosure, transfer of key personnel, etc.)

5. Have your researchers objected to your company's trade secrets policy due to the effect that delay or lack of publication might have on the employees' professional recognition? Please discuss.

6. Has your company had any experience with foreign laws for the protection of trade secrets? Please discuss.

7. Do you favor any additional legislation relating specifically to trade secrets? If so, what aspects do you believe to require attention?

We will, of course, respect the confidentiality of your information. Expeditious reply to these questions would be appreciated.

Sincerely,

L. James Harris

LJH:lb

Trademarks And Taxes

DENNIS I. MEYER AND
JOHN F. CREED*

SUMMARY

THIS PAPER IS A FURTHER STUDY IN The PTC Research Institute's continuing project dealing with taxation and industrial property rights. Earlier studies have dealt in depth with the Federal taxation of patents and know-how. The present paper represents the first extensive analysis made by the Research Institute of the taxation of trademark and trade names, a topic of broad importance notwithstanding the scant literature presently available on the subject.

The paper explores the deductibility of expenditures relating to trademarks and trade names, and the treatment of income derived from the licensing, sale or other disposition of such rights.

"WHAT'S IN A NAME?" was the now famous query posed by Juliet. If presented to the corporate community today, the reply of many would undoubtedly be, "Millions in sales"—evidencing the economic status trademarks and trade names have attained in the market places of the world.

This article will examine the Federal tax aspects of trademarks and trade names, with emphasis on the tax treatment of costs incurred in acquiring and maintaining such property rights, and the tax consequences to both the seller and the buyer upon disposition.

SECTION 177

The costs of acquiring a trademark, including attorney's fees, design and registration costs, generally constitute capital expenditures.[1] Subsequent amounts expended to enjoin an infringer or defend the validity of a trademark, as well as payments to a competitor in settle-

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[1]See e.g., Duesenberg, Inc. of Delaware, 31 B.T.A. 922 (1934), aff'd, 34 F. 2d 921 (7th Cir. 1936); Stuart Co., 9 CCH Tax Ct. Mem. 585 (1950), aff'd per curiam, 195 F.2d 176 (9th Cir. 1952); Rev. Rul. 55-158, 1955-1 Cum. Bull. 319.

ment of a controversy relating to the right to use a trademark, are also ordinarily treated as nondeductible capital items.[2] Furthermore, the unlimited useful life of a trademark or trade name precludes an allowance for amortization or depreciation of such capital expenditures.[3]

The foregoing tax implications are applicable to years governed by the 1954 Code, as well as years subject to prior revenue laws. Section 177, added to the 1954 Code in 1956, does, however, afford the taxpayer an opportunity to treat many trademark or trade name expenditures of a capital nature as deferred expenses.

A trademark or trade name expenditure is defined by section 177 as any expenditure which is directly connected with the acquisition, protection, expansion, registration or defense of a trademark or a trade name; is chargeable to the capital account and does not constitute the consideration paid for a trademark or trade name.[4] If an expenditure comes within the purview of the above definition and an election is made, the taxpayer is allowed to amortize the expenditure rateably over a period of not less than 60 months, beginning with the first month in the taxable year in which the expenditure was paid or incurred, depending upon the method of accounting employed by the taxpayer in computing taxable income.[5]

The Senate Finance Committee, in reporting on the addition of this ameliorating provision to the 1954 Code, stated that:

> Under present law, expenditures paid or incurred by small companies in connection with trademarks and trade names, such as legal fees, are not deductible but must be capitalized. Moreover, such expenditures ordinarily are not amortizable over any period of time since the useful life of most trademarks and trade names is indefinite and not ascertainable. However, certain larger corporations are in a position to hire their own legal staffs to handle such matters. Because of difficulties of identification, these large corporations deduct, in some instances, compensation paid to their legal staffs for performing the same functions. Smaller companies, however, cannot afford to maintain their own legal staffs but must acquire outside counsel to perform their legal work.[6]

The stated purpose of section 177, therefore, is to provide equality of tax treatment among similarly situated taxpayers, which is always a laudatory objective in a self-assessment system.

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[2]See, e.g., Clark Thread Co. v. Commissioner, 100 F.2d 257 (3d Cir. 1938); Danskin, Inc., 40 T.C. 318 (1963), aff'd, 331 F.2d 360 (2d Cir. 1964).

[3]Treas. Reg. § 1.167(a)-3; Seattle Brewing & Malting Co., 6 T.C. 856 (1946), aff'd 167 F.2d 216 (9th Cir. 1948); Norwich Pharmacal Co., 30 B.T.A. 326 (1934).

[4]Int. Rev. Code of 1954, § 177(b).

[5]Int. Rev. Code of 1954, § 177(a).

[6]S. Rep. No. 1941, 84th Cong., 2d Sess. 8 (1956).

Acquisition

The regulations provide that:

> Generally, section 177 will apply to expenditures such as legal fees and other costs in connection with the acquisition of a certificate of registration of a trademark from the United States or other government, artists' fees and similar expenses connected with the design of a distinctive mark for a product or service . . . .[7]

In addition, other costs incurred in the development of a trademark or trade name will clearly qualify for section 177 treatment. Recently, for example, a company with a substantial proliferation of products used a computer in its search for new and unique trade names. Obviously, many companies will be able to deduct such initial acquisition costs because they can be easily merged into other operating expenses. When such services are performed by a public relations firm or an advertising agency, the expenditures involved may be more readily identified, necessitating resort to section 177.

The construction of an effective trademark, generally, entails substantial expenditures for advertising and other promotional activities. Television, although costly, provides in many cases an attractive media for the projection of the product personality embodied in the trademark. Newspapers, magazines and billboards are other media commonly utilized to incite a demand for the advertiser's products. Although such advertising expenditures may produce a benefit extending beyond the taxable year, the courts have held that such advertising costs are deductible in the year paid or incurred, depending upon the taxpayer's accounting method, because the indefinite period over which such benefits extend does not permit deferral of the expenses to future years.[8] Where, however, the expenditure is extraordinary and obviously designed to reap benefits over several years in the future, a portion of the cost has been allocated to the capital account.[9]

Many marks, not susceptible to exclusive appropriation as a technical trademark or trade name originally, have obtained protection under the trademark laws by acquiring a secondary meaning, principally, through extensive advertising. Although such expenses may have been incurred with the dual objective of selling the product bearing the mark and establishing a public awareness of the personal identity of

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[7]Treas. Reg. § 1.177-1(b)(1).

[8]Treas. Reg. § 1.162-15(c)(1); See, e.g., Sheldon & Co. v. Commissioner, 214 F.2d 655 (6th Cir. 1954); Three-in-One Oil Co. v. United States, 35 F.2d 987 (Ct. Cl. 1929).

[9]Best Lock Corp., 29 T.C. 389 (1957), superceded, 31 T.C. 1217 (1959), appeal dismissed 7th Cir; X-Pando Corp., 7 T.C. 48 (1946).

the manufacturer or seller, the expenditures are generally considered an item of current expense. In the event the mark does acquire a secondary meaning, the costs of effecting a registration would be capital in nature and could be amortized under section 177.[10]

Expansion, Protection or Purchase

Although the regulations are devoid of any examples of expansion expenditures, it is assumed that amounts paid or incurred in the extension of a trademark to a different line of products or to a new geographic area would come within the ambit of a trademark expenditure. The recent trend to mergers and diversification acquisitions will undoubtedly spawn many such expenditures.

Because such an expansion of an existing trademark is, in essence, an acquisition of a trademark for the new area or line, the expenditures involved will parallel closely the amounts initially expended in acquiring the trademark. For example, the expansion into a new state or region may entail registration under state law with accompanying legal fees, or the adaptation of the mark to a new product line may require additional design costs.

Such an expansion may also involve advertising and other promotional costs. As discussed above, unless the advertising expenditure incident to the expansion is extraordinary in nature, no part will be allocated to the trademark as a capital expenditure; but the cost can be deducted currently as an ordinary and necessary business expense.

Certain payments, however, which are concededly connected with the expansion of a trademark may not qualify for section 177 treatment. This is so because the statute, as noted earlier, specifically excludes from the definition of a trademark expenditure, "the consideration paid for a trademark, trade name or business."[11] The regulations, in implementation of this exclusion, state:

> Amounts paid in connection with the acquisition of an existing trademark or trade name may not be amortized under section 177 even though such amounts may be paid to protect or expand a previously owned trademark or trade name through purchase of a competitive trademark. Similarly, the provisions of section 177 and this section are not applicable to expenditures paid or incurred for an agreement to discontinue the use of a trademark or trade name (if the effect of the agreement is the purchase of a trademark or trade name) nor to expenditures paid or incurred in acquiring franchises or rights to the use of a trademark or trade name.[12]

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[10]Int. Rev. Code of 1954, § 177(b); Treas. Reg. § 1.177-1(b).
[11]Int. Rev. Code of 1954, § 177(b)(3).
[12]Treas. Reg. § 1.177-1(b)(1).

Accordingly, a taxpayer which has attached its trademark to a new product, only to find that a similar mark is being used by the manufacturer of a related product, may encouter difficulty in amortizing under section 177 any payment or payments made pursuant to an arrangement whereby the other user agrees to desist from further use of the conflicting mark.[13]

Payments of a similar nature to protect an existing trademark may, likewise, not qualify for the benefits of section 177. Illustrative of such a protection expenditure which may not satisfy the statutory definition of a trademark expenditure was the payment in *Aluminum Products Co.*[14] In that case, a controversy arose between the taxpayer and a competitor regarding the use of the word "Lifetime" in connection with aluminum ware. An agreement was reached as a consequence of negotiations between the parties under the terms of which the competitor agreed to discontinue immediately the use of the word "Lifetime" in consideration of the payment of $15,000 by the taxpayer. The Tax Court, with little pause, held that "by obtaining the promise to discontinue the use of the word "Lifetime" the [taxpayer] acquired the right to the unmolested use of the trademark."[15]

Suffice to say, when the payment is substantial and founded upon the earnings of the purported infringer, the taxpayer is clearly vulnerable to a contention that "the agreement has the effect of a purchase." This was the situation in *Clark Thread Co.* v. *Commissioner.*[16] The taxpayer there initiated equity proceedings to enjoin perpetually the use of a competing mark. Prior to trial, the taxpayer, in accordance with a settlement agreement, paid the user of the competing mark $500,000, which was based on the earnings of the recipient over a ten-year period.

A taxpayer in a situation similar to *Clark Thread* may attempt to extricate himself from the Commissioner's deficiency determination by asserting that he did not actually acquire anything but that the payment was to protest and preserve the value of his existing mark. Judicial acceptance of such an argument is doubtful where, as in *Clark Thread,* the facts establish that the prime purpose of the payment was to acquire rights in a competitive mark and, thereby, eliminate competition.

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[13]See, J. I. Case Co. v. United States, 32 F.Supp. 754 (Ct. Cl. 1940), a case involving a payment of $700,000 to a competitor to discontinue use of a confusing and conflicting trademark.

[14]24 B.T.A. 420 (1931).

[15]*Id.* at 424.

[16]100 F.2d 257 (3d Cir. 1938); Accord, J. I. Case Co. v. United States, *supra* note 13.

A taxpayer may, however, be able to prevail against an allegation by the Commissioner that the agreement was tantamount to a purchase if he is able to demonstrate factually that the payment in compromise was computed by reference to the cost of infringement litigation; and, therefore, the payment should be treated as legal expenses for purposes of section 177.

A gratuitous statement by the court in *The Sanymetal Products Co., Inc.,* v. *Carey*[17] adds substantial support to such a position. The taxpayer, there, paid $15,000 to the alleged infringer which consented to a perpetual injunction and stipulated in the Patent Office that the trademark was cancelled. In characterizing the payment, the court stated:

> In order to be fair, it must be conceded that [taxpayer] paid the $15,000 not as a purchase of a substantial right but only as a compromise. If the case had come to trial, [taxpayer] undoubtedly would have prevailed, but the legal expenses would have been greater than they were. Therefore, in order to properly analyze this matter, we should treat the $15,000 payment as if it were an additional legal expense connected with the lawsuit rather than as a payment of the kind involved in the *Clark* case.[18]

An admission by the user of the competitive mark in the settlement agreement that he possessed no rights in the trademark would further buttress such a contention and not require the court to draw an inference from the facts as in *Sanymetal.* Such an admission may not be readily obtainable, however, because of its effect on the tax incidence of the payment to the recipient. This is discussed in detail in a subsequent section dealing with the sale of a trademark.

The above-quoted regulations appear responsive to the statute and seem to reflect the intendment of the legislature in enacting section 177 inasmuch as the payment generally involved in such settlement, for example, a *Clark Thread* type situation, cannot be easily hidden by even a large corporate taxpayer.

Attorney's Fees

Amounts expended for legal assistance in connection with the acquisition of a trademark or trade name will ordinarily be treated as capital expenditures and added to the payer's basis in the trademark or trade name. Similarly, when the primary purpose of a suit is to perfect or defend title in the trademark, the legal fees arising therefrom are not deductible but must be capitalized.[19]

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[17]57-2 U.S. Tax Cas. ¶9865 (N.D. Ohio 1957).

[18]*Ibid.*

[19]See, e.g., Safety Tube Corp. v. Commissioner, 168 F.2d 787 (6th Cir. 1948); William A. Falls, 7 T.C. 66 (1946).

Examplar of the latter situation is *Food Fair of Virginia*[20] where the taxpayer brought suit to enjoin another from using its trade name, alleging that it had established the trade name in Virginia and held the exclusive right to use it there. The suit was dismissed in accordance with an agreement between the parties in which the competitor agreed to discontinue the use of the trade name in Virginia.

Although the taxpayer argued that the expenditure was primarily for the purpose of protecting and maintaining its income by estopping a competitor from employing a trade name which was resulting in a loss of income, the Tax Court thought it obvious that:

> . . . basically and primarily the suit was one to defend or perfect the petitioners' title to, or property right in, the trade name. . . .[21]

Continuing, the court stated:

> That the suit was disposed of by a settlement agreement between the parties in no way detracts from the fact that the primary purpose of the litigation was to obtain a judicial determination as to ownership and that the attorney's fee was incurred in defense of the ownership of and property rights in the name. Since in substance the attorney's fee was a cost of defending or perfecting title to property, it was not an allowable deduction.[22]

Where, as in the *Food Fair* case, the purpose of the suit is to determine which party has the right to use a particular trademark or trade name, the legal costs of the unsuccessful party are, of course, deductible.[23] Such litigation, however, often extends beyond one taxable year. Legal fees paid or incurred in those years prior to the final resolution of the issue are capital in nature and, accordingly, should be entitled to section 177 treatment.[24] In the event that the outcome is unfavorable to the taxpayer, the fees paid or incurred in the year the final decision is rendered, as well as the unamortized portion of fees paid in prior years, would be deductible in full.[25]

An interesting question arises when title is involved, but its defense or protection is only incidental to the primary object of taxpayer's retention of counsel or, where the validity or title of the taxpayer in the trademark is not challenged, by the alleged infringer.

The Tax Court recently had occasion to consider a case, *Danskin,*

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[20]14 T.C. 1089 (1950).

[21]*Id.* at 1093.

[22]*Ibid.*

[23]Int. Rev. Code of 1954, § 162(a); See, Kornhauser v. United States, 276 U.S. 145 (1928); Ruoff v. Commissioner 277 F.2d 222 (3d Cir. 1960).

[24]See, Treas. Reg. § 1.177-1(b)(1).

[25]Int. Rev. Code of 1954, § 1016(a)(16) requires an adjustment to basis for amounts allowed as deductions for expenditures treated as deferred expenses under section 177.

Inc.,[26] involving the latter situation. In *Danskin*, the sole question was whether the trademark of a competitor was so similar to the taxpayer's mark that, when used in association with the respective goods, it would likely cause confusion and deceive purchasers.

In determining that the legal expenses were not ordinary and necessary business expenses, the Commissioner did not contend that the expenditures were incurred to defend or perfect title, but rather, that the payment removed impending future loss of income by eliminating a competitor's mark. Thus, the Commissioner concluded that the benefit derived from the competitor's agreement to desist from using the competing trademark would be enjoyed over an extended period of business operations and, accordingly, should be capitalized.

The Commissioner's theory of the case is surprising in light of Revenue Ruling 60-261.[27] There, the Commissioner was requested to rule on the question of whether legal expenditures, incurred to establish the fact that a municipal ordinance prohibiting the operation of a certain business within municipal limits did not apply to taxpayer's business, may be deducted as an ordinary and necessary business expense.

In holding that the legal expenses were deductible under section 162, the ruling stated that:

> . . . where the expenditure is for a business purpose, such as the use and enjoyment or operation of a business asset already owned, the amount thereof would be deductible as a business expense.
>
> The question as to whether an expenditure is classifiable as a business expense or as a capital expenditure is one of fact. Generally, amounts paid for assets having a more or less permanent value are capital expenditures; however, capital expenditures are not limited to the purchase of physical assets. Thus, legal expenses incurred in defending or perfecting title to property also are capital expenditures.
>
> The instant taxpayer's expenditure clearly was proximate to its business and more specifically related to an asset thereof, the use and enjoyment of which had been hindered by the municipality. The expense of removing the hindrance is directly connected with the use of the business asset, rather than its acquisition, replacement or improvement, or for perfecting or recovering title thereto.[28]

In conclusion, the ruling declared that an earlier ruling[29] was modified

> . . . to remove the implication that legal expenses incurred to pro-

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[26] 40 T.C. 318 (1963).
[27] 1960-2 Cum. Bull. 42; Accord, A.R.R. 98, 2 Cum. Bull. 105 (1920).
[28] 1960-2 Cum. Bull. at 43.
[29] I.T. 1382, I-2 Cum. Bull. 146 (1922).

> tect the continued use of property for income producing purposes are capital expenditures.[30]

In contrast to Revenue Ruling 60-261, the Tax Court in *Danskin* found the Commissioner's deficiency determination correct and held the payments were capital outlays because the "disbursements were made for the purpose of securing a right to increased income for an indefinite period."[31] Needless to point out, there is a definite cleavage between the reasoning in *Danskin* and the rationale of Revenue Ruling 60-261.

In affirming the holding of the Tax Court,[32] the Second Circuit stated:

> The financial gain which petitioner realized from these legal proceedings, through the enhancement of the value of its registered trademark, is an increment of a sort which will endure for many years to come; and therefore the pattern of the revenue laws of accurately matching income and expenses within annual accounting periods requires that these legal expenses be classified as capital outlays. Financing the removal of a threat to a trademark posed by an infringing mark resembles the cost of perfecting or preserving title to property, a cost well established as a capital expenditure, . . . much more than it resembles a current business expense.[33]

It is interesting to note that the appellate court, in its resolution of the question, retreated to the settled concept that the "cost of perfecting or preserving title to property" is a capital expenditure, although its applicability in *Danskin* is, at best, doubtful.[34]

The determination of the Third Circuit in *Urguhart* v. *Commissioner,*[35] which was not cited by either the Tax Court or the Second Circuit in *Danskin,* appears to be in conflict with the *Danskin* decision. In *Urguhart,* the taxpayers were engaged in the business of inventing, experimenting, developing and exploiting new patents and processes primarily as a licensor. Litigation expenses were incurred in a patent

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[30] 1960-2 Cum. Bull. at 43.

[31] 40 T.C. at 324.

[32] 331 F.2d 360 (2d Cir. 1964).

[33] *Id.* at 361.

[34] In the course of its opinion the court also noted that:

> the language and legislative history of a related section of the Code [section 177] support the determination that the funds taxpayer expended in conducting its infringement litigation should be classified as a capital expenditure. 331 F.2d at 361.

Neither section 177 nor the legislative history thereunder mentions litigation expenses connected with an infringement action. The only references to such costs are in the regulations. Treas. Regs. § 1.177-1(b)(1) and § 1.177-1(b)(3) Example (3). Thus, there is no clear indication by Congress that it intended to cover the expenses of trademark infringement litigation under section 177.

[35] 215 F.2d 17 (3d Cir. 1954).

suit which the taxpayers deducted currently as business expenses. The Tax Court held the expenses were capital in nature. On appeal, however, the Third Circuit reversed the decision stating:

> . . . we are the more clear that the litigation expenses were incurred to prevent (and recover) damage to their business, that is, to protect, conserve and maintain their business profits. There is no conflict apparent to us, as urged by the Commissioner, with the principle that expenditures which yield benefits over a period of years are not current operating expenses. . . .[36]

The Tax Court's subsequent citation of the *Urguhart* case appears to indicate that it believes that the Third Circuits's result was predicated upon the fact that the taxpayers were engaged in the business of exploiting and licensing patents.[37] From the language of the court, it is apparent that it would have arrived at the same result in *Danskin.*

Taxpayers who have, through advertising and other promotional activities, created a demand for goods bearing their trademark, must be continually vigilant for other marks designed to confuse or deceive the public and, thereby, dilute the drawing power of their mark. In such policing activities, the owner of a valuable trademark may find it necessary to institute a number of suits each year to enjoin the infringement of his mark.

After ownership has been acquired, it would seem aberrational to treat as an additional cost of the trademark, attorney's fees expended to enable the owner to use the mark free from infringement. In light of the decision in *Danskin,* prudence, however, would seem to dictate handling such costs as capital expenditures and electing section 177 treatment.

Method of Amortization

A trademark or trade name expenditure may be amortized over a period of not less than 60 continuous months.[38] The amortization period commences with the first month of the taxable year in which the expenditure is paid or incurred regardless of the period selected by the taxpayer.[39]

By way of illustration, assume that X corporation, an accrual basis calendar year taxpayer, incurs design costs of $3,000 in April of 1965 in developing a unique trademark for a new product and elects under section 177 to amortize the charge over 60 months. January, 1965, the first month of the taxable year in which the expense was incurred,

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[36]*Id.* at 20.

[37]See, George F. Arata, 31 T.C. 346 (1958).

[38]Int. Rev. Code of 1954, § 177(a); Treas. Reg. § 1.177-1(a)(1).

[39]Treas. Reg. § 1.177-1(a)(2).

will begin the amortization period, and X corporation will be able to deduct $600 or 12/60 of $3,000 in 1965.

The election under section 177 is irrevocable.[40] As a consequence, the period designated by an electing taxpayer for a particular trademark expenditure cannot subsequently he changed.[41] Section 177, however, permits a taxpayer to elect for each separate trademark expenditure.[42] It follows that, where several trademark expenditures are paid or incurred in a taxable year, a taxpayer, by separate elections, may choose a different amortization period for each trademark expenditure.[43] An obvious further corollary is that the taxpayer need not elect section 177 treatment for certain separate trademark expenditures arising during the taxable year.[44]

Although the regulations are not definitive on the point, it appears, especially in the absence of any indication to the contrary, that separate elections can be made for separate trademark expenditures relating to the same trademark. Thus, under the above example, if X corporation incurred legal fees of $6,000 in December, 1965, defending the same trademark in an infringement action, a separate election could be made and a different amortization period selected for such expenditure.

A separate election may not be permissible, however, where various expenditures are an integral part of a specific transaction. If X corporation, in the above example, incurred attorney's fees, filing fees, and other related costs in the Federal registration of the trademark in June, 1965, X corporation may not be allowed to segregate these costs and elect separately for each. It is manifest, however, that the aggregate costs would constitute a separate trademark expenditure.

Time of Election

Section 177 (c) requires that the election be made within the time prescribed by law, including extensions thereof, for filing the return for the taxable year in which the expenditure is paid or incurred.

The Commissioner will undoubtedly refuse to grant an extension of time within which to make an election for section 177 treatment. Although section 6081 provides that, "the secretary or his delegate may grant a reasonable extension of time for filing any return, declaration, statement or other document required . . ." by the 1954 Code, the

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[40]Treas. Reg. § 1.177-1(a)(1).
[41]Treas. Reg. § 1.177-1(a)(2).
[42]Treas. Reg. § 1.177-1(a)(3).
[43]*Ibid.*
[44]*Ibid.*

Commissioner has taken the position that he does not have authority under section 6081 to grant an extension of time for filing an election in such a situation because the election is an option provided by the Code and does not constitute a return, declaration, statement or document required by the Internal Revenue Code or the regulations thereunder.[45]

In *Danskin,* the Tax Court became the first forum to consider the right of a taxpayer to elect under section 177 as the taxpayer in that case alleged alternatively that, if the court should find that the litigation expenses were capital expenditures, then it could elect to amortize such expenditures under the provisions of section 177. A holding by the court that the trademark litigation costs were "capital outlays" necessitated a consideration of this alternative argument.

After reviewing the language of the statute, the court, in holding against the taxpayer, observed that "it is apparent that Congress has set forth the specific terms by which an election to amortize trademark expenditures may be made."[46]

The Second Circuit, on appeal, affirmed this holding stating that "having failed to make an election during the period fixed by statute [taxpayer] cannot now decide to take advantage of the provisions of section 177."[47]

Thus, administratively, an extension of time to make the election is not available; and judicially, the clear and unambiguous language of the statute leaves no leeway insofar as the time for filing the election is concerned. An incorrect determination by the taxpayer that an expenditure is a deductible expense would, therefore, foreclose amortization under section 177 unless a protective election is filed with the return. It is implicit from both courts discussion of this point in *Danskin* that the taxpayer would have prevailed under its alternative argument had such a protective election been filed.

Although there is no printed form for purposes of making the election, the regulations describe in precise terms the statement which the taxpayer must attach to his return "signifying his election under section 177."[48] The statement must contain the name and address of the taxpayer, and the taxable year involved; an identification of the character and amount of each expenditure and the amortization period. Moreover, the taxpayer must agree to make an accounting

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[45]Cf., Rev. Rul. 60-183, 1960-1 Cum. Bull. 625; William Pestcoe, 40 T.C. 195 (1963).

[46]40 T.C. at 324.

[47]331 F.2d at 362.

[48]Treas. Reg. § 1.177-1(c)(1).

segregation on his books and records of the expenditure sufficient to permit easy identification on audit.

Abandonment

In the event of an abandonment, an ordinary loss deduction is permitted under section 165 (a) to the extent of the taxpayer's adjusted basis in the trademark at the time of the abandonment. The taxpayer, however, is only entitled to such an abandonment loss deduction in the taxable year in which the loss is actually sustained.[49]

While abandonment, of necessity, must involve nonuse, evidence of nonuse alone is not sufficient.[50] An actual intent to abandon, coupled with an act or acts of abandonment, must be present.[51] As is evident, the existence of these subjective and objective elements in a particular tax year can only be determined by an analysis of the surrounding facts and circumstances.

The act of abandonment may be the cessation of business either involuntarily because of the enactment of legislation prohibiting the future conduct of such a business[52] or voluntarily, due to continual losses from operations.[53]

An apparent identifiable event will be disregarded, however, if the facts reveal the absence of an intent to abandon. Thus, litigation culminating in a finding that a trademark is invalid is not an event upon which an abandonment loss can be predicted if the taxpayer seeks reversal of the decision by resort to an appellate court.[54] Continuing to carry the trademark as an asset on the balance sheet[55] or an action to recover royalties under a license agreement[56] are other acts inconsistent with an intent to abandon.

Since the ownership of a trademark is not based upon registration, but rather the right to use the trademark exists independently from the registration statutes, passiveness by the taxpayer resulting in expiration of such registration is not an overt act constituting an aban-

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[49]Treas. Reg. § 1.165-2(a); Hazeltine Corp. v. United States, 170 F.Supp. 615 (Ct. Cl. 1959).

[50]I. Lewis Corp., 22 CCH Tax Ct. Mem. 35 (1963) (Trademarks); In re Rae's Estate, 147 F.2d 204 (3d Cir. 1945) (Patents).

[51]Hazeltine Corp. v. United States, *supra* note 49; W. B. Davis & Son, Inc., 5 T.C. 1195 (1945).

[52]Sheffield Dentrifice Co., 13 B.T.A. 877 (1928).

[53]Rev. Rul. 57-503, 1957-2 Cum. Bull. 139.

[54]George Gordon Urguhart, 20 T.C. 944 (1953), rev'd on other grounds, 215 F.2d 17 (3d Cir. 1954).

[55]In re Rae's Estate, *supra* note 50; W. B. Davis & Son, Inc., 5 T.C. 1195 (1945).

[56]George Gordon Urguhart, *supra* note 54.

donment.[57] Similarly, the expiration of a patent which is associated with a trademark is not an identifiable event unless the trademark has been the generic designation of the patented article, in which event the generic designation passes into the public domain upon the expiration of the patent.[58]

Since mere nonuse does not establish an abandonment and consistently showing the trademark as an asset on the balance sheet discredits an intent to abandon, the question arises whether the taxpayer can delay the deduction to a more advantageous tax year by the device of retaining as an asset a trademark which otherwise has been permanently discarded from use.[59] The Internal Revenue Service has attempted to avert such a postponement of the deduction by providing in the regulations that:

> The taxable year in which the loss is actually sustained is not necessarily the taxable year in which the overt act of abandonment, or loss of title to the property, occurs.[60]

In contrast to the above-quoted regulations, the cases to date disclose a definite judicial willingness, in fixing the year of abandonment, to rely upon the unilateral acts of the taxpayer. This is best illustrated by the leading case of *Hazeltine Corp.* v. *United States.*[61] In that case, the taxpayer discontinued the use of certain trademarks in 1930 because the patented inventions with which they were associated became obsolete. The taxpayer, however, continued to carry the trademarks on its books as an asset. In 1943, the Board of Directors considered the approaching expiration of the Federal registration and adopted a resolution not to re-register the trademarks, but instead to abandon them.

The registration expired in August, 1943, but no affirmative action was taken by the taxpayer until December, 1944, when a second resolution was adopted to abandon the trademarks accompanied by a resolution instructing the officers to make the appropriate adjustments on the books. Subsequently, in March, 1945, the abandonment of the trademarks "as of and from December 1, 1944" was announced by the taxpayer in a trade publication.

In concluding that the abandonment occurred in 1944, the court cited the action of the Board abandoning the trademarks implemented by a directive to the officers to write them off on the corporate books.[62]

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[57]Hazeltine Corp. v. United States, *supra* note 49.

[58]*Ibid.*

[59]Compare, Rev. Rul. 54-581, 1954-2 Cum. Bull. 112.

[60]Treas. Reg. § 1.165-2(a).

[61]170 F.Supp. 615 (Ct. Cl. 1959).

[62]See, I. Lewis Corp., 22 CCH Tax Ct. Mem. 35 (1963), where the taxpayer's board of directors adopted a resolution discontinuing and abandoning a sub-

Also persuasive was the public notice of abandonment in the trade journal.

The case development in the abandonment area has placed the Commissioner in a somewhat precarious position. When the taxpayer, in reply to the Commissioner's contention that the abandonment occurred in a year other than the year in which the deduction was claimed, introduces evidence, self-serving as it may be, the Commissioner is confronted with the task of going forward with affirmative evidence substantiating his contention. Needless to say, this is a difficult burden to discharge because, generally, there is a paucity of evidence if the taxpayer has done nothing other than terminate the use of the mark in an earlier year.

This is not to suggest, however, that the taxpayer can delay indefinitely the deduction, although it is obvious that the taxpayer does have control, to a limited extent, in determining the year of deduction. It would be imprudent to delay claiming the allowance for an unduly long period because of the risk of loss of an otherwise clearly deductible item. Moreover, the taxpayer would be well advised, when it decides to formalize the abandonment of the mark, to document carefully the intent to abandon and perform promptly those acts necessary to consummate this intention so that, should an audit occur and litigation ensue, the record will be replete with evidence supporting the deduction in that year.

Damages

Receipt of Damages

In addition to enjoining any further trademark or trade name infringement, a taxpayer may receive damages either in accordance with a judgment or in settlement of the suit.

The tax treatment of such damages is generally determined by reference to the nature of the item the damages are intended to replace.[63] It is settled law that, since business profits are taxable, damages recovered for lost profits likewise constitute ordinary income.[64] On

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stantial number of trademarks some of which were acquired by the taxpayer from its predecessor in 1910. Although many of the marks had not been used for many years the Tax Court found an abandonment in 1954, pointing out that mere nonuse is not equivalent to abandonment, especially where the asset may be used again in the future.

[63]Farmers' & Merchants' Bank v. Commissioner, 59 F.2d 912 (6th Cir. 1932); Raytheon Production Corp. v. Commissioner, 144 F.2d 110 (1st Cir. 1944).

[64]See, e.g., Mathey v. Commissioner, 177 F.2d 259 (1st Cir. 1949), Cert. denied, 339 U.S. 943 (1950); Phoenix Coal Co. v. Commissioner, 231 F.2d 420 (2d Cir. 1956).

the other hand, where the damages are a substitute for assets, whether tangible or intangible, destroyed by the acts of the defendant, they represent a return of capital and are only taxable to the extent that they exceed the taxpayer's adjusted basis for such property.[65] With respect to punitive damages, the Supreme Court in *Glenshaw Glass Co.* v. *Commissioner*[66] removed all doubt that they constitute ordinary income to the recipient.

In a trademark infringement suit where damages are also sought, the *gravamen* of the action is generally that the goodwill of the taxpayer has been injured inasmuch as the trademark is the embodiment of such goodwill. Merely alleging an injury to goodwill in the complaint is, however, not alone sufficient to verify that the amount subsequently received represents a recovery for the alleged injury.[67] The allegation must be supported by substantial evidence from which damage to goodwill can reasonably be inferred.[68] If the facts do substantiate that the basic claim was to recover damages for the destruction of goodwill, evidence of profits to establish the value of the taxpayer's goodwill will not change the nature of the recovery.[69]

The fact that the suit is concluded by a compromise between the parties will also not alter the tax consequences of the recovery if the action was brought to compensate for an injury to goodwill.[70] In the latter situation, substantial documentation is important where a lump sum settlement is comprised of several different components such as punitive damages, damages for injury to goodwill and damages for lost profits. If there is no conclusive proof that the recovery was, in part, intended to compensate for injury to goodwill, the entire amount will be allocated to lost profits.[71] Where, however, the pleadings, issues presented and the release agreement disclose that a portion of the payment was a substitute for destroyed goodwill, the settlement will be allocated accordingly.[72]

As mentioned earlier, in the event the taxpayer's goodwill has no

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[65]Highland Farms Corp., 42 B.T.A. 1314 (1940); Strother v. Commissioner, 55 F.2d 626 (4th Cir. 1932), aff'd on other grounds, 287 U.S. 308 (1932).

[66]348 U.S. 426 (1955).

[67]Phoenix Coal Co. v. Commissioner, *supra* note 64; Ralph Freeman, 33 T.C. 323 (1959).

[68]Raytheon Production Corp. v. Commissioner, *supra* note 63.

[69]*Ibid.*

[70]*Ibid.*

[71]Chalmers Cullins 24 T.C. 322 (1955); Ralph Freeman, *supra* note 67.

[72]Telefilm, Inc., 21 T.C. 688 (1954); Durkee v. Commissioner, 162 F.2d 184 (6th Cir. 1947).

basis, the entire amount allocated to it will be taxable.[73] This raises the intriguing question of whether the payment constitutes ordinary income or is entitled to capital gains treatment.

In an early case, *Farmers' & Merchants' Bank* v. *Commissioner*,[74] the Sixth Circuit held that an amount received in settlement of an action for injury to the goodwill of a bank was not taxable at all because it was impossible to determine the extent of the injury to the business; and, therefore, there was "no logical basis upon which [taxpayer] could be charged with gain."[75]

Thereafter, the First Circuit in *Raytheon Production Corp.* v. *Commissioner*,[76] involving the settlement of a suit where the entire goodwill of the taxpayer was destroyed, held that "compensation for the loss of goodwill in excess of its cost is gross income."[77] The *Farmers' and Merchants' Bank case* was distinguished on the basis that:

> . . . the bank's business was not destroyed but only injured and since it continued in business, it would have been difficult to require the taxpayer to prove what part of the basis of its goodwill should be attributed to the recovery.[78]

Raytheon was followed by another Sixth Circuit case, *Durkee* v. *Commissioner*.[79] In that case, the court, without discussion, appeared to withdraw from its earlier position in *Farmers' and Merchants' Bank* and, after finding an injury to goodwill, remanded the case to the Tax Court to determine the taxpayer's basis in the goodwill. On remand,[80] the Tax Court considered the opinion of the appellate court as deciding that the recovery was for goodwill and, therefore, capital gains to the extent that it exceeded the taxpayer's basis. The court then found that the taxpayer's basis in the goodwill was zero and concluded that the entire recovery was a capital gain. This result was affirmed *per curiam* on appeal.[81]

Subsequent cases, all in the Tax Court, have also held that a recovery to the extent that it exceeds the taxpayer's basis constitutes capital gain.[82] Unfortunately, they assume that the overage is entitled

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[73]Raytheon Production Corp. v. Commissioner, *supra* note 63; Telefilm, Inc., *supra* note 72.

[74]59 F.2d 912 (6th Cir. 1932).

[75]*Id.* at 914.

[76]144 F.2d 110 (1st Cir. 1944).

[77]*Id.* at 114.

[78]*Ibid.*

[79]162 F.2d 184 (6th Cir. 1947).

[80]8 CCH Tax Ct. Mem. 701 (1949).

[81]181 F.2d 189 (6th Cir. 1950).

[82]Anna Levens, 10 CCH Tax Ct. Mem. 1083 (1951). Accord, Levy Collins, 18 CCH Tax Ct. Mem. 756 (1959), a case in which the Tax Court held the excess

to capital gains treatment and, therefore, do not provide any reasoning in support of the conclusion.

Since taxpayers will have a zero basis for goodwill unless the goodwill has been acquired by purchase, they can apparently expect capital gains consequences for a recovery for injury to the goodwill, at least, in the Tax Court and Sixth Circuit.

Payment of Damages

The payment of damages pursuant to a judgment or in settlement of a suit is generally deductible either as an ordinary and necessary business expense under section 162[83] or as a loss under section 165.[84] The payment may, however, be capital in nature in the event the taxpayer by such expenditure acquires a capital asset[85] or clears title to property.[86]

Caution should be exercised where part of the payment is to compensate the recipient for lost profits and the remainder for the acquisition of assets because the entire amount may be a nondeductible capital expenditure if the taxpayer is unable to establish a basis for allocating the payment between the two items.[87]

Fines and penalties are ordinarily not deductible since the allowance of such payments would frustrate public policy.[88] The rationale

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to be entitled to capital gains treatment even though it found that there was no sale or exchange of a capital asset, involuntary conversion or other disposition of property. But see, Jack Rosenzweig, 1 T.C. 24 (1942), where the Tax Court found that the amount recovered for infringement of a copyright was ordinary income because the taxpayer "did not sell or exchange anything."

[83]See, e.g., Helvering v. Hampton, 79 F.2d 358 (9th Cir. 1935); Camloc Fastner Co., Inc., 10 T.C. 1024 (1948).

[84]See, e.g., International Shoe Co., 38 B.T.A. 81 (1938); North American Investment Co., 24 B.T.A. 419 (1931).

[85]Cf., Battle Creek Food Co., 8 CCH Tax Ct. Mem. 207 (1949), aff'd, 181 F.2d 537 (6th Cir. 1950); Automatic Shifters, Inc., 19 CCH Tax Ct. Mem. 694 (1960); but see, Industrial Aggregate Co. v. United States, 284 F.2d 639 (8th Cir. 1960).

[86]Blackwell Oil & Gas Co. v. Commissioner, 60 F.2d 257 (10th Cir. 1932); Wilma M. Imm, 11 CCH Tax Ct. Mem. 258 (1952).

[87]Battle Creek Food Co., *supra* note 88; Blackwell Oil & Gas Co. v. Commissioner, *supra* note 86.

[88]Compare, Commissioner v. Longhorn Portland Cement Co., 148 F.2d 276 (5th Cir. 1945), (involving a compromise settlement for violation of a state antitrust law which was held not deductible because the payment was in full satisfaction of the statutory penalties) and William F. Davis, 17 T.C. 549 (1951), (where a payment to a corporation under the Securities Exchange Act of 1934 was found to be in the nature of a penalty and nondeductible, with Lilly v. Commissioner, 343 U.S. 90 (1952), (a case in which the Supreme Court held that payments by the taxpayers who were engaged in the retail optical business, to physicians of one-third of the sales price of glasses sold to their patients were deductible because the public feeling against such practices was not so sharply defined to require disallowance of the payments).

is that to allow a deduction would lessen substantially the impact of the fine or penalty and, correspondingly, the effectiveness of the law violated. It should be noted, however, that where the law makes a distinction between innocent violators and those who have violated the law deliberately or intentionally, a deduction has been allowed for unintentional violations because it would not frustrate the effectiveness of the statute in question.[89] It would appear that treble damages paid under Section 35 of the Lanham Trademark Act would be deductible since they are compensatory and not punitive in nature.[90]

SALE

Seller

The criteria which must be satisfied to obtain capital gains treatment on the transfer of a trademark are (1) a "sale or exchange," (2) of a "capital asset" (3) held for more than six months by the transferor.[91]

A capital asset is defined as property held by the taxpayer whether or not connected with his trade or business, but does not include property held primarily for sale in the ordinary course of business or property which is depreciable under section 167.[92]

The status of a trademark as property for tax purposes is conceded by the Commissioner.[93] As discussed earlier, trademark expenditures may be amortized under section 177, but trademarks are generally not depreciable under section 167.[94] Thus, a trademark comes within the definition of a capital asset unless the facts of the particular situation indicate that it was held primarily for sale.[95]

In view of the fact that the property right in a trademark does not come into existence upon registration of the mark but exists prior to

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[89]Jerry Rossman Corp. v. Commissioner, 175 F.2d 711 (2d Cir. 1949); I.T. 3530, 1942-1 Cum. Bull. 43.

[90]But see, Tank Truck Rentals, Inc. v. Commissioner, 356 U.S. 30 (1958).

[91]Int. Rev. Code of 1954, § 1222(3).

[92]Int. Rev. Code of 1954, § 1221.

[93]Rev. Rul. 55-694, 1955-2 Cum. Bull. 299.

[94]Treas. Reg. § 1.167(a)-3. In view of the fact that a trademark is not subject to the allowance for depreciation provided in section 167, it would appear that section 1239, which denies capital gains treatment to a sale or exchange of depreciable property between an individual and a corporation more than 80 percent in value of the outstanding stock of which is owned by such individual, his spouse, and his minor children and grandchildren, would not be applicable to a sale or exchange of a trademark.

[95]See, e.g., Harold T. Avery, 47 B.T.A. 538 (1942); Cf., Joseph A. Fields, 14 T.C. 1202 (1950), aff'd 189 F.2d 950 (2d Cir. 1951). But see, Pike v. United States, 101 F.Supp. 100 (D. Conn. 1951).

registration when the trademark has been reduced to actual use, the holding period for a trademark may, correspondingly, commence prior to registration for purposes of determining whether the mark has been held for the period prescribed by the statute.[96]

An assignment of a trademark clearly satisfies the sale or exchange requirement.[97] Likewise, the grant of an exclusive and perpetual license is ordinarily sufficient to transfer the property interest of the licensor in the mark.[98]

The fact that the transferee in consideration of the transfer agrees to make a periodic payment measured by a fixed percentage of the selling price of products bearing the trademark or based on the units manufactured or sold, or any other similar method predicated upon production, sale or use, will in no way affect the capital gains aspects of the transaction.[99] The relevant inquiry is whether the transferor has retained, under the agreement, any rights of substantial provable value.[100]

For example, the retention of bare legal title under an exclusive and perpetual license agreement will not in any manner restrict the transferee's enjoyment of the trademark. Accordingly, such title retention is inconsequential in determining whether the requisite property transfer has occurred.[101]

The courts, in their consideration of agreements in which the transferor has retained certain rights, have made a clear distinction between the situation where the transferor retains the right to terminate the agreement upon the occurance of an event which is entirely within its control and an arrangement where there is a termination of the agreement and a recapture of the property rights only upon the happening of a subsequent event which is entirely beyond the control of the transferor, such as expropriation, nationalization or bankruptcy. The preponderance of legal precedent is precisely expressed by the court in *First National Bank of Princeton* v. *United States*:

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[96]See, e.g., Edward C. Myers, 6 T.C. 258 (1946); Carl G. Dreymann, 11 T.C. 153 (1948).

[97]United States v. Adamson, 161 F.2d 942 (9th Cir. 1947).

[98]Seattle Brewing and Malting Co., 6 T.C. 856 (1946); see also, Thomas D. Armour, 22 T.C. 181 (1954); National Bread Wrapping Machine Co., 30 T.C. 550 (1958).

[99]Rose Marie Reid, 26 T.C. 622 (1956); Commissioner v. Hopkinson, 126 F.2d 406 (2d Cir. 1942); Rev. Rul. 58-353, 1958-2 Cum. Bull. 408.

[100]Seattle Brewing and Malting Co., *supra* note 98.

[101]*Ibid.*

> The government is in no better position when it argues that the various cancellation clauses of the 1940 agreement show the party's intent to create a license and not a sale. It is uniformly held that such provisions may be construed as calling for the reversion of title upon the occurrence of a condition subsequent and as such do not impair passage of title at the time the contract is executed.[102]

In addition to the common protective provisions normally embodied in a transfer agreement, a trademark agreement usually includes a provision under which the transferor retains some degree of control over the quality of the product bearing the mark to avoid a possible constructive abandonment.[103]

In *Seattle Brewing & Malting Co.*,[104] two trade brands, "Rainier" and "Tacoma" were transferred in an exclusive license agreement. The agreement provided that the beverages manufactured by the transferee and marketed under the trade names covered by the license would at all times equal "the quality of similar products then manufactured and marketed under the said trade names and brands by the transferor. . . ."[105] Moreover, the agreement provided that a

> failure should be considered an event of default and [the transferor] might cancel the agreement . . . in which event all the rights of [the transferee] should terminate. . . .[106]

Thus, the transferor could definitely control the quality of the product produced by the transferee and marked with the trade names. A failure by the transferee to comply with such quality standards would result in a default and bestow upon the transferor the right to

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[102]136 F.Supp. 818, 822 (D. N.J. 1955) (vendee could cancel after six months and had no right of resale; vendor could cancel if Federal Trade Commission issued a cease and desist order or if vendor defaulted). Accord, Allen v. Werner, 190 F.2d 840 (5th Cir. 1951) (vendor could cancel if vendee violated the agreement "in any way"); Commissioner v. Celanese Corp., 140 F.2d 339 (D.C. Cir. 1944) (vendor could cancel if vendee went into bankruptcy or receivership); Kronner v. United States, 110 F.Supp. 730 (Ct. Cl. 1953) (vendor could cancel if vendee failed to "use its best efforts in marketing the invention"); Pike v. United States, 101 F.Supp. 100 (D. Conn. 1951); Lamar v. Granger, 99 F.Supp. 17 (W.D. Pa. 1951) (vendor could cancel if royalties were not paid or in event of vendee's bankruptcy); Carroll Pressure Roller Corp., 28 T.C. 1288 (1957) (vendor retained right to exploit patent in foreign markets, limited vendee's right to sublicense, prohibited vendee from assigning and could terminate upon vendee's breach); Vincent A. Marco, 25 T.C. 544 (1955); Edward C. Myers, 6 T.C. 258 (1946).

[103]Cf., Dairy Queen of Oklahoma v. Commissioner, 250 F.2d 503, (10th Cir. 1957). It would seem advisable to establish definite quality standards so that the transferor does not, in essence, have the unrestricted right to cancel the agreement for breach because the transferee has not maintained acceptable standards of quality.

[104]6 T.C. 856 (1946).

[105]*Id.* at 859.

[106]*Id.* at 861.

terminate the agreement. It is significant to note that the standard of quality required of the transferee was based on the quality of products then manufactured by the transferor.

The Tax Court held the transfer to be a sale stating:

> Other provisions in the contract giving [the transferor] the right to require [the transferee] to do certain things, such as keeping the quality of the malt and beer manufactured equal to [the transferor's] quality, were but conditions subsequent. . . .[107]

A restriction against sublicensing without the consent of the transferor will also not preclude capital gains treatment.[108] It should be noted, however, that, in certain situations, the quantitative effect of retaining numerous rights may constitute the retention of a substantial right.[109]

Insofar as exclusivity is concerned, the agreement may be exclusive even though limited to a designated geographical territory.[110] The restriction on use of a trademark to a specific class of items will also not defeat the exclusive nature of the transfer.[111] In *United States* v. *Carruthers,*[112] involving a patent license for use only in the tuna industry, the Commissioner attempted to distinguish a transfer restricted to a geographical area from a transfer limited to a particular industry. The Ninth Circuit was unreceptive to the contention and held that there was not basis for such a distinction.

The reservation of certain rights in the transfer agreement has obvious merit as a control mechanism, especially when the purchase price is in the form of royalty payments. Fortunately, it is a satisfactory device from a tax standpoint, resulting in capital gains to the seller. It would not appear advisable, however, to include unnecessary restrictions which have not received administrative or judicial approval.

Buyer

As discussed earlier, the consideration paid for a trademark or trade name may not be amortized under section 177.[113] Although section 167

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[107]*Id.* at 870.

[108]See, e.g., Watson v. United States, 222 F.2d 689 (10th Cir. 1955); Parke, Davis & Co., 31 B.T.A. 427 (1934).

[109]See, Arthur M. Young, 29 T.C., 850 (1958) aff'd 269 F.2d 89 (2nd Cir. 1959); Joe Schmitt, Jr., 30 T.C. 322 (1958), aff'd 271 F.2d 301 (9th Cir. 1959); Treas. Reg. § 1.1235-2 (b) (4).

[110]Seattle Brewing and Malting Co., *supra* note 98. Accord, Vincent A. Marco, 25 T.C. 544 (1955).

[111]See, First National Bank of Princeton v. United States, 136 F.Supp 818 (D. N.J. 1955); United States v. Carruthers, 219 F.2d 21 (9th Cir. 1955).

[112]*Ibid.*

[113]Int. Rev. Code of 1954, § 177 (b) (3).

contains no specific prohibition against a depreciation deduction for a trademark, the regulations under section 167 provide that:

> If an intangible asset is known from experience or other factors to be of use in the business or in the production of income for only a limited period, the length of which can be estimated with reasonable accuracy, such an intangible asset may be the subject of a depreciation allowance. Examples are patents and copyrights. An intangible asset, the useful life of which is not limited, is not subject to the allowance for depreciation. No allowance will be permitted merely because, in the unsupported opinion of the taxpayer, the intangible asset has a limited useful life.[114]

Obviously, it would be impossible in the ordinary situation for the taxpayer to demonstrate to the satisfaction of the Commissioner that the trademark had a limited useful life. This arbitrary position of the Commissioner has been vigorously challenged by at least one commentator.[115] An amendment to the Code was the proposed solution of another group.[116] The Commissioner, however, stands unwavering in his attitude toward the depreciation of intangibles with an unlimited useful life such as trademarks.

The rationale of the Tax Court in *Associated Patentees, Inc.*,[117] does, however, provide some basis for a contention that a current deduction should be allowed when the purchase price is a royalty payment measured by the production or sale of products bearing the trademark. In *Associated Patentees,* the taxpayer acquired patents of varying lives. The sellers, controlling shareholders of the taxpayer, were to receive as consideration, 80 per cent of taxpayer's annual income from any license agreements it negotiated. The deduction claim by the taxpayer for such royalty payments was disallowed by the Commissioner who contended that only a proportionate part of the royalty payment should be allowed currently with the balance prorated over the remaining lives of the patents. In each succeeding year, the taxpayer would be allowed a deduction for a proportionate part of the payment in that year plus the amount allocated to such year from prior payments.

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[114]Treas. Reg. § 1.167(a)-3.

[115]Kragen & Pearce, "Tax Problems in the Trademark and Trade Name Field," 44 *Calif. L. Rev.* 511 (1956).

[116]On February 28, 1961, the American Institute of Certified Public Accountants, Committee on Federal Taxation, submitted the following recommendation to Congress:

> The cost of purchasing trademarks should be amortizable over their useful life as determined by the taxpayer, or over a stated period to be fixed by statute, whichever is longer, to the extent such items are not otherwise treated under other sections of the Code.

[117]4 T.C. 979 (1945).

This method of computation was summarily discarded by the court which recognized that it would result in "inadequate" deductions in the early years and "excessive" allowances in the concluding years of the agreement. Well aware of the unique nature of the issue presented, the court held that the royalty payments made each year were deductible in full and provided a reasonable allowance.

Similarly, in the *Seattle Brewing* case, the court, in discussing certain royalty payments made by the taxpayer, noted that

> It makes no difference whether we designate [the agreement] a license or as tantamount to a perpetual assignment of a right of use with a condition subsequent which might defeat it upon the happening of the event specified. In any event, there was a definite term measured from year to year when the expenditure applicable to income for the period could be definitely determined and exhausted.[118]

Such a royalty arrangement may, however, not be desirable from the buyer's standpoint because it would involve a perpetual commitment to make annual royalty payments or lose the right to use the mark.

If the agreement specifies a fixed period for such payments, the reasoning of *Associated Patentees* would, apparently, not be applicable; and the purchaser would be required to capitalize the annual amounts paid. An attempt to obtain a benefit by the use of a declining royalty schedule would also, undoubtedly, meet with stiff opposition from the Commissioner since the purchaser could, by agreement, establish an "excessive" allowance in the early years.

A possible arrangement of effecting the sale acceptable to both parties is suggested by the *Seattle Brewing* case. There, the rights were granted in consideration of a royalty payment with an option in the transferee to terminate all royalties after a specified period by the payment of a lump sum. Such a preconceived arrangement would enable the purchaser to deduct a substantial portion of the consideration with only the lump sum payment being a nondeductible item.

From the buyer's standpoint, a more advantageous approach would be an ordinary license agreement with an option to purchase because it would apparently insure deductibility of the royalty payments.[119] Conversely, the latter scheme would be clearly less desirable to the seller since the royalty payments would be taxable at ordinary income rates.

In either of the foregoing situations the Commissioner would closely scrutinize the transaction to determine whether the parties, by such

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[118]6 T.C. at 867.

[119]See, Seattle Brewing and Malting Co., *supra* note 98.

an arrangement, intended to disguise a sale predicted upon a predetermined price.[120] Harmful in this regard would be a provision in the agreement whereby the option price would be reduced by the aggregate royalties paid prior to the exercise of the option.[121]

Sale to a Controlled Foreign Corporation (Section 1249)

Section 16 of the Revenue Act of 1962 (H.R. 10650), inserted a new provision, section 1249, in the Internal Revenue Code of 1954. Under this new provision, gain from the sale or exchange of a "patent, an invention, model or design, a copyright, a secret formula or process, or any other similar property right" by a U. S. person[122] to a controlled foreign corporation attracts a tax at ordinary income rates. Control for purposes of section 1249 means the ownership by the transferor, directly or indirectly, of more than 50 percent of the total combined voting power of all classes of stock entitled to vote.[123]

The inclusion of the catchall phrase "any other similar property" presents the interpretive problem of whether trademarks and trade names come within the purview of section 1249. Indispensable in the resolution of this question is a careful analysis of the legislative history to ascertain the Congressional purpose in denying capital gains treatment to the aforedescribed property transfers.

The House version of H. R. 10650 took a somewhat different tack from the bill eventually enacted by including in the gross income of the U. S. person the rentals, royalties or other income derived by the controlled foreign corporation from the license, sublicense, sale, exchange, use, or other exploitation of patents, copyrights and exclusive formulas and processes substantially developed, created or produced in the United States.[124] Thus, the House Bill specifically enumerated the property rights covered and clearly omitted trademarks and trade names.

The House Committee Report, in explanation of this provision, stated that:

> For the income from these patents, copyrights, etc., to be included they must have been substantially developed, created, or produced in the United States, or, alternatively, acquired directly or indirectly from related U. S. persons. Your committee concluded that it was

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[120]See, Rev. Rul. 55-540, 1955-2 Cum. Bull. 39 which sets forth the guides which will be employed by the Internal Revenue Service to determine whether an agreement for the use of industrial equipment is a lease or a sales contract.

[121]See, East Coast Equipment Co., 21 T.C. 112 (1953), aff'd, 222 F.2d 676 (3d Cir. 1955).

[122]Int. Rev. Code of 1954, § 1249(a).

[123]Int. Rev. Code of 1954, § 1249(b).

[124]Section 13, H.R. 10650 as passed by the House, March 29, 1962.

> desirable to tax this income to the U. S. shareholders on the grounds that where a patent, copyright, etc. was developed or created in the United States, it is likely that, if it were not for lower taxes abroad, the rights to it would still be held by the domestic company with this company merely licensing its use by the foreign corporation. This, of course, would result in rental or royalty income taxable to the U. S. company.[125]

Extensive hearings were held by the Senate Finance Committee on the bill as passed by the House. Thereafter, Secretary Dillon made a second appearance before the Finance Committee to recommend various changes in the House bill.[126] These suggested revisions included the proposal of section 1249, which Mr. Dillon explained as follows:

> This change obviates the need under the House bill to determine the amount of income generated by the use of U. S. patents, etc. It eliminates abuse by insuring that patents will be transferred abroad in arm's length transaction producing a full U. S. tax at the time of transfer or on an annual basis.[127]

It is readily apparent from a review of the legislative history that section 1249 and its House counterpart were directed to the transfer of property rights which were "substantially developed, created or produced in the United States." There exists, then, a precise criteria for determining whether a property right is a "similar property right" for purposes of section 1249.

In applying the foregoing template to trademarks, it becomes immediately evident that there is an essential distinction between trademarks and the property rights set out in section 1249. Trademarks are essentially territorial in nature. As a consequence, a trademark has little, if any, value in a particular territory until it has been used there. While a patent is also territorial in scope, in that it bestows upon the holder a monopoly right in a specific territory, the rights are obviously dissimilar since a patent derives its value from the underlying invention and could be of substantial worth even though the patented product has never been sold in the particular country or territory.

It is submitted, then, that, since Congress was dealing in section 1249 with property rights "substantially developed, created or produced in the United States," the rule of *ejusdem genesis* would require the restriction of "any other similar property right" to property rights that are similar in character to a patent, an invention, model or de-

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[125]H.R. Rep. No. 1447, 87th Cong., 2d Sess. 61 (1962).

[126]Hearing on H.R. 10650 Before the Senate Committee on Finance, 87th Cong., 2d Sess., pt. 10 at 4250 (1962).

[127]Hearing on H.R. 10650 Before the Senate Committee on Finance, 87th Cong., 2d Sess., pt. 11 at 4419 (1962).

sign, a copyright, a secret formula or process which clearly excludes trademarks.[128]

The final regulations under section 1249 were recently promulgated and consistent with the foregoing view provided that section 1249 does not include "property such as . . . a trademark or a trade brand."[129]

Transfer Under Section 351

A taxpayer conducting his business as a sole proprietorship may, after a period of sustained growth, decide to change the form of his business organization to that of a corporation. Such a transition, of course, involves a transfer of the assets of the sole proprietorship to the new separate entity. This transaction can, in most cases, be accomplished without the recognition of gain to the transferor under section 351.

To come within the ambit of section 351, property must be transferred to a corporation in exchange for stocks or securities of the transferee by a person or persons who, immediately after the exchange, hold at least an 80 percent interest in the transferee corporation.[130] A trademark often has a fair market value far in excess of its adjusted basis. Thus, the utilization of section 351 to postpone the recognition of gain is an important consideration to the transferor.

Although the transfer can be accomplished by an assignment, an exclusive and perpetual license agreement is the usual vehicle. The Commission has taken the position, in numerous private ruling letters, that the quantum of rights which must pass to the transferee under such a license arrangement must be the same as those which must be transferred under an exclusive and perpetual license agreement to constitute a sale for tax purposes.

Since the Internal Revenue makes no distinction between a sale and a section 351 transfer, the foregoing discussion of the rights which may be retained by the transferor is equally applicable to a section 351 exchange. There would appear to be economic justification for the retention of certain rights since the trademark transferred to the new enterprise generally represents part payment for the transferor's equity interest. Thus the transferor's financial remuneration from the transaction will depend upon the ultimate profitability of the transferee and, correspondingly, the transferor will have a continuing interest in how effectively the new company uses the trademark.

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[128]See, Lyman v. Commissioner, 83 F.2d 811 (1st Cir. 1936).
[129]Treas. Reg. § 1.1249-1 (a).
[130]Int. Rev. Code of 1954, § 351 (a).

Transfer to a Foreign Corporation

It is not an unusual situation when a United States company, selling in foreign markets, finds it impossible to compete on a parity with its local counterparts because of transportation costs, importation duties or the wage differential. To offset these advantages of local manufacture, the United States company often establishes a manufacturing facility within the market area.

When a subsidiary corporation is employed to conduct the manufacturing operations, the United States company is generally faced with the problem of transferring productive assets to the foreign entity.

Such a transfer to a domestic corporation can, as discussed above, be effected tax free under section 351. Because of the involvement of a foreign corporate transferee, the United States transferor can only invoke section 351 to avoid the current recognition of gain if a favorable ruling from the Internal Revenue Service under section 367 has been obtained. Such a ruling represents approval and recognition by the Internal Revenue Service that the proposed transaction does not have as one of its principal purposes the avoidance of Federal income tax. In this regard, the general policy of the Internal Revenue Service is to rule favorably only when the property rights will be used in conjunction with a manufacturing operation.[131]

Because of foreign legal considerations, it may be necessary in certain situations to effect the transmission of the trademark to the foreign company in two parts. Initially, the United States company acquires stock in the foreign entity for cash. Thereafter, the proceeds of the foregoing stock purchase are used by the foreign company to acquire the property rights from the United States transferor. For ruling purposes the Commissioner, consistent with judicial precedent,[132] considers the two transactions related steps of a single transaction, namely, the transfer of property to the foreign corporation in exchange for an equity interest in such enterprise.

Similarly, the Commissioner has approved as a step transaction an arrangement where the transferor, to avoid foreign legal complications, has cancelled its foreign trademark and the new foreign entity has simultaneously made application for the same mark.

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[131]See, H.R. Rep. No. 2508, 87th Cong., 2d Sess. 40 (1962).

[132]See, e.g., Aqualane Shores, Inc. v. Commissioner, 269 F.2d 116 (5th Cir. 1959). See also, May Broadcasting Co. v. United States, 200 F.2d 852 (8th Cir. 1953).

STUDENT PAPERS

By making available student papers, students will receive an incentive and our readers will appreciate the evidence of scholarly development in the fields of interest. These papers are carefully reviewed by the Editorial Committee and other specialists, and helpful suggestions are made to the students as part of the educational function of the *Journal*. The Research Institute invites educational and research institutions to submit informative student manuscripts on the patent, trademark, copyright, and related systems.

The European Patent Convention as a Guide to Modernizing Our Patent Examining System

JOHN ROBERT DUNCAN*

SUMMARY

THE AMERICAN PATENT SYSTEM when first established functioned in a far different economy than that of today. For almost two hundred years the system has done its job remarkably well. However, with changing times have come increasing problems. As technology continues to increase in scope and complexity, these problems can be expected to become more acute. Many attempts have been made to improve the functioning of the patent system through minor and superficial changes. Perhaps the time has come to consider basic and sweeping changes in our patent system. Within the Common Market, a great deal of work has been done by many of the world's patent experts towards constructing a modern, efficient, multi-national patent system. The European Patent Convention is, therefore, suggested as a guide to modernizing our system. Of special interest are those provisions relating to deferred examination and intervention.

*Mr. Duncan, while a senior in The George Washington University Law School, was the recipient of the Patent Office Society Student Award for this paper submitted in partial fulfillment of the requirements for the Seminar and Lecture Series given by The PTC Research Institute in conjunction with The George Washington University Law School for the year 1964.

THE PROBLEM

Background: Why have patents?

> "The patent system . . . added the fuel of interest to the fire of genius."
>
> Abraham Lincoln[1]

THE FOUNDATION UPON WHICH the American patent system has been constructed is Article I, Section 8, Clause 8 of the Constitution of the United States, which gives Congress the power "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries".

Our first patent statute was the act of April 10, 1790,[2] which established a limited system, with no provision for an examination of applications as to novelty or invention. The basic structure of the patent system as we know it was established with the act of July 4, 1836.[3] This statute directed the examination of applications as to novelty and invention and established procedure for handling interferences and appeals. The present term of 17 years from the date of issue was established in 1861.[4] Since then only minor changes have been made in the basic system. Our patent laws were codified in the act of July 8, 1870,[5] and again in the act of July 19, 1952,[6] which codification is now in effect. Although minor changes have been made through the years, the basic principles of the system have existed for over 175 years, since the original act of 1836.

While our system introduced several innovations in patent law, it was not the world's first general patent law. Probably the first true patent law granting exclusive rights to inventors was enacted in 1474 by the Republic of Venice.[7] Costs were high and procedure was complex, so few patents were obtained under this system. Galileo obtained a Venetian patent in 1592.[8] England began granting patents to inventors in 1560. A general patent system there evolved with the com-

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[1]Lecture on Discoveries, Inventions and Improvements, February 11, 1859.

[2]1 Stat. 109.

[3]5 Stat. 117.

[4]Act of March 2, 1861; 12 Stat. 246.

[5]16 Stat. 198.

[6]Public Law 593, Title 35 of the United States Code.

[7]Machlup, Fritz; "An Economic Review of the Patent System," Study No. 15 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fifth Congress, Second Session (1958), at 2.

[8]Federico, P. J., Lecture, Comparative Patent Law Course, The George Washington University Law School, April 3, 1964.

mon law from early arbitrary grants of monopolies by the king. One of the earliest mentions of the grant of a monopoly for an invention occurred in *Darcy* v. *Allen,* 173 Noy (1602), where the court said, at 182:

> I will show you how the judges have heretofore allowed of monopoly patents, which is, that where any man by his own charge and industry, or by his own wit or invention doth bring any new trade into the realm, or any engine tending to the furtherance of a trade that never was used before; and that for the good of the realm; that in such cases the king may grant to him a monopoly patent for some reasonable time, until the subjects may learn the same, in consideration of the good that he doth bring by his invention to the commonwealth; otherwise not.

British patent law was first codified in 1623, with Statute 21, James I, Chapter 3, which authorized limited grants of monopolies to inventors.[9] This statute, generally referred to as the "Statute of Monopolies", retained the principle, which continues in Great Britain to this day, that a patent is a grant of a special privilege by the crown, and is not a matter of right.

Great Britain was the only nation with a general patent law until the United States' law of 1790 and the French law of 1791. Both of these statutes are based on the principle that an inventor is entitled to a patent as a matter of right, rather than privilege.[10]

Today, every major industrial nation has some form of patent system. Recently, it was reported that 118 countries grant some form of patent protection.[11]

Although the American patent system at its inception established several innovations in patent law, such as examination and interference procedures,[12] and many varying types of patent systems have since been established, it has remained relatively unchanged since the act of 1836. However, the Constitution does not forbid changes of even fundamental significance. The only limitations expressed in the patent clause of the Constitution, quoted above, are these:

(1) Patents are to be issued only to inventors who devise something new, and not to importers of foreign technology.
(2) Patents are to run for "limited times" and not in perpetuity.

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[9]Smith, Arthur M., *Patent Law; Cases, Comments and Materials,* Overbeck Co., Ann Arbor, Michigan (1954), at 26.

[10]Machlup, Note 7, *supra,* at 11.

[11]*Manual for the Handling of Applications for Patents, Designs, and Trademarks Throughout the World,* Bureau voor Technische Adviezen, Amsterdam, (1927), Revised 1960.

[12]Knopp, Otto R. H., "The World's Major Patent Systems," 44 *JPOS* 8, (January 1962), at 11.

(3) The progress of the useful arts is to be promoted by the free enterprise device of a patent, not by the grant of a premium or reward from the public treasury.[13]

Changes can and should be made in our patent system where necessary, to further the Constitutional purpose of promoting progress.

The basic purpose of a patent system is, of course, to encourage progress in "science and the useful arts". This purpose was recognized by the founders of our country when they drafted and ratified the Constitution. Washington, in his first inaugural address urged "the expediency of giving effectual encouragement, as well to the introduction of new and useful inventions from abroad as to the exertion of skill and genius at home".[14] Thomas Jefferson wrote: "Certainly, an inventor ought to be allowed a right to the benefit of his invention for some certain time. Nobody wishes more than I do that ingenuity should receive liberal encouragement."[15]

It is often argued that a patent system of any description will tend to promote progress, to a greater or lesser extent depending upon the type of system and the efficiency of its operation. Most writers concede that the American patent system has been an important factor in the industrial development of this nation.[16] Questions remain whether it could have been even more effective. Has the system produced the maximum possible progress in the past? Have changing conditions decreased its effectiveness? Should the system be "modernized"?

Before we can decide whether the system should be changed or left to continue as it is, we must determine what the goals of an ideal, fully effective, system would be.

Dr. Vannevar Bush has succinctly stated the main objectives of an effective patent system as:

> First, it aims to stimulate both invention and the assiduous search for new applications of knowledge, . . by placing the inventor in a position to secure a reward.
> Second, it seeks to create conditions whereby the venture of funds

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[13]Smith, Note 9, *supra,* at 26.

[14]Abramson, Victor, "The Patent System: Its Economic and Social Basis," Study No. 26 of the Subcommittee on Patents, Trademarks and Copyrights, Eighty-sixth Congress, Second Session (1960), at 3.

[15]*The Story of the American Patent System 1790-1952,* The United States Patent Office (1953), at 1.

[16]Geniesse, Eugene W., "The Examination System in the U.S. Patent Office," Study No. 29 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-sixth Congress, Second Session (1961), at 2.

[17]Bush, Vannevar, "Proposals for Improving the Patent System," Study No. 1 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fourth Congress, Second Session (1956), at 1.

> to finance the hazardous introduction into public use of new devices or processes will be warranted. This is done by protecting the industrial pioneer for a limited time against the uncontrolled competition of those who have not taken the initial financial risk. Third, it aims to prevent the creation of an industry permeated by . . . intense secrecy . . . by extending a temporary monopoly to those who . . . will make a full disclosure of their new ideas so that they may be utilized to the full by those skilled in a particular art.[17]

Originally, the incentive to invention created by the reward of a monopoly to the individual inventor was of fundamental importance. In the beginning the American patent system was characterized as an expression of the right of an individual to the fruits of his inventive intellectual accomplishment.[18] Today, many inventors are employed by research corporations and do not receive direct benefits in exchange for their inventions. However, there will obviously always be indirect recognition in the form of promotions and enhanced standing in the intellectual community to one who has demonstrated creative ability. Furthermore, the independent inventor is not yet "extinct". To the members of this hardy, if somewhat shrunken, band the possibility of high rewards under the patent grant is still a strong incentive to inventive endeavor.[19]

Today, the encouragement of venture capital for research leading to the discovery of new products is a more important function of the patent system. In complex modern technologies often an immense amount of money must be spent in developing a product from the idea stage to commercial utility.[20] Without the protection of the patent monopoly, the new product could be immediately copied by others, who could sell at a lower price since they would not have development costs to amortize. Sometimes it is argued that the patent monopoly is abused by large corporations, who are said to use their numerous patent holdings to maintain price and production control over entire industries. However, the reverse is generally true. Without the patent monopoly, if a small company developed a new product, the larger companies, with their greater marketing and sales capabilities, could copy it. With the limited monopoly, the small company has a chance

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[18]*The Federalist,* No. 43, Modern Library Edition, at 279.

[19]Tuska, C. D., "Independent Inventors and the Patent System," Study No. 28 of the Subcommittee on Patents, Trademarks and Copyrights, Eighty-sixth Congress, Second Session (1961), at 6.

[20]For example, Union Carbide Corp. spent 17 years and $20,000,000 before it perfected (in 1952) the coal-hydrogenation process which has substantially boosted coal's potential as a source of synthetic materials. See Frost, George E., "The Patent System and the Modern Economy," Study No. 2 of the Subcommittee on Patents, Trademarks and Copyrights, Eighty-fourth Congress, Second Session, (1957).

to grow and develop without the threat of immediate, direct, overwhelming competition. Thus, the patent monopoly can prevent an industry being controlled by one or a few major organizations. The recent growth of several small companies, such as Polaroid and Xerox, has resulted largely from their holding "breakthrough" patents in various fields. Also, organizations such as Battelle Memorial Institute and Hazeltine Laboratories whose only product is research and the resulting patents would have nothing to sell but for the patents they are granted. Thus, patents often play a role in reducing existing monopoly power. As John Bates Clark explains:

> While a patent may sometimes sustain a powerful monopoly it may also afford the best means of breaking one up. Often have small producers, by the use of patented machinery, trenched steadily on the business of great combinations, till they themselves became great producers, secure in the possession of a large field and abundant profit.[21]

Without a patent system, an inventor could prevent others from copying his inventions only by maintaining them in secrecy. While it is usually difficult to keep industrial secrets, an attempt would have to be made if the invention were important. Serious difficulties have been foreseen in the use of trade secrets instead of patents. For example, one writer has said:

> Without patents, new developments would be engulfed in a morass of secrecy, and channels of scientific information would be closed. Research activities would be stifled and inventions, in many instances would not reach a full state of development. Businesses would not be born and older businesses would not expand and prosper. Research laboratories would not come into being, let alone expand to major size.[22]

Besides the loss of research projects which would not be undertaken because of the difficulty of maintaining secrecy, the economy would also lose the benefits of the wide, early dissemination of research information, which often sparks further invention in the minds of others.[23]

Another, sometimes overlooked, advantage of a patent system is the incentive effect occurring when one company in a highly competitive industry obtains an advanced patent. This effect was pointed out in *Chicago Steel Foundry Co.* v. *Burnside Steel Foundry Co.*:

> To illustrate, an inventor brings forth an apparatus which is better and made at less cost than anything heretofore known or used in this field. All competitors are threatened with loss and perhaps ruin if

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[21]Clark, John B., *Essentials of Economic Theory* (1927), at 367.
[22]Carr, Richard F., 42 *JPOS* 296, (May, 1960), at 322.
[23]Frost, Note 20, *supra,* at 14.

> an equally good product is not made and sold at prices which meet the new patented product. At once, the inventive and creative talents of the competitors are aroused. They are spurred to their best efforts to produce, not merely as good but a better product, by a new, non-infringing method or apparatus. Thus, instead of displaying monopolistic traits the patent fosters competition among inventors and begets new and better products at lesser costs. As a result, the public is the beneficiary.[24]

Thus, the patent system provides an incentive towards development which would be entirely non-existent in the absence of the system. The result is often superior products which would not otherwise have been developed.[25]

Ideally, then, a patent system will promote progress by giving an incentive to inventors through the limited monopoly reward, by encouraging the extension of venture capital to the development of new ideas, by eliminating the need for most industrial secrecy and by encouraging attempts to "design around" existing patents.

Our present system is, categorically, an "examination" system; that is, one in which the grant of a patent will be denied if, upon examination in terms of the prior art, the application is found to lack novelty or invention. The other general patent system, in use in several countries, is the "registration" system, in which patents are granted upon the fulfillment of certain merely formal requirements. The registration system is administratively the least expensive but may burden the economy with the cost of exclusive rights being exercised for many inventions which, upon examination, would have been found unpatentable.[26] Also, much of the burden which would be on the Patent Office in an examination system would be put on the courts by an examination system, since even basic validity would be only determinable in court.

Proposals have often been made[27] that the government grant prizes or bonuses to inventors in place of the patent monopoly. However, such a system would not be permissible within the patent clause of the Constitution, which restricts the "reward" to a limited monopoly. A similar bonus system is used by some large corporations where, by contractual agreement, the employee-inventor must assign his inventions arising out of his employment to the corporation. There, the inventor is given a bonus for inventive achievement according to

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[24]56 *United States Patents Quarterly* 283, at 285.

[25]Barnes, Carl E., "The Patent System From an Inventor's Point of View," *PTC J. Res. & Ed. (IDEA)* 5 No. 1 (Spring, 1961), at 66.

[26]Machlup, Note 7, *supra,* at 8.

[27]Machlup, Note 7, *supra,* at 15.

the value of his inventions to the corporation. Such a system, however, seems entirely unworkable on a national scale.

Our patent system has remained basically unchanged for over 175 years. During that time the nation has changed drastically. The system was originally designed to reward the individual inventor. While the lone inventor has not died out entirely, creative effort by single independent inventors has been largely superseded by group collaboration.[28] Today, great corporations hold vast numbers of patents.[29] While the facts that the economy and inventors as a class have changed greatly while the patent system has not, taken alone, do not prove that the present patent system is obsolescent, they do raise an inference that the patent system may be due for modernization.

An effective patent system, as a promoter of progress, is as desirable today as it was in 1790. That an efficient patent system is beneficial to the nation as a whole is generally conceded. The system is functioning reasonably well today, and may even be gradually improving.[30] However, in several areas the system is not performing well. The following sections discuss these problem areas and suggest possible solutions.

Excessive Delay in Patent Prosecution

> Now here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!
>
> The White Queen[31]

Criticism of the patent system is abundant. Most specific critical comments relate to procedural matters, such as delays, complex procedure, special rules, etc. Criticism is to be expected, of course, for even if the system were perfect special interest groups would criticize the absence of specific imperfections which would favor their interests. For example, while delays in the grant of patents are generally objectionable, some applicants desire delay in specific instances to permit the commercial development of a new product before the patent is issued, effectively extending their monopoly. This is not to suggest

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[28]Bush, Note 17, *supra*, at 5.

[29]Federico, P. J., "Distribution of Patents Issued to Corporations 1939-1955," Study No. 3 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fourth Congress, Second Session, (1957) at 19. For example, in 1955, General Electric held 10,747 patents and 38 corporations had over 1000 patents each.

[30]Sanders, Barkev S., "The Upgrading of Patented Inventions and Their Use Here and Abroad," *PTC J. Res. & Ed. (IDEA)* 7 No. 1 (Spring, 1963), at 46.

[31]Carroll, Lewis (Charles Lutwidge Dodgson), *Alice's Adventures in Wonderland*, Chapter 2.

that the present system is without fault, but only to remind that criticism should itself be examined critically.

Critical comments have been most often directed to certain elements of the system, rather than to the system as a whole. Those who object to the system as a whole generally do so on the basis that it is failing to perform its intended function, rather than arguing that patents are themselves bad and should be eliminated altogether.[32] One writer argues that the patent system does not keep pace with industrial progress, as evidenced by the fact that entries in Chemical Abstracts are increasing much more rapidly than are patents issued.[33]

The length of the period between filing a patent application and obtaining a patent has been most frequently criticized. The length of this period is generally in proportion to the size of the "backlog" of patent applications pending before the Patent Office. This "backlog" consists of all applications awaiting action by an Examiner and all applications which have been acted on and are awaiting a response from the applicant. For as long as can be remembered, the backlog has been called excessively large. Since applications are generally considered by the Examiner in the order filed, the larger the backlog the greater the period between filing an application and receiving a patent.

Not only is there a large backlog of applications undergoing examination, but there are also backlogs in cases pending before the Board of Appeals (though a significant reduction in the Board's backlog has been made in recent years)[34] and in classes and references awaiting reclassification.

Today, the backlog of pending applications stands at over 204,000.[35] The wait for an action on a newly filed application may be up to 25 months.[36] The problem of the ever-increasing backlog and resulting delays has plagued the Patent Office for many years.[37] Temporary decreases in the backlog have been made at times through such ex-

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[32]Melman, Seymour, "The Impact of the Patent System on Research," Study No. 11 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fifth Congress, Second Session (1958), at 24.

[33]Thomas, Edward, "What the Patent System Should Be Doing," 33 *JPOS* 551 at 551.

[34]"Annual Report of the Commissioner of Patents, Fiscal Year 1963," 45 *JPOS* 807, (December, 1963), at 809.

[35]*Official Gazette of the United States Patent Office,* Vol. 800, No. 4, (March 24, 1964)

[36]*Ibid.* The date of the oldest pending new application was March 1, 1962, and of the oldest pending amended case was February 2, 1962, as of March 24, 1964.

[37]Westerman, George F., "A Common Patent in the Common Market," 44 *JPOS* 444 (July, 1962), at 458.

pedients as increasing the size of the examining corps, changing details of examination procedure and reorganizing the arrangement of the classes and personnel. These have been mere stop-gap measures and have, at most, slowed the growth of the backlog.

The size of the backlog has long been criticized. As far back as December 21, 1848, the House of Representatives ordered the Committee on Patents to investigate the delay in examining patent applications.[38] In 1921, it was observed that:

> . . . the total number of applications awaiting action . . . was 55,969 . . . an awful condition since no application is acted on except in its numerical order and thus 55,000 inventors are held up, causing a great loss and hardship. This condition must be remedied.[39]

Then, as the backlog continued its gradual increase, it was said:

> . . . the backlog of the Patent Office is greater than ever before, and is growing like a vigorous banyan tree. . . . the situation is one of critical emergency. . . . it cannot be permitted to continue very long without a breakdown.[40]

A still more recent observer, in 1959, warned:

> Hampered by limited budgets, the Patent Office gradually dropped behind in its consideration of patent applications until recently an average of three and one-half years passed between time of application for patent and the ultimate determination regarding its issuance or rejection. This kind of delay not only has decreased the patents issued during any year but acts to deter inventors from making application for patent. Long postponement of patent protection in some instances can be disasterous in a rapidly progressing technology.[41]

Although the backlog has existed for many years without destroying the patent system, clearly the situation is bad and getting worse as the backlog continues to increase in size, increasing correspondingly the delay attendant to obtaining a patent.[42]

There are advantages to maintaining a reasonable, limited, backlog. For example, in the summer when many Examiners take extended vacations, the backlog may build up, to be reduced during the "full production" winter months. Also, if the Patent Office were entirely cur-

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[38]Conway, Margaret M., "Expedition Patent Office Procedure—A Legislative History," Study No. 23 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-sixth Congress, Second Session (1960), at 4.

[39]Howard, Thomas, "Protection of Inventions," 13 *JPOS* 126 (October, 1921), at 127.

[40]Davis, William H., "Proposed Modifications in the Patent System," 12 *Law and Contemporary Problems* 796, at 798, 799.

[41]Carr, Note 22 *supra*, at 312.

[42]Herrman, David, "Four Vital Services," 30 *JPOS* 13 (January, 1948), at 13: "The tremendous load which confronts the Patent Office requires that immediate steps should be taken to effect increased output."

rent, still those Examiners in rapidly developing technologies would be receiving an increasing number of applications, while other Examiners in "dying" arts would gradually have less to do. A reasonable backlog allows the Office administration to adjust examiner distribution and art dockets more gradually and over a longer period of time.

However, when the backlog grows to the extent that it causes great delays in the examination and ultimate granting of patents, it is detrimental to the patent system and to the national economy. This long delay has been cited as the greatest fault of the present patent system.[43]

One result of the delay in processing patent applications is the collateral delay in the disclosure of new ideas through the published patent disclosure. In rapidly developing industries the disclosure of one new idea often suggests further improvements to others. This "intellectual seeding" is delayed when patents are delayed. While there is a trend today to disclose the subject matter of one's own pending patent applications before the patent is granted,[44] the detrimental effect of the delay remains in other cases.

Inordinate delay in the granting of a patent may also have the effect of extending the patent monopoly, since the patent term dates from the date the patent is issued and published. Thus, the date on which the general public learns of the invention and of the patentee's rights is greatly delayed, as is the ultimate date on which the patent expires and becomes open to everyone. Today, the average patent is issued after 3½ years before the Patent Office.[45] But some patents, which have been involved in extensive interference or appeal proceedings, have been before the Patent Office for as many as 36 years, extending the total life of the patent for up to 53 years.[46]

The long delay is generally more harmful to the independent inventor than to the large research oriented corporation. A single patent might be the basis for an entire new business for an inventor. But it

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[43]Spencer, Richard, *The United States Patent Law System With A Complete Program for Its Simplification and Improvement,* Chicago, Calloghan & Co., 1931, at 56: "The greatest thorn in the patent system and the sector which is bombarded with the most censure and animadversion consists in the inordinate delay which attends the issuance of many, if not most, patents."

[44]Bush, note 17 *supra,* at 7.

[45]Carr, Note 22 *supra,* at 311.

[46]Examples of important patents on which the application had been pending for extremely long periods include the Gubelmann (cash register) patent, 26 years pendency; the Fritts (photographic sound recording) patent, 36 years pendency; the Jorgenson (automatic choke) patent, issued in 1955 after 23 years pendency. Machlup, Note 7 *supra,* at 10.

is often very difficult to interest capital in the invention until the patent on it issues.[47] A basement inventor existing on a "shoestring" can be badly overextended in the three or more years usually necessary to obtain a patent today.

At times, the inventor may find delay beneficial and attempt to prolong pendency as long as possible. For example, if an invention is too advanced and needs either extensive developmental work or requires materials not yet available, the inventor would prefer that the patent not issue until the invention had become commercially useful. While delays in such cases may help the inventor, they harm the public in that the disclosure of the invention as an incentive to further invention is delayed and the period before the invention passes into the public domain is extended. Some of the methods used to delay the issuance of a patent have been listed by Fritz Machlup, who said:

> Patentees may succeed in extending the time period of control (a) through procedural devices, especially through delays in the pendency of the patent between application and issuance; (b) through secret use of the invention prior to application . . . (c) through the successive patenting of strategic improvements . . . .[48]

An applicant can easily delay the grant of a patent. For example, he can prosecute an application until some claims are allowed, then file a continuing application and abandon the original application. Or, he may file his application with claims to more than one "invention", such as claims to both product and process for making it. If restriction between them is required, he may elect to prosecute the least valuable form. Finally, when that application is given final action, either allowance or final rejection, he can begin the prosecution of the more important version of his invention. Also, where specific claims have been allowed, he can appeal the rejection of unduly broad claims through the Board of Appeals and the courts, greatly delaying the final issuance of the specific claims. While these and other deliberate delaying tactics are in bad faith and, in an aggravated case, might constitute a fraud on the Patent Office, little can be done to prevent undue delay since proof would be very difficult and no preventive procedure or penalty exists.

One cause of the large backlog, and the resulting delay in patent examination, is said to be the large number of "defensive" applications which must be examined like any other. A "defensive" application is one which is filed, not because the applicant believes the invention to be a significant advance in the art of any ultimate positive value, but

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[47]Note 34 *supra*, at 38.

[48]Machlup, Note 7 *supra*, at 10, 11.

rather out of fear that if a patent is not secured, someone else may later obtain a patent on the same subject matter and enforce the monopoly against the original inventor. Many of these defensive applications are of marginal novelty and invention.[49] It is sometimes argued that the Patent Office has a low and inconsistent standard of patentability and that even though the applicant feels that the invention may be only an obvious advance demonstrating merely ordinary mechanical skill, yet an application must be filed on the chance that someone else might patent it.[50] As many as one third of the applications filed have been said to be defensive in nature.[51] Most of the applications assigned to the United States Government,[52] which are licensed freely without royalty, are defensive, as are many held by corporations. Obviously, if all defensive applications could be eliminated, the time ordinarily spent examining them could be utilized in reducing the backlog and in better examining the remaining, more important applications.

For a short period, beginning in 1949, the Patent Office printed abstracts of abandoned applications at the applicant's request. The hope was that defensive applications would be abandoned and published without complete examination. However, the program never worked effectively and was soon dropped.[53] Few applicants requested publication of the abandoned applications and legal questions as to the propriety and effect of the published abstracts arose. One difficulty in this program was that the effective date of the abstract was held to be the date of publication, although if it had been prosecuted to issuance as a patent, the effective date could be brought back to the date of conception of the invention. Thus, in a later controversy over

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[49]Vaughn, Floyd L., *The United States Patent System,* University of Oklahoma Press (1956), at 299.

[50]Levy, Maurice W., "Offensive Defensive Applications," 39 *JPOS* 159 (March, 1957), at 161.

[51]"[speaking of 'defensive' applications] Applications of this type tend from their very nature to lie in the vague and misty borderland between patentable invention and unpatentable application of mere mechanical skill, so that the patents issued on these applications are peculiarly likely to be of the type that never should be issued by the Patent Office at all." Davis, Note 40 *supra,* at 800.

[52]"The main, if not the sole, purpose of any proprietary interest of the Government in patents has been one of protection against interference with the performance of governmental functions." "Government-Owned Patents and Inventions of Government Employees and Contractors," Second Report of the National Patent Planning Commission, 27 *JPOS* 76 (1945), at 78.

[53]See "Abstracts of Abandoned Applications Should Be Discontinued," 34 *JPOS* 695 (1952) and "Publishing Abstracts of Abandoned Applications," 34 *JPOS* 690 (1952).

priority of invention, the holder of a defensive patent was in a much better position than was the holder of the published abandoned application. Suggestions have been made that the publication program be reinstated, with the holder of the abandoned application to be given the same rights as a patentee to go back to his date of conception.[54] However, where the publication is optional, it is likely that many, if not most, applicants will prefer to obtain a defensive patent, and if unable to do so, then will try to keep the invention secret. Recently, a new program of printing abstracts of abandoned applications was begun. How useful this will be remains to be seen.

To effectively eliminate defensive patent applications, some way must be found to give the applicant something of equal value, but at a lower cost to the Patent Office in examination time expended.

The high rate of turnover within the examining corps has long been an indirect cause of delay in patent prosecution. High turnover results in the maintenance of a high proportion of inexperienced Examiners with lower production capabilities coupled with the loss of time to experienced Examiners who must closely supervise and instruct the inexperienced men. Many new Examiners attend evening law school and upon graduation leave to enter law firms and corporate patent departments. This continuing drain on the examining corps of Examiners who have just become experienced and effective has probably existed for as long as the patent system.[55] The reasons Examiners leave the Patent Office are many and varied. Major reasons include higher pay, greater opportunity for ultimate advancement, better working conditions, and greater "status". The crowded and generally poor working conditions in Examining groups and/or divisions has been regularly criticized over the past 60 years.[56] While increases in salaries and improvements in the working conditions would probably reduce the turnover, likely it can never be entirely eliminated. The Patent Office does benefit to an extent from the turnover in that it produces patent attorneys familiar with Patent Office procedures.[57]

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[54]Ericson, William L. and Freedman, Irving M., 26 *George Washington University Law Review* 78 (October, 1957), at 78.

[55]Edward, Victor L., "Patent Office Fees—A Legislative History," Study No. 13 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fifth Congress, Second Session (1958), at 5.

[56]"Investigation of the United States Patent Office," President's Commission on Economy and Efficiency, House Document No. 1110, Sixty-second Congress, Third Session (1912), at 12 and 149.

[57]"Many examiners, at the time of completion of their law study, leave the Patent Office to work as patent attorneys or patent agents in private practice or with a corporation, as the remuneration is greater than in the Patent Office. The

Proper preparation and prosecution of applications can save a great deal of time for the Examiner in his consideration of the cases.

There are other areas in the patent system in which unnecessary and detrimental delays exist. While these delays do not directly concern the operation of the Patent Office, they are harmful to the patent system generally.

Like litigation in other areas, patent litigation is often protracted and complex. In addition to legal complexities, patent litigation is subject to technological complexities inherent in the subject matter of patents.[58] Patent litigation is further complicated by the fact that the validity of a patent declared valid or invalid in one circuit may be relitigated in other circuits. As Judge Schnackenberg said in *Aghnides* v. *Holden*,[59]

> Aghnides may litigate and relitigate again and again the question of validity of his patent as long as he selects a different defendant in each of the infringement suits which he files, thus avoiding the wholesome doctrine of res adjudicata. This queer result is one which we are unable to avoid. It is a situation which is particularly abhorrent when considered against the backlog of untried cases which clog our Federal courts. The latter are cases where the litigant asks only for his day in court, not a plurality of days in court as Aghnides is entitled to under existing law.

The time necessary for an Examiner to search the prior art with respect to each pending application has a direct bearing on the number of cases he can process. If the prior art is properly subdivided in an effective classification system, the Examiner need only search a few

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Office loses many assistant examiners as soon as they have become experienced and competent in their work. The Office thus acts as a training school for patent attorneys and agents. This function of the Office is inescapable and while it is of immediate disadvantage to the progress of work in the Office, it is of long-range benefit to the patent system, as it provides capable practitioners familiar with Patent Office procedure. This advantage provides some compensation for the loss suffered through separation of trained, competent personnel." Geniesse, Note 16 *supra*, at 8.

[58]"Most of the delays in patent litigation arise from substantially the same causes as in other protracted and complex litigation. The failure to exercise restraint in discovery procedures, the reluctance of counsel to simplify the issues by voluntary agreements or stipulations, the absence of procedures for the effective handling of masses of documentary evidence, the delays inherent in present methods of presenting proof of complex economic and technical facts, and other related problems of the 'big case' are not unique to patent litigation. Thus, any appreciable amelioration will have to come through general improvements in the administration of justice, both in the pretrial and trial stages." Osswald, Jack, "An Analysis of Patent Litigation Statistics," Staff Report of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-sixth Congress, Second Session, (1961), at 2.

[59]226 F2d 949 (7th Cir. 1955).

pertinent subclasses to find all applicable art. However, where the classification system is far out of date, he must search many unduly large subclasses. Even then, he cannot be reasonably certain that the classification system as it has grown without guidance over the years has resulted in the placement of all similar patents in the same place. It is important that the Examiner have a modern, up to date, classification system as a tool in the examination of patent applications.[60]

The present classification system is far from perfect. Many areas badly need reclassification. For example, such important subjects as Optics and Photography have not been reclassified since 1902.[61] Oversize subclasses have been subdivided by the Examiners on a haphazard basis. Digests, often incomplete, have been established to include patents in newly developing areas. The growth of the classification system has been well characterized as:

> . . . the system of classification now in use has developed in a way that makes the growing up of Topsy seem a model of planned and logical precision.[62]

The Office of Patent Classification is attempting to establish entirely new classification systems for the oldest and/or most rapidly developing classes and arts. However, over the last four years, new classes including only 181,910 original patents have been established, during which period 202,567 patents were issued. Thus, the reclassification effort is unable to even keep up with the rate of granting of new patents, much less improve the system overall. As long ago as 1955 it was estimated that over a million items of backlog awaited reclassification, which would require over two thousand man-years to accomplish.[64] It seems obvious that a much greater effort must be made if a truly modern and efficient system of classification of the prior art in the Patent Office is to be developed. The price of the present obsolescent system is not only time wasted by Examiners in making unnecessarily long searches, but also the increased chance of missing pertinent references and the resulting detrimental effect on patent validity.

Many factors contribute to the present harmful delay between the

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[60]Frost, Note 20 *supra*, at 61.

[61]*Manual for the Classification of Patents*, Government Printing Office, 1962

[62]Weaver, Warren, "The Patent Office Problem," 37 *JPOS* 613 (September, 1955), at 620.

[63]Note 34 *supra*, at 819.

[64]Weaver, Note 62 *supra*, at 621: "In the terminology of modern communications theory, in which a 'bit' of information is the basic unit (essentially the answer to a single 'yes-no' question) the total amount of information which must today be dealt with in the Patent Office has been estimated to be of the order of 50 billion bits."

filing of a patent application and final disposal of the application, either by issuance of a patent or abandonment of the application. The major cause is, of course, the huge backlog of pending applications. Contributing causes include the large number of "defensive" applications before the Examiners, the high rate of turnover in the examining corps, the obsolescence of the patent classification system and the desire of applicants in certain cases to delay prosecution of their applications.

Increasing Quantity and Complexity of Technological Information

> An expert is one who knows more and more about less and less.
> Nicholas Murray Butler[65]

As modern research continues to produce more information of ever greater complexity it becomes ever more difficult for anyone to be an "expert in the art". Thus the difficulties of, and time consumed in, searching the prior art and applying it to an application are great and becoming greater. Modern technology is producing more and more complex inventions, especially in the fields of chemical compounds and electronics. If patents granted are to be valid, it is necessary that the Examiner fully comprehend the invention, understand where to look for prior art, have that art available, and be able to properly evaluate the invention in comparison to the art.

Besides the high technological difficulty of modern developments, the shear size of the existing body of prior art makes any search for claimed details complex and time consuming. The body of prior art today includes over 3,126,000 United States patents.[66] These patents are, on the average, each cross-referenced twice, adding over 6,000,000 more documents. The Patent Office receives patent copies from 25 countries, resulting in about 7,317,000 additional documents.[67] These documents are classified in a system of over 300 classes and over 30,000 subclasses. Besides these patent copies, the prior art includes all matter published anywhere in the world, mainly that published in scientific periodicals, industrial journals and technical abstracts.

Difficulties in searching the very large number of classified documents is made more difficult by the fact that many of the established classes are far out of date. Necessary patents may be missing from the files because other Examiners are then using them, or they have been misplaced. Patents issued in other classes may not have been properly

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[65]Commencement address, Columbia University.
[66]*Official Gazette*, Note 35 *supra*.
[67]As of February 29, 1964.

cross-referenced. Foreign patents are not generally translated[68] and are, therefore, of less use to most Examiners, especially if they have no drawing and are in one of the less widely known languages. The problems in searching publications is even greater. Although Examiners often place photo copies of especially useful articles in the patent files with corresponding patents, the publications themselves are not generally available in the examining areas. The publications kept in the Scientific Library are indexed according to library rather than patent classification practice. Searches in the Library are difficult and time consuming. Furthermore, the Library receives only a fraction of the available technical periodicals. In 1957, the Library was receiving only 1,700 of the over 36,000 titles in the World List of Scientific Periodicals.[69] Since Examiners must meet production standards, truly exhaustive searches are impossible in practice. The best that can be done today is a "reasonably complete" search, such that the possibility of missing a pertinent reference is not "too" great. Obviously, obscure references will at times be overlooked, casting doubt on the validity of the patent against which it was not cited though applicable.

Besides the difficulties caused by the extent and complexity of the prior art, there are problems created by the increasing complexity of Patent Office procedure. Patent applications have been characterized as one of the most difficult legal documents to prepare.[70] Former Commissioner of Patents David L. Ladd has said:

> Unless we can find ways of simplifying the examination and adjudication of patent applications in the Patent Office, there is grave doubt that we can continue for long to enjoy the advantages of an examination system.[71]

The problems incident to the examination of patent applications under the burden of modern technological growth and complexity are not unique to our system. The world's other examining patent systems have similar problems.[72]

Probably the most complex and unique proceeding in our Patent

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[68]However, a translated abstract is now attached to each German, Russian and Japanese patent in the Examiners' files. Also, one claim of certain Scandinavian patents is translated and written thereon. A further program of translating abstracts of foreign patents would be helpful to the Examiners.

[69]"Patents, Trademorks, and Copyrights," Report of the Committee on the Judiciary, United States Senate, Eighty-fifth Congress, First Session (1957), at 16.

[70]Machlup, Note 9 *supra,* at preface viii.

[71]Remarks at a meeting of the Minnesota Patent Law Association, April 28, 1961, printed in the *American Patent Law Association Bulletin,* June, 1961, at 264.

[72]Grant, Gordon, "Towards a Common Patent," *European Free Trade Association Bulletin* (April, 1962), at 7.

Office occurs when two or more applicants are found to be claiming the same invention and an "interference" is declared. Ours and Canada's are the only systems in which the question of priority among claimants of a single invention is adjudicated within the Patent Office.[73] In most other countries, the first party to file an application is presumed to be the first inventor. Anyone filing later must go to court after the first applicant's patent issues to have the question of priority determined. Our unique interference practice is not new in our system, having been provided for in the act of February 21, 1793.[74] Interference procedure is far from simple, it having been said that:

> . . . the conduct of a Patent Office interference—with the effective handling of the preliminary statement, the motion period, testimony, and final hearing—ranks with the most complicated of litigation in terms of demands for the careful marshaling of facts, intensive study and planning, and skill in execution.[75]

Interference procedure has been criticized as overly complex as early as 1912.[76] Recently, recommendations have been made that a study of interference procedure be made with proposals toward its simplification.[77] Any party forced to fight through a succession of interference proceedings pays heavily in delay and legal expenses.[78]

The problems created by the ever increasing complexity of modern technology, of the body of existing knowledge, and of patent procedure, can probably never be entirely eliminated. Searches of the prior art must continue to grow longer and more difficult. However, an effort must be made to simplify where possible, and to compensate for the trends towards complexity as much as possible.

Patent Validity

> . . . I doubt that the remedy for such Patent Office passion for granting patents is an equally strong passion in this Court for striking them down so that the only patent that is valid is one which this Court has not been able to get its hands on.
>
> Mr. Justice Jackson[79]

The final product of the Patent Office should not merely be patents, but should be *valid* patents. A truly valid patent is one which would be upheld if the question of its validity ever reached the Supreme

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[73]With the possible exception of Canada, which has a somewhat similar "conflict" system.

[74]1 Stat. 318

[75]Frost, Note 20 *supra,* at 45, 46.

[76]Note 56, *supra.*

[77]De Simone, Daniel V., Gambrell, James B., and Gareau, Charles F., "Characteristics of Interference Practice," 45 *JPOS* 503, at 504.

[78]Conway, Note 38 *supra,* at 13.

[79]Dissent, Jungerson v. Ostby & Barton Co., 335 US 560 at 572 (1949).

Court of the United States. Patents as issued are presumptively valid.[80] However, some writers find that a "distressingly" large number of the patents which become involved in litigation are declared invalid. During the period 1948-1958, the 86 Federal district courts found patents valid in 419 cases and invalid in 525.[81] Thus, over half of the litigated patents were found invalid.

While a high proportion of the litigated patents were found invalid, the number litigated was very small when compared to the number of patents granted. As of January 6, 1959, there were 596,296 unexpired, presumptively valid, patents in existence. It has been estimated that between 150,000 and 300,000 of those patents were being utilized.[82] Thus, only a small fraction, less than one percent, of the commercially important patents were litigated. It is to be expected that only the shakiest patents would be contested. Of course, some probably invalid patents may not be attacked because of interference compromise agreements, licensing agreements and the high cost of litigation.[83]

A patent may be found invalid either because the court applies a higher standard of patentability than did the Patent Office, or because some ground for denying the patent was overlooked by the Patent Office.

Just what constitutes "invention" has never been exactly established. Our original patent statute, in 1790, mentioned invention as a substantive concept, but did not define it.[84] Since then a general test—what would be "unobvious to a man skilled in the art"—has developed. When, in *Cuno Engineering Co.* v. *Automatic Devices Co.*[85] the court said,

> . . . the new device, however useful it may be, must reveal the flash of creative genius, not merely the skill of the calling. If it fails, it has not established its right to a private grant on the public domain,

it was widely thought that the Supreme Court was raising the standard of invention. However, later decisions and the 1952 Patent Code[86] have apparently returned to the standard of the "man skilled in the art". As early as 1941, it was proposed that Congress declare a national

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[80]"A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on the party asserting it." Title 35, United States Code, Section 282.

[81]Note 58 *supra,* at 21.

[82]Geniesse, Note 16 *supra,* at 37.

[83]Vaughn, Note 49 *supra,* at 200-209.

[84]1 Stat. 109. See Federico, P. J., "Operation of the Patent Act of 1790," 18 *JPOS* 237 (1936).

[85]314 US 84 (1941).

[86]Title 35, United States Code, Sections 102 and 103.

standard of patentability based on objective tests.[87] However, probably since the standard is inherently subjective rather than objective, there was no attempt to so establish a standard in the 1952 Patent Code. So, the standard remains somewhat indefinite and difficult in application. As Judge Learned Hand said, ". . . [invention] is . . . as fugitive, impalpable, wayward, and vague a phantom as exists in the whole paraphernalia of legal concepts".[88]

Occasional differences of opinion as to patentability are to be expected among the courts and between the Patent Office and the courts. Some writers assert that the Patent Office regularly applies a lower standard than do the courts.[89] Others contend that, although the Patent Office standard may be lower than that of the courts, it should not be raised so as to eliminate patents on "gadgets" which are commercially valuable and deserving of protection.[90] Occasionally, it is even suggested that the requirement of "invention" in a patent application be eliminated, that mere novelty should be sufficient basis for a patent.[91] Probably everyone has an opinion as to just what constitutes invention. As Humpty-Dumpty said in "Alice's Adventures in Wonderland", "When I use a word, it means just what I choose it to mean—neither more nor less". Whatever the concept is defined as, apparently the Patent Office applies a standard acceptable to the courts in the majority of cases. Where a lower standard is applied, it is likely to be inadvertent rather than intentional.

The problems in applying a subjective standard of invention are pointed up by the number of inconsistent decisions rendered on the same patent by various courts. For example, every patent which has been found invalid by the Supreme Court during the last 20 years had been previously held valid by at least one judge in a district or higher court. In many recent cases the Court of Customs and Patent Appeals and the Court of Appeals for the District of Columbia Circuit have been unable to agree as to the validity of particular patents.[92] It neces-

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[87]Edwards, Victor L., "Efforts to Establish a Statutory Standard of Invention," Study No. 7 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fifth Congress, First Session (1958).

[88]Harris v. Air King Products, 183 F 2d 158 (2nd Cir. 1950), at 162.

[89]Kenyon, W. Houston, "Sore Spots in the Patent System," 24 *JPOS* 458 (July, 1942), at 468.

[90]Brand, A. Arnold, "If No Patent Laws," 34 *PJOS* 449 (June, 1952), at 449.

[91]Stedman, John C., "Inventions and Public Policy," 12 *Law and Contemporary Problems* 549, at 658.

[92]Roeming, George C., "Court Decisions as Guides to the Patent Office," Study No. 25 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-sixth Congress, Second Session (1960), at 2.

sarily follows that decisions of the Patent Office as to patentability must at times be inconsistent with the standard of *some* court.

However, in most of the cases in which patents have been declared invalid, the holding was based on matter not considered by the Patent Office, rather than on a different interpretation of the same material. In one statistical study,[93] it was found that of 50 consecutive patents which had been declared invalid, the holding was based at least in part on the ground of lack of invention or anticipation in 46 cases. Of these, in at least 30 cases, new references which had not been cited by the Examiner were applied by the court. In only 11 cases were patents held invalid over prior patents which had been cited by the Examiner and over which he had allowed the claims.

There are many ways in which a pertinent reference may be overlooked by the Examiner. The Examiner may have considered the reference, but not cited it as not sufficiently applicable to the claimed invention. Or, the Examiner may have made an incomplete search or not searched the proper subclasses. The reference may have been missing from the files when the search was made. The reference may not have been correctly classified, and so not found in a search of the appropriate subclasses. Many foreign patents are overlooked because translations are not available and the Examiner cannot read the particular language involved. Not all foreign patents, and obviously not all publications in languages other than English are available to the Examiner. The search made by the Examiner is necessarily of limited scope. Eugene W. Geniesse, a former supervisory Examiner, summarized the conflicting requirements of the Examiner's search in saying:

> The search of the prior art involves matters of judgment on the part of the examiner. This judgment can only come with experience. The competent examiner invariably feels that the search is inadequate if nothing related to the application has been discovered. On the other hand, the Office cannot undertake what has become known as a "validity" search. In the "validity search" on a granted patent an alleged infringer may undertake a search of several weeks' duration, including an inspection of every possible publication, however remote, from any country in the world, at the cost of many thousands of dollars. This the assistant examiner cannot do. Having due regard to the press of work and other applications awaiting examination, he must limit his search to what his judgment and experience suggest might be significant fields.[94]

The most common basis for holding patents invalid has been the existence of pertinent art not cited, and presumptively not considered,

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[93]*Ibid.* at 8, 9.

[94]Geniesse, Note 16 *supra,* at 14.

by the Examiner who issued the patent. This problem could be alleviated by any procedure bringing pertinent art to his attention.

The Proposals

Development of the European Patent Convention

> There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success then to take the lead in the introduction of a new order of things.
>
> Niccolo Machiavelli[95]

There has been a long and largely unsuccessful history of attempts to form multi-national patent systems. While many international agreements have been adopted by groups of nations, none have gone beyond procedural problems and details.

The first truly international agreement on patent matters was the International Union for the Protection of Industrial Property (Paris, 1883),[96] which is still in force today in amended form.[97] Today, over 50 nations, including the United States and all major European nations, are signatories of the Paris Union, which has been called, ". . . one of the most successful international conventions ever concluded among a large number of nations".[98] Major provisions of the Paris Union include those requiring that each member nation give foreign nationals rights in certain patent matters equal to those given citizens, and those which grant priority to the date of the first applicaion filed in a member nation's Patent Office. Since then, several minor conventions have been ratified by varying numbers of nations.

Recently, several preliminary agreements have been reached among the nations of the European Economic Community which could lead to the establishment of an effective European Patent Office. These early conventions deal with the establishment of a single multi-national search organization, the harmonization of national classification systems and formal matters.[99] While none of these conventions is of basic importance, they form a useful prelude to later harmonization of substantive patent law.[100]

The idea of a multi-national patent system is not new. In 1834 a

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[95]*The Prince,* Chapter 6.

[96]Generally referred to as either the "Paris Union" or the "Paris Convention". Hereinafter called the "Paris Union."

[97]775 OG 337, (1962).

[98]Neumeyer, Fredrik, "Compulsory Licensing of Parents Under Some Non-American Systems," Study No. 19 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fifth Congress, Second Session (1959), at 10.

[99]Mellor, Michael N., "Toward a Multinational Patent System," 44 *JPOS* 227 (April, 1962), at 231.

[100]Goldsmith, S. Delalle, and Burnside, Michael, "Harmonization of European Patent Laws," 46 *JPOS* 48, (January 1964), at 52, 53.

central patent office with supranational powers replaced the corresponding national organizations in the German states which established the Zollverein.[101] In 1909, Du Bois-Raymond of Germany suggested a world-wide patent. During World War I, the allies discussed the possibility of multi-national patents. Also during that war, uncompleted steps were taken toward a common German-Austrian patent.[102] An "arrangement" for an international patent was actually signed on November 15, 1920, by eleven countries, but was never effective, at least partially because the United States and Great Britain did not join and Germany was excluded.[103] During the second World War, the possibility of a single patent throughout German occupied Europe was discussed in Germany. In 1946 Kucera of Czechoslovakia, in 1949 Longchambon of France, in 1951 Reimer of Germany and in 1954 de Haan of the Netherlands offered proposals towards a European patent. While none of these proposals were adopted, they did lay a foundation for the present draft convention under the European Economic Community.[104]

Thus, those drafting the new patent convention had the experience and prior proposals of many early workers to draw upon.

The development of the present proposal began at a meeting of the Commission of the European Economic Community on November 19, 1959.[105] At that meeting a Coordinating Committee on Industrial Property was created, chaired by Guilaume Finness, French Director of Industrial Property. Three "working groups" were established, one for patents, one for trademarks and one for designs. The working group for patents was placed under the chairmanship of Dr. K. W. Haertel of the German Ministry of Justice. Each working group was directed to prepare a draft of a convention which would be separate from, but cooperate with, the Treaty of Rome.[106]

The working group for patents began preparing a draft convention in December of 1960. Rapid progress was made and in the fall of 1962 a first draft of the proposed patent convention was published. This draft was officially published in German, French, Dutch and Italian

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[101]Westerman, Note 37 *supra*, at 447.

[102]Robbins, Leonard J., "The Proposed New European Patent," *PTC J Res. & Ed. (IDEA)* 5 No. 3 (Fall 1961), at 217.

[103]Mellor, Note 99 *supra*, at 234.

[104]Ladas, Stephen P., "Industrial Property," in *American Enterprises in the European Common Market; A Legal Profile*, edited by Stein and Nicholson, University of Michigan Press, Ann Arbor, (1960).

[105]Spencer, Richard, "A European Patent: A New Solution to an Old and Vexing Problem," 48 *American Bar Association Journal* 747, (August 1962), at 751.

[106]The treaty which established the European Economic Community, commonly called the "Common Market."

only. However, an unofficial English translation is available.[107] In the fall of 1963 work began on a revised draft of the convention.[108] Work on the patent convention has progressed much faster than at first was expected. This rapid progress has been explained as due to the non-political nature of patents and the increasing need for improved patent procedure.[109]

The patent experts drafting the convention must produce a system acceptable to countries which now have widely varying systems. The final draft will necessarily be a compromise. However, since none of the present national systems is now coping effectively with such problems as increased complexity and more difficult and extensive search requirements, the experts must attempt to devise new procedures in some areas.[110] For example, it has been predicted that while the examination procedure will probably be a compromise among the present national systems, the standard of invention will probably be raised to the present German level, the highest in Europe.[111] Some of the innovations recommended in the draft are so appealing that they may be adopted by individual nations long before the entire European Patent system is established. The new Dutch patent law, for instance, has incorporated the deferred examination procedure suggested by the draft convention.[112]

The proposed European Patent Convention comprises the only truly intensive, large scale effort in modern times to construct an entirely new patent system. It has been developed by many of the world's leading patent experts to function over an area having a population and industrial community much like those of the United States.[113] There is much to suggest a close look at the proposals as

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[107]"Translation of a Draft Convention Relating to a European Patent Law," Her Majesty's Stationery Office, London, (1962). This translation was prepared by the British Board of Trade. It has been published in 45 *JPOS* 182, (March 1963).

[108]"The Proposed European Patent Law: A Summary Analysis," 45 *JPOS* (March 1963), at 154.

[109]Camp, Miriam, "Britain, the Six and American Policy," 39 *Foreign Affairs* No. 1, (October 1960), at 114.

[110]"Commentary to Proposed Modifications of Dutch Patent Law," 43 *JPOS* 743 (November 1961).

[111]Laude, Kurt E., "A Step Toward a European Patent: The Common Market," 42 *JPOS* 698 (October 1960).

[112]Froschmaier, F., "Draft Convention on Patents in the Common Market," *International and Comparative Law Quarterly*, Supplement, (July 1962), at 57, 58.

[113]For example, the population, exports and steel production for the European Economic Community and the United States are, respectively: 169 and 181 million people, 20.4 and 20.8 billion dollars and 73 and 91 million tons. *European Community: The Facts*, European Community Information Service, Brussels, (September 1962), at 3.

possibly pointing out ways in which our system could be similarly "modernized".

In any proposal to "modernize" our system, care must be taken that we neither change merely for change's sake nor resist change merely through inertia or fear of the uncertain.

We should not exchange our system for another without clear evidence that the new system will be an improvement. As S. Chesterfield Oppenheim points out,

> I do not argue that, because of the interdependence of the free enterprise and the patent systems, this historical development ipso facto supports the latter as a matter of cause and effect. But I do say that before challenging the historical premises of the Patent System, it must be factually demonstrated that, first, it has basic deficiencies and, second, that suggested alternatives give real promise of eliminating them, without unacceptable sacrifices to a workable competitive system and to American technological supremacy.[114]

Rather, we must consider all proposals carefully, balancing the possibility of worsening the situation against the chance of improvement. This balancing of probabilities has been summarized as,

> In considering the administration of the patent law two extremes should be avoided. One is resistance to change simply because it is change. It is surely unsound to insist upon a continuance of time honored patent practices solely because they are traditional. The patent system is too important to a viable research minded competitive order to permit this kind of approach. No matter how radical proposals may be, they should be considered with an open mind. At the other extreme, an attitude of unenlightened criticism is equally unsound. . . . The path of improvement is necessarily controversial and difficult, but if these extremes can be avoided the prospects of useful change consistent with the continued effectiveness of the patent system will be greatly enhanced.[115]

Deferred Examination

Present procedure in our Patent Office is to examine all patent applications in order of effective filing date as to formalities, novelty and invention. Before the patent is granted and published, the claims must meet criteria in each of these three areas.

Instead of immediate full examination, the European Patent Convention proposes a system of "deferred" examination, under which an application is at first examined only as to formal matters. A prior art search is made and the application, together with the results of the search, is published as a "provisional" patent. Only if certain fees

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[114]Oppenheim, S. Chesterfield, "A New Approach to Evaluation of the American Patent System," 33 *JPOS* 555, (August 1951), at 567.

[115]Frost, Note 20 *supra*, at 47.

are paid by an interested party within five years is an examination made as to novelty and invention.[116]

The preliminary examination of a newly filed application goes only to matters of form and to certain matters determinable from the face of the papers. This would include: whether the subject matter of the application is obviously not an invention; whether the application is drawn to excluded subject matter; whether the application is obviously for more than one invention; whether the application obviously fails to comply with the requirements for disclosure or claims. This examination would be only superficial, and that seems to be all that is intended.[117]

If the application does not pass the superficial examination it may be rejected. After such amendments and appeals as are found necessary, if the application is then in order, it will be published as a provisional European Patent.

The European Patent Office will subject the application to full examination as to novelty and invention upon payment of certain fees by any person within five years from the date of publication of the provisional patent.

During the period between the publication of the provisional patent and the full examination, interested parties may submit to the Patent Office reasons why a final patent should not be granted, together with pertinent prior art anticipatory of the invention. These intervention proceedings are discussed more fully below. Upon conclusion of the full examination, the patent will either be finally rejected or issued as a "confirmed" patent. On the other hand, if full examination is not requested within the five year period the patent will lapse and be without effect.

Under this system, a single novelty search would be made, possibly by technicians who would be search specialists. This search, together with the material submitted by intervenors, should present the Examiner with the best possible compilation of pertinent prior art.

Early publication of the invention will be generally beneficial to the individual inventor, industry, the patent system and the economy. The holder of a provisional patent would have basic protection against infringers during the prosecution of the final patent. The early use and disclosure of inventions during what would today be the "patent

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[116]The procedure for the preliminary and final examination of applications for European Patents is included in Articles 76-104 of the draft convention.

[117]Note 108 *supra*, at 167.

pending" period would be encouraged.[118] With early publication comes rapid dissemination of the technical information embodied in the patent. Notice is thereby given to third parties who might be working in the same field or who might be practicing the invention unaware of the prior rights of the patentee.[119]

As discussed above, many patent applications are filed for defensive purposes, that is, not from any desire to exclude others from using the invention but rather to insure that no subsequent inventor could claim the same invention, secure a patent, and block the first true inventor from himself using the invention. A defensive patent gives the holder protection and a bargaining position with the holder of other, more basic, patents which he could not get from mere publication.[120] The provisional patent should itself be enough for defensive purposes, protecting the inventor with no need for full examination.[121] Thus, the Examiners would be relieved of the burden of giving these applications a full examination on novelty and invention. It has been estimated that about 70,000 patent applications would be filed each year in the European Patent Office. Of these, it is expected that only 23,000, or about 30%, would be of sufficient importance to continue to an examination on the merits.[122] Basis for this expectation is seen in the fact that in Great Britain, Germany and Switzerland, for example, annual renewal fees required to keep a patent in force are paid on fewer than half of the outstanding patents after five years from issue date.[123]

While early disclosure of inventions and the elimination of unimportant and defensive applications from the full examination requirement would be generally advantageous, deferred examination would entail disadvantages for individuals in certain situations. For example, where someone has invented an operative, but not yet commercially feasible process, he would prefer to keep the patent application secret while commercial utility was being attained. Early disclosure will en-

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[118]Fogiel, M., "Revised Patent Law Needed," 37 *JPOS* 827, (November 1955) at 828.

[119]Weiser, Gerard, J., "The Convention for European Industrial Property Rights," *PTC J. Res. & Ed. (IDEA)* 5 No. 3, (Fall, 1961), at 237.

[120]Hauptman, Gunter A., "Publication Instead of Filing," 45 *JPOS* 733, (November 1963), at 734, 735.

[121]Note 69 *supra*, at 11.

[122]"Study Regarding International Cooperation in the Patent Field," *Industrial Property Quarterly*, No. 2, (April 1960), at 56.

[123]Federico, P. J., "Renewal Fees and Other Fees in Foreign Countries," Study No. 17 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fifth Congress, Second Session, (1958), at 27.

able competitors to begin work early on meeting or evading the invention. Similarly, where the application is published well before the time, after confirmation of the final patent, when infringement can be enjoined, they inventor will not be able to stop infringement effectively and must, instead, later sue for past damages.[124]

A system providing for early publication of the application deprives an applicant of the privilege of abandoning the application and maintaining the invention secret because of the closeness of newly discovered prior art or because his earlier expectations of commercial development were not confirmed.[125]

These problems, while serious to the individual or company concerned, weigh but little against the benefits of faster, more thorough examination of important patent applications and of general progress in science and industry through the early promulgation of new ideas. The patent system itself benefits from more efficient processing of applications and a stronger presumption of validity.

Intervention

An essential adjunct of a deferred examination system is some sort of "intervention" or "opposition" system such as is proposed as part of the European patent system.[126] After publication of a provisional patent and before full examination, third parties would be permitted to file in the Patent Office citations of applicable prior art and arguments against the confirmation of the patent.

Such an "intervention" system differs from full opposition proceedings in that intervenors are not permitted to appear before the Examiner and no public hearings are held with respect to the examination of applications. While the limited intervention procedure proposed in the European Patent Convention is new, opposition proceedings are broadly well known. Of the 23 nations which have issued more than about 1000 patents a year in recent years, 13 have some form of opposition procedure.[127] Some nations which have examination systems also have oppositions, and some do not. In Great Britain, oppositions are filed against less than one per cent of the patent applications,

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[124]Klotz, Michael, "A Great Opportunity Lost? The New Draft Relating to a European Patent Law," 45 *JPOS* 416, (May 1963), at 416, 417.

[125]Weiser, Note 119 *supra*, at 238.

[126]Provision for intervention proceedings is included in Articles 91-93 and 96 of the European Patent Convention.

[127]Federico, P. J., "Opposition and Revocation Proceedings in Patent Cases," Study No. 4 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fourth Congress, Second Session, (1957), at 1.

while in Germany, over 30% of the published applications are opposed. This difference is primarily due to differences in procedure. Comparison of the proposed intervention system to existing opposition systems is thus difficult, since it differs from the present systems even more then they do from each other.

Opposition proceedings are not entirely unknown in American law, since they are presently used in copyright and trademark prosecution. In our Patent Office, Rule 292 of the Rules of Practice permits anyone having knowledge of a pending application to file with the Examiner evidence of prior public use of the claimed invention. Such proceedings are very rare, since pending applications are maintained in secrecy, and competitors rarely learn of each others applications.[128] Opposition proceedings have often been proposed for our patent system. Several Commissions which have investigated the operation of the Patent Office have recommended some form of opposition procedure. But the American Bar Association and various patent law organizations have consistently gone on record against such proposals.[129]

There are, of course, both advantages and disadvantages to any form of opposition proceeding. A full opposition system, with hearings and oral argument before the Examiner, could cause serious delay in the prosecution of an application. This might provide opportunity for an opposer, through dilatory tactics, to delay the issuance of a patent which he is, or might be, infringing.[130] However, the more limited intervention system proposed in the European Patent Convention should prevent most of these delays. The balance of advantages and disadvantages has been summarized as:

> The merit of a modified opposition system is that it alleviates the burden of the Examiner in his novelty examination. A third interested party is likely to come up with the most relevant art because of his interest in the subject matter and of his familiarity with the field in which the applicant has been issued a provisional patent. The patentee should also find this desirable since it would strengthen the validity of any claim finally allowed. On the other hand, it presents a very delicate legal problem for the third party opposer. If brought inadvisably, the outcome of the opposition may seriously limit his defense in a future infringement suit. However, in order not to interfere with the defense of invalidity, it could be provided the identity of the opposer never be disclosed.[131]

Some sort of intervention system is necessary if the full benefit of

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[128]Geniesse, Note 16 *supra*, at 53.

[129]Federico, Note 127 *supra*, at 15-18.

[130]Jacob, Robert H., "Undesirable Aspects of Oppositions in Patent Causes," 39 *JPOS* 547 (August, 1957).

[131]Weiser, Note 119 *supra*, at 240.

deferred examination is to be obtained. The great search resources of interested outsiders should be utilized. Most of the objections to such a system center around possible delay and expense of such procedures.[132] A limited intervention system, in which written arguments and citations of prior art only may be sent to the Examiner, would cause insignificant delay and no expense to the applicant. Of course, there would be the expense to the intervenor of making an extensive search of the prior art. However, this expense would be entirely voluntary and undertaken only where clearly in the intervenors best interest. But even this limited intervention system has been attacked by one writer as likely to cause a delay of "perhaps one to two years".[133] Prior proposals suggesting the publishing of applications before issuance to draw citations of prior art have been generally objected to as tending to lengthen the period of pendency, increase interference problems, and increase the cost of obtaining patents.[134]

If we are to adopt deferred examination, some sort of intervention procedure must be included. Care must be exercised, however, that unnecessary delays and added expenses are prevented.

Miscellaneous Provisions

There are many additional differences between our present patent system and that proposed in the European Patent Convention. Each of these provisions has advantages and disadvantages. However, they will have an effect on the problems of delay, complexity and validity somewhat less than would deferred examination with attendant intervention procedure. These additional differences include: absence of interference proceedings between co-pending applications, maintenance or renewal fees, compulsory licensing, patent term running from application filing dates and a single court of patent appeals.

The European Patent Convention does not provide for proceedings within the Patent Office to determine priority among inventors claiming the same invention. Instead, the patent is issued to the first applicant, and later applicants are permitted to apply to a Revocation Board to have priority of invention determined and have the first patent revoked.[135] Our interference practice has long been criticized as overly time consuming and complex. However, it is usually recommended

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[132]Geniesse, Note 16 *supra*, at 52.

[133]Klotz, Note 124 *supra*, at 418.

[134]Report of the Section of Patent, Trademark and Copyright Law, American Bar Association, Digest of Proceedings, San Francisco meeting (1939), at 14.

[135]Revocation procedure is set out in Articles 127-135 of the draft convention.

that attempts be made to simplify rather than eliminate interference proceedings.[136] Interferences declared have averaged about 800 a year, and the backlog of pending interferences has risen to about 2000.[137] Interferences comprise a small, but not insignificant, part of the work of the Patent Office. Commissioner Edward J. Brenner recently proposed that interferences between pending applications be limited to occasions where the filing dates of the conflicting applications are within sixty days of each other.[138] This would eliminate almost all interference proceedings involving two pending applications, leaving only interferences between an application and an issued patent.

Much of the work done by the Board of Interference Examiners in our Patent Office would be done by an "Invalidity Board" under the proposed European patent system. This board would have power to revoke an issued patent either because a later applicant has shown priority of invention or because the patent is invalid on some ground, e.g., newly-discovered prior art. Revocation of issued patents is unknown in our system, but is presently used by seven major countries.[139] The revocation of a patent is rare, however, even in countries which have had it for some time. For example, during the 1950-1954 period, in Great Britain 84,517 patents were granted and only 164 revocations were filed and in Germany with 123,582 patents issued, only 526 "cancellations" were filed.[140]

The closest approach we have made to cancelling a patent has been in the antitrust area, where some decrees have emasculated patents to the point where they were without real effect.[141]

While the introduction of such a procedure into our system would have no effect on delays in prosecution, it might strengthen the presumption of validity since questionable patents could be attacked in revocation proceedings by any interested party. This would be an effect somewhat similar to a postponed opposition, since outsiders

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[136]See recommendation No. 87, "1961-62 Management Survey of the U. S. Patent Office," prepared for the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-seventh Congress, Second Session (1962), at 5 and 57.

[137]De Simone, Note 77 *supra*, at 517.

[138]Address by Commissioner Edward J. Brenner to the Patent Office Professional Staff, Interdepartmental Auditorium, Department of Labor Building, April 6, 1964.

[139]Federico, Note 127 *supra*, at 2. Countries having revocation procedure include Austria, Germany, Great Britain, Japan, Mexico, New Zealand, and the Union of South Africa.

[140]Federico, Note 127 *supra*, at 7, 11.

[141]"Compulsory Patent Licensing Under Antitrust Judgments," Staff Report of the Subcommittee on Patents, Trademarks and Copyrights, Eighty-sixth Congress, Second Session (1960), at 52, 53.

could present newly discovered prior art to the board after, rather than before, the patent issues.[142]

The European Patent Convention also includes a renewal fee scale similar to those in effect in European countries at present. These provisions provide that patentees pay regular periodic fees to maintain their patents in force. The United States and Canada are the only major countries in the world which do not have such provisions. The United States did, at one time, have the equivalent of a limited "renewal" fee system. Prior to March 2, 1861, patents were granted for a term of 14 years, with the provision that at the end of that time, the patentee could apply to the Commissioner of Patents for a seven year extention of the term. There was a $50 fee for the application for extension and an additional $50 fee if the application were granted.[143] Bills proposing a renewal fee system for this country have often been presented to the Congress. The present bill, H.R. 8190, appears to have a good chance of passing.[144]

Renewal fees are intended to both produce revenue for the operation of the Patent Office and to transfer more knowledge from the area of private monopoly to that of the public domain by encouraging patent owners to permit patents without commercial value to lapse.[145] However, renewal fees would have little effect on the present problems of delay, complexity and invalidity.

Compulsory licensing is provided for in the draft convention in two circumstances, (1) where there has been insufficient manufacture or other utilization of the patented invention, and (2) in the case of dependent patents, where the improvement patentee must obtain a license on a basic patent in order to exploit his improvement.[146] Such provisions are included in the patent laws of most European nations.[147] Various proposals relating to compulsory licensing have been made by writers, by governmental commissions and in bills presented to the Con-

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[142]"The American Patent System," Report of the National Patent Planning Commission, Washington, D. C. (1943).

[143]Federico, Note 123 *supra,* at 33.

[144]These include: S. 300 presented to the 45th Congress on November 14, 1877; H.R. 5157 presented to the 49th Congress on February 1, 1886; H.R. 9953 and H.R. 10637 presented to the 51st Congress on May 2, 1890, and June 2, 1890, respectively; H.R. 3700 presented to the 80th Congress on June 3, 1947 and H.R. 8190 before the present Congress.

[145]Frishauf, Stephen H., "Facts and Fiction About Maintenance Fees," 44 *JPOS* 219, (April, 1962), at 219.

[146]Compulsory licensing provisions are included in Articles 136-152 of the draft convention.

[147]Robbins, Leonard J., "European Patent Convention—Some Present Viewpoints of the European Patent Profession," 45 *JPOS* 295, (April, 1963), at 305.

gress.[148] However, none has ever been adopted. Compulsory licensing in this country has been limited to certain antitrust and patent suppression cases. Extensive compulsory licensing would be harmful, especially to a small manufacturer attempting to develop a new product in competition with larger companies. Such a manufacturer needs the full protection of the exclusive patent right.[149] However, limited compulsory licensing seems to be working well in Europe without injury to patent holders.[150]

While limited compulsory licensing might aid in the commercial development of some patented products, it would have no effect on the problems within the Patent Office.

The term of the proposed European Patent is 20 years, running from the date the patent application is filed, although patent rights do not commence until publication.[151] In the United States, patents are granted for a 17 year term, running from the date of issue.[152] Since the average patent prosecution period is about three years in our Patent Office, the effect is generally the same as if the term were 20 years, running from the filing date. However, where the prosecution is unusually delayed, a patent may not expire until 25, 30 or more years from the filing date. The effect of unusual delay is said to be,

> . . . that the period between the date the application is filed and the date the patent issues—if unduly prolonged—can result in a patent grant out of step with the progress of the art to which it relates. In such instance the patent—when finally issued—may come too late to stimulate the thoughts of others, there is an unduly long time period when an innocent infringer may be unexpectedly faced with a patent covering current manufacture, and expiration of the patent is unreasonably delayed.[153]

Where the patent term dates from the filing date, some way of compensating for delays not the fault of the applicant, such as appeals and interferences must be found. Delays "not chargeable to the applicant" would be difficult to equitably ascertain. While so dating the patent term might encourage rapid prosecution by the applicant, the problems of administering the system might be so great as to outweigh the benefits.[154]

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[148]See Corry, Catherine S., "Compulsory Licensing of Patents—A Legislative History," Study No. 12 of the Subcommittee on Patents, Trademarks, and Copyrights, Eighty-fifth Congress, Second Session (1958).

[149]Robbins, Note 147 *supra*, at 304, 305.

[150]Neumeyer, Note 98 *supra*, at 10-14.

[151]Articles 23 and 24 of the draft convention.

[152]Title 35, United States Code, Section 154.

[153]Frost, Note 20 *supra*, at 66.

[154]Lenny, Lewis J., "The Mischievous Twenty-year Bills," 40 *JPOS* 759, (November, 1958).

Finally, the draft convention differs from our system in recommending a single court of patent appeals. This "European Patent Court" would have jurisdiction over the sort of appeals which could be brought here in either the Court of Customs and Patent Appeals or a District Court.[155] It is urged that a single court hearing only patent cases would develop greater technical expertise than is possible where many District Courts hear patent cases only occasionally. On the other hand, most patent cases included related non-patent questions which would best be handled by the regular judiciary. Proposals for a single court for patent matters are said to "run counter to the virtually unanimous belief that patent controversies are best handled by a nonspecialized judiciary".[156]

Conclusions and Recommendations

Our patent system faces many problems today. Many of these problems have existed for some time. All are becoming increasingly serious. The long delay in the prosecution of patent applications, today resulting in a three to three and one-half year wait between filing an application and receiving a patent, is detrimental to economic and technological progress and to inventors generally. The large and ever increasing backlog of applications pending before the Office is both a symptom and a cause of this delay. Much of the delay is caused by increasing complexities in patent applications and longer and more difficult searches. Besides attempting to reduce delays in patent prosecution, the Patent Office is also faced with the task of maintaining and strengthening the presumption of validity each patent enjoys.

The causes of these problems are many, complex and inter-related. As modern technology becomes more complex, detailed and extensive, so also do inventions. The quantity and scope of the prior art, both in earlier patents and in the technical literature, are rapidly increasing. The information retrieval methods of the Patent Office, based on the patent classification system, are becoming more out of date. Attempts at modernizing the classification system are falling behind the growth of the art. Lack of a satisfactory number of trained Examiners, caused by the continuing high turnover within the examining corps, decreases the effectiveness of patent examination and contributes to delay and invalidity. A very complex interference procedure causes many delays, delaying a few patents for very long periods.

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[155]Appeals to a Board of Appeals and ultimately to a European Patent Court are provided for in Articles 105-113 of the draft convention.

[156]Frost, Note 20 *supra*, at 75.

Through the years, many attempts have been made to solve, or at least alleviate, these problems. The number of Examiners was sharply increased in 1955-1957. Research into mechanized searching is being undertaken. Recently, so-called "compact prosecution" was introduced to speed up prosecution. Commissioner Edward J. Brenner has suggested procedural changes in the handling of interferences and directed that applications be rapidly processed once a first action is made.[157] Other limited changes have been suggested in recent years. For example, higher filing fees[158] and a renewal fee system requiring higher fees[159] where an application is prosecuted by a corporate assignee have been proposed. Repeated proposals that all applications be considered by the Examiner immediately upon response by the applicant were put into effect as part of "compact prosecution."[160] Various similar "stop gap" changes have been made in recent years, ranging from increasing the size of the examining corps to shortening the period of response to certain types of Office actions. These changes, while temporarily helpful, do not meet the basic problems facing the patent system.

The time is rapidly approaching when a fundamental change will have to be made in our system as delays grow and searching becomes more difficult. The procedures proposed in the European Patent Convention deserve careful consideration. Some of the world's leading patent experts drafted this convention. Since they were beginning an entirely new system, they could propose entirely new procedures where desirable to meet the needs of modern technology and modern problems.

The two major differences between our present system and that proposed in the European Patent Convention lie in the areas of deferred examination and intervention. These provisions necessarily work together, since intervention is not possible without early publication of the application and deferred examination is relatively ineffective without the aid outsiders can give the Examiners by the submission of pertinent prior art through intervention proceedings. It is these two provisions which would be of the most benefit to our system. Deferred examination would lift much of the present burden from the Examiners. Many applications would be abandoned without full examination. The provisional patent would be sufficient for defensive

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[157]Brenner, Note 138 *supra.*

[158]Makara, Frank, "Patents for Corporations—Commentaries," 37 *JPOS* 830, (November, 1955).

[159]Vaughn, Note 49 *supra,* at 300, 301.

[160]Brenner, Note 138 *supra.*

purposes. It appears that patents now prosecuted by governmental agencies would be permitted to lapse without full examination. Since the government does not now intend to pay renewal fees, if instituted, in order to maintain patents in force,[161] it seems unlikely that their patents would be offered for full examination. Defensive patent applications belonging to corporations would probably be permitted to lapse after publication as provisional patents.[162] The Examiners would have more time to carefully examine the more important applications which would remain. Examination would be further simplified by the intervention procedure, which would enable the Examiner's search to be completed by outsiders who could submit prior art of the sort not now fully available to the Examiner. Similarly, possible interferences would be brought to the Examiner's attention by outsiders. Thus, all of the pertinent prior art will generally be before the Examiner before the first action on the merits, permitting the second action to be either an allowance or a final rejection in most instances. The validity of issued final patents will be strengthened, since the Examiner will usually have seen all applicable art, and only rarely will a defendant in an infringement action be able to present to the court prior art not considered by the Examiner.

Other provisions of the European Patent Convention have merit. A Revocation Board could decide the validity of patents of the sort which today are held valid in some, but invalid in other, Circuit Courts of Appeals. Limited compulsory licensing may aid some persons without injuring patent holders. Renewal fees may be effective in raising revenue for the Patent Office and in reducing the number of patents in force. A patent term running from the date the application is filed, rather than from the date the patent is issued, might decrease intentional delays on the part of some applicants. However, these proposals would have, at most, only a minor effect on the three basic problems facing our Patent Office, namely, delay, complexity and invalidity.

The two provisions of the European Patent Convention which would produce immediate, appreciable and lasting improvements in the internal operation of our Patent Office are deferred examination and intervention. To be effective, they must be adopted together. Besides aiding the Patent Office itself in decreasing delays and making complete searches more certain, early disclosure of invention will be generally beneficial to industrial and scientific progress. No system

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[161]Opinion stated by a senior patent attorney with the Navy Department in Washington.

[162]Opinion of a senior patent attorney with a major U.S. corporation.

can benefit everyone. A few applicants would prefer that their applications not be disclosed so soon, and that their abandoned applications not be published at all. That those in this minority may prefer to attempt to maintain trade secrets rather than file patent applications would weigh but little against the general benefits of the proposed procedure.

Our patent system has not yet failed to function. But that day is fast approaching. The time for temporary remedies is past. Basic changes are needed and should be made. Over 100 years ago, on December 1, 1862, at a time when another old and obsolescent system needed modernization, Abraham Lincoln said in a message to the Congress:

> The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion . . . we must think and act anew. We must disenthrall ourselves and then we shall save our country.

Is 35 U.S.C. 103[1] Applicable to Chemical Compounds?

MARION WAYNE WESTERN*

SUMMARY

THE PROPERTIES OF CHEMICAL COMPOUNDS are becoming increasingly important in determining the patentability of compounds over closely related prior art homologues and isomers. This paper presents some of the problems arising from the reliance on unobvious properties as a basis for patentability of chemical compounds which are "structurally obvious" from compounds of the prior art.

It is proposed that the real inventor of a structurally obvious compound is the person who discovers the unobvious property and that the real invention is in the method of utilizing the unobvious property. Recent case law does not support this proposal but allows a patent on the compound *per se* upon a showing of an unobvious property. If this trend is to continue, it is proposed that the person discovering any unobvious property relied upon to infuse patentability upon a structurally obvious compound be declared a joint inventor with the inventor who makes the compound. It is further proposed that a reduction to practice of a structurally obvious compound not be recognized until an unobvious property has been discovered.

A RECENT CASE NOTE[2] discussing the patentability of chemical homologues concluded with the following remark: "Indeed, a logical extrapolation of the present holding could mean, in effect, complete

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[1]"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

[2]Pirky, "Patentability of Chemical Homologues; Consideration of a New Property in Determining Obviousness," 32 *Geo. Wash. L. Rev.* 423, 429 (1963).

elimination of the statutory requirement of unobviousness in the case of related chemical compounds." As noted by Judge Rich,[3] 35 U.S.C. 103 was codified in 1952 to replace the ambiguous standard of "invention" that had developed from case law. However well this statutory standard may work in mechanical or electrical cases it has not provided a complete solution to the determination of "obviousness" of chemical compounds. The same problems facing the courts in cases of "invention" prior to 1953 have had to be determined under the "obviousness" test in much the same manner.

While the old maxim "Necessity is the mother of invention," may be true in certain arts, it is less applicable to chemical compounds. A mechanical invention is usually made with a specific utility in mind and the apparatus or process produced is tailored to fit a certain need. Utility is essential to patentability[4] and this is inherent in most inventions.

In contrast, a chemical compound may be synthesized as a result of many diverse reasons. A new compound may be the result of research of academic interest only or it may be made without any specific use in mind and be submitted to another laboratory for screening to see if it has any utility. On the other hand, a compound may have its origin from a study of closely related compounds having beneficial properties and the object in synthesizing the new compound may be in improving these properties. A compound may have its genesis in the belief that it will possess properties not possessed by the prior art and thus provide an unexpected result or satisfy a long-felt need.

Compounds not closely related to the prior art will not be discussed here because they do not fall within the statutory test required under 35 U.S.C. 103.[5] Traditionally, structurally similar chemical compounds have a certain relationship and may be classified as (1) homologues, (2) isomers and (3) analogues. These terms have been adequately defined in recent publications[6] and it is sufficient to say that the courts have abandoned using these terms in favor of a more practical test of

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[3]Rich, "The Principles of Patentability," 28 *Geo. Wash. L. Rev.* 405 (1960).

[4]35 U.S.C. 101 states that "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

[5]See Note 1 *supra.*

[6]See Guttag, "The Hass-Henze Doctrine," 43 *J. Pat. Off. Soc'y* 808 (1961) and Collins, "The Forgotten Chemistry of the Hass-Henze Doctrine," 44 J. Pat. Off. Soc'y 284 (1962).

"structural obviousness."[7] If a compound is so closely related to the prior art as to be structurally obvious a prima facie case of obviousness has been established.[8] The problem then remains of how to overcome this presumption of obviousness and, here it is submitted there are many inconsistencies in decisions. The problem seems to revolve around the question, "To whom does the compound have to be obvious to negate patentability?" The CCPA has recently reiterated its holding that there is no basis in patent law for ignoring any property in making a comparison of the claimed and prior art compounds.[9] Since chemical compounds have myriad uses ranging from plastics, textiles and dyestuffs to herbicides, insecticides and pharmaceuticals, it is difficult to place this statement in its proper perspective. If an unobvious property is sufficient to infuse patentability upon a "structurally obvious" compound to whom should that property be unobvious?

In *In re Papesch*[10] the CCPA held that:

> The problem of "obviousness" under section 103 in determining the patentability of new and useful chemical compounds, or, as it is sometimes called, the problem of "chemical obviousness," is not really a problem in chemistry or pharmacology or in any other related field of science such as biology, biochemistry, pharmacodynamics, ecology, or others yet to be conceived. It is a problem of PATENT LAW.

If a compound has its only utility as a pharmaceutical and yet the test is not obviousness to a chemist or a pharmacologist but a problem of patent law, what is the standard to apply? The statute states that:

> . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made *to a person having ordinary skill in the art to which the subject matter pertains.* (Emphasis added[11])

Those skilled in the art to which the subject matter pertains most likely are not trained in patent law. It would seem that the difficulty in establishing a concrete standard stems from the fact that a chemical compound is useful in such diverse fields that what might be obvious to a synthetic organic chemist might not be at all apparent to a pharmacologist, botanist or zoologist. Therefore the "subject matter" of a specific chemical compound might pertain to various and diverse fields of science and thus it is difficult to determine or find a person having

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[7] *In re* Druey et al. 138 U.S.P.Q. 39; 319 F. 2d 337 (C.C.P.A. 1963), *In re* Herr 134 U.S.P.Q. 176; 304 F. 2d 904 (C.C.P.A. 1962) and *In re* Zickendraht *et al.* 138 U.S.P.Q. 22; 319 F. 2d 225 (C.C.P.A. 1963).

[8] See Note 7 *supra* and *In re* Surrey 138 U.S.P.Q. 67; 319 F. 2d 233 (C.C.P.A. 1963).

[9] *In re* Lunsford 140 U.S.P.Q. 426 (C.C.P.A. 1964).

[10] *In re* Papesch 315 F. 2d 381; 137 U.S.P.Q. 43, 47 (C.C.P.A. 1963).

[11] 35 U.S.C. 103.

"ordinary skill in the art to which the subject matter pertains." The only person with an interest in common with all these fields of science is the chemist; however, the court has already stated that this is not a problem in chemistry. The *Papesch* decision makes it clear that patentability is not to be determined on the basis of obviousness of structure alone.[12]

Prior to the *Papesch* decision the same court was of the opinion that the chemist was to play a much more important role by holding:

> A chemist, and it is from the standpoint of a chemist skilled in this art that the question of obviousness must be resolved, would consider the differences as well as the similarities in the properties and reactions of the members of any given homologous series.[13]

At first blush this test seems inconsistent with that applied in the *Papesch* case, since to a chemist "properties" mean the physical characteristics such as melting point, boiling point, crystal pattern, density, refractive index, etc., and the chemical characteristics such as ability to react with acids, amines, aldehydes, esters, etc. Ordinarily a chemist does not concern himself with the biological effects of a compound but leaves that up to one trained in that field. If by "properties" the court was alluding to the biological as well as the chemical properties then it would seem that the chemist spoken of would be somewhat akin to that mystical character in tort law "the reasonable man." Such a chemist would have to be trained in all fields and be able to consider the differences and similarities in the uses of a given compound and those of the prior art to which it would be "structurally obvious."

It is submitted that the difficulty in this field of patent law arises in determining what the invention really is. Is it a chemical compound *per se*? Is it a compound plus a specific utility? Is it the new and unobvious use of a compound that is structurally obvious to a chemist?

As to the compound plus a specific use, the courts have uniformly held that once a compound is patented that it covers all uses that compound might have.[14] One who discovers a new and unobvious use for an old compound or who discovers that adding an ingredient to an old compound renders it capable of a new use has been able to patent a process (method of use) claim or even a composition claim on the old compound.[15]

It has long been held that if a novel but "structurally obvious" com-

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[12]137 U.S.P.Q. 43, 51.

[13]*In re* Mills 281 F. 2d 218, 224; 126 U.S.P.Q. 513, 518 (C.C.P.A. 1960) and discussed in 29 *Geo. Wash. L. Rev.* 957 (1961).

[14]*In re* Thuau 135 F. 2d 344; 57 U.S.P.Q. 324 (C.C.P.A. 1943).

[15]*In re* Pieroh et al. 319 F. 2d 248; 137 U.S.P.Q. 283 (C.C.P.A. 1963).

pound had an unobvious property (utility) that this would rebut any presumption of obviousness and infuse patentability upon a claim to that compound. This doctrine has become known as the "Hass-Henze Doctrine."[16] These cases held that if a compound differed from the prior art by only a methylene or $-CH_2-$ group that there was a presumption of obviousness attached and in order to rebut this presumption an unobvious property must be shown. This doctrine was expanded by the Patent Office relying on holdings such as *In re Finley*[17] and *In re Gauerke*[18] to non-adjacent homologues. In *In re Mills*[19] the court reaffirmed its position that the Hass-Henze Doctrine was to apply to adjacent homologues only but warned against freezing holdings of particular fact situations into rules of general application. *In re Petering*[20] and *In re Lambooy*[21] along with the *Papesch*[22] case provide the extreme limitations of this doctrine and seem to have set the stage for subsequent decisions. In the *Petering* and *Lambooy* cases the utility of the claimed adjacent homologue was exactly opposite that of the reference compound and in the *Papesch* case the property relied upon was one not possessed by the prior art.

The abandonment of the homologue, isomer and analogue tests as noted supra seemed to indicate that the court, instead of relying on a rigid mechanistic test of adjacent homology would consider the compound as a whole to see if it would be "structurally obvious" and then look for an unobvious property to rebut this presumption. *In re Lohr*[23] was a case in which the appellants attempted to rebut this presumption by showing that their compound possessed much greater effectiveness as an insecticide than the prior art homologue. The court in affirming the Board of Appeals stated:

> When a new compound so closely related to a prior art compound as to be structurally obvious is sought to be patented based on the alleged greater effectiveness of the new compound for the same purpose as the old compound, clear and convincing evidence of substantially greater effectiveness is needed. Here there are no new properties, but merely an alleged improvement in the same property for use against the same pests.

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[16] *In re* Hass et al. 141 F. 2d 122, 60 U.S.P.Q. 544 (C.C.P.A. 1944); *In re* Hass et al. 141 F. 2d 127, 60 U.S.P.Q. 548 (C.C.P.A. 1944); *In re* Hass et al. 141 F. 2d 130, 60 U.S.P.Q. 552 (C.C.P.A. 1944); *In re* Henze 181 F. 2d 196, 185 U.S.P.Q. 261 (C.C.P.A. 1950). In addition see *supra* notes 6 and 7.

[17] 174 F. 2d 130, 81 U.S.P.Q. 383 (C.C.P.A. 1949).

[18] 86 F. 2d 330, 31 U.S.P.Q. 330 (C.C.P.A. 1936).

[19] See Note 13 *supra.*

[20] 301 F. 2d 676; 133 U.S.P.Q. 275 (C.C.P.A. 1962).

[21] 300 F. 2d 950; 133 U.S.P.Q. 270 (C.C.P.A. 1962).

[22] See Note 10 *supra.*

[23] 317 F. 2d 388; 137 U.S.P.Q. 548 (C.C.P.A. 1963).

Hence, if closely related compounds possess the same properties a showing of substantially greater effectiveness is required. Even when the prior art did not allege to possess the same properties it was held to be incumbent on the applicant to make a comparison to see if the prior art possessed the same properties. This situation was present in *In re Riden*[24] wherein the court held:

> Chemical cases should not be decided solely on the basis of homology or analogy in structural formulae. The determination of obviousness is not the mechanistic overlaying of chemical formulae to observe whether a difference greater than a methylene group or a chlorine atom exists. . . . One having ordinary skill in the art would expect similarities between the methyl and ethyl species disclosed by Boehme et al. and the propyl and butyl compounds which are not specifically disclosed. *The fact that they do have similarities, as appears from the record, negates appellant's argument of unobviousness, even though the art may not have known of the similarities.* (Emphasis added)

The court apparently overruled this reasoning in the recent case of *In re Elpern*[25] and applied a mechanistic approach. The prior art showed both an isomer and a non-adjacent homologue of the claimed compounds. In reversing the Patent Office, the court made no reference to the isomer and as to the homologues stated:

> Since we are satisfied that the difference apparent in the structural formulae of the compounds of the appealed claims, when compared with the structural formulae of the reference compounds relied on by the Patent Office are sufficient to make appellant's compounds unobvious to a chemist of ordinary skill in the art, we need not consider the affidavits allegedly demonstrating unexpected properties.

This holding seems to indicate that if a compound is not an adjacent homologue, even though the properties may be the same, the court will not consider the compound structurally obvious and hence no showing of unobvious properties is required.

However important this unobvious property may be, invention of a chemical compound is considered to be the compound *per se* and not a compound plus a use.[26] The use is only a factor to be taken into consideration in determining whether the invention is or is not patentable from the standpoint of meeting 35 U.S.C. 103. All properties must be considered as the courts have held that there is no basis or reason to distinguish between the chemical and biological properties and even though a compound would be obvious to an organic chemist it does not follow that all new compounds obvious to him would be obvious in the sense of patent law.[27]

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[24]318 F. 2d 751; 138 U.S.P.Q. 112 (C.C.P.A. 1963).
[25]362 F. 2d 762; 140 U.S.P.Q. 224 (C.C.P.A. 1964).
[26]*In re* Kirchner 134 U.S.P.Q. 324, 329, 330 (C.C.P.A. 1962).
[27]*In re* Lambooy 133 U.S.P.Q. 270, 275.

The reason for considering all properties in patent law stems from the fact that the courts consider a compound and all of its properties inseparable; they are one and the same thing.[28]

The present holdings therefore indicate that if a compound can be shown to possess one unobvious property that the compound and not the unobvious property is the invention and therefore patentable. This is so the court reasons because of a long line of precedents holding this way.[29]

The unobvious property must be one mentioned in the specification and cannot be supplied by affidavit.[30] Should the property be discovered subsequent to the initial filing, a continuation-in-part application incorporating the newly discovered property could be filed and, under present law, the claimed compound would still be entitled to the benefit of the filing date of the parent application.[31] Thus, a series of applications, each predicating patentability upon some unobvious property could be filed until a compound was finally allowed.

While not challenging the correctness of these decisions it is submitted that there are gross inequities that can result from these holdings.

Basic to patent law is the fact that the making of an invention involves two steps, (1) the mental act or conception followed by (2) the physical act or reduction to practice. As stated before, an invention must be useful and it is therefore apparent that the conception of a chemical invention must include not only the compound but a use for it. Should this compound be structurally obvious and the use conceived and reduced to practice be the same as the prior art the *Lohr* and *Riden* decisions would indicate that no invention had been made. In *Papesch*[32] the court said:

> It is interesting to observe here the applied principle working both ways. Where what we may call the apparent obviousness of the compound (including its properties) was overcome by evidence of unexpected advantageous properties the claim to it was held patentable; but where no such properties were shown to exist it remained an obvious compound with obvious properties.

Suppose Smith conceives of and makes compound A having properties X, Y, and Z, and files a patent application. He is rejected under 35 U.S.C. 103 as being unpatentable over Jones who shows compound B

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[28]*In re* Papesch 137 U.S.P.Q. 43, 51.

[29]*Ibid.*

[30]See *In re* Herr *supra* Note 7 and *In re* Stewart 222 F. 2d 747; 106 U.S.P.Q. 115 (C.C.P.A. 1955).

[31]See *In re* Kirchner *supra* Note 26.

[32]137 U.S.P.Q. 43, 49.

(from which A is structurally obvious) having properties X and Y. Smith files an affidavit showing that compound B of Jones does not possess property Z, and there is nothing in the art to show that compound A would be expected to possess this property. What is the invention? According to present law it is compound A. Jones is now precluded from using structurally obvious compound A for obvious uses X and Y merely because compound A also possessed an additional property. It may very well be that property Z was relatively insignificant when compared with properties X and Y.

Carrying the above situation a step further, suppose Smith files on compound A having properties X and Y and is rejected as above as being unpatentable over Jones who shows compound B having properties X and Y. Obviously, there is "no invention." However, Smith gives his compound to Brown for screening, and Brown discovers that compound A possesses additional property Z whereupon Smith abandons the first application and files a continuation-in-part alleging the additional property. What now is the invention? Who is the inventor? Smith has done nothing or discovered nothing that is new, useful and unobvious. Brown has discovered an additional, unobvious property to a structurally obvious compound, but according to the present court holdings the compound is the patentable subject matter and Smith would be the inventor.

Such a holding would seem to be inconsistent with 35 U.S.C. 101 which states that "Whoever invents or *discovers* any new and useful process . . . composition of matter or any new and useful improvement thereof, may obtain a patent therefor." Smith alone discovered or invented nothing patentable, and without the *discovery* by Brown patentability would have been precluded. Was not Brown the real inventor according to the statute? If the patentable subject matter is the compound, what about Brown? Should he be included in the continuation-in-part as a joint inventor?[33] If he is included should the joint inventors be permitted to rely on the parent application as the effective filing date?[34]

Since conception is a necessary precedent to making a compound it is submitted that this mental act must include conceiving of the unobvious property if the compound is to be the invention. If the compound is first made and an unobvious property subsequently discovered, it is submitted that the real "invention" is the discovery of the unob-

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[33]35 U.S.C. 116 and Rules of Practice of the U.S. Patent Office, Rule 45.

[34]35 U.S.C. 120 and *Manual of Patent Examining Procedure.* Third Edition. 1961. Section 201.08.

vious property and not the synthesis of a structurally obvious compound. It seems inconsistent to say that the subsequent discovery of an unobvious property is merely evidence that there was "invention" in making a structurally obvious compound.

Support for the proposition that the conception of the unobvious property should precede the making of a compound may be found from the following excerpt taken from *In re Larsen*[35]

> . . . the allowance of the claims to the compounds was based on the fact that they possessed unique, and presumably unexpected properties. *Since there was nothing to indicate that the compounds, when made, would have these properties, it was not obvious to make the compounds. In such a case the allowance of claims to the compounds must depend on the proposition that it was unobvious to conceive the idea of producing them, within the meaning of Title 35 U.S.C. Section 103.* (Emphasis added)

It therefore follows that when one conceives and produces an obvious compound and subsequently discovers an unobvious property or submits the compound to someone else who discovers the property, that there is lacking one fundamental concept, and that is the conception of something unobvious upon which to hang patentability. The subsequent discovery of an unobvious property is an invention all by itself and should not relate back to a compound already produced if that compound is structurally obvious and already possesses properties in common with those of the prior art.

A concurring opinion in the *Larsen*[36] case seems to refute this argument in the following words:

> There is a certain amount of logic in holding a product to be unobvious because of the discovery in it of unobvious properties, . . . *because the properties inhere in the product.* (Emphasis added)

It seems rather inconsistent to say that a compound is obvious until an unobvious property is discovered and then say that an invention was made *ab initio* since the compound inherently had that property all the time. Since chemical compounds have myriad uses all one has to do is continue screening and testing any given compound until some unobvious property turns up and then predicate patentability of the compound on the basis of this inherent unobvious property. Should enough time and testing be devoted to any given chemical compound some unobvious property could surely be detected, and hence render said compound patentable. By following this reasoning to its logical conclusion one could say that since every chemical compound inherently possesses some unobvious property which will eventually be dis-

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[35]292 F. 2d 531, 130 U.S.P.Q. 209 (C.C.P.A. 1961) (Cert. denied 133 U.S.P.Q. 703).
[36]130 U.S.P.Q. 209 at 213.

covered, that chemical compounds are patentable *per se* unless patentability is precluded under 35 U.S.C. 102; hence, the complete abolition of 35 U.S.C. 103 as to chemical compounds.

A more logical conclusion would seem to be that since a compound is obvious until the discovery of a new unobvious property that the property discovered is the invention and not the compound. The proper protection should therefore be a process or method of use claim drawn to the unexpected property of the obvious compound.

In this regard, it is to be noted that if the Examiner is required to search for the unobvious property of a structurally obvious compound in determining the patentability of said compound, he must make the same search one would make if the method of using the compound were being claimed. Conversely, an applicant must meet the same requirements to gain patentability of a structurally obvious compound as he would to obtain a patent on the method of using the compound. It would therefore seem as though the courts were making no distinction between the patenting of a compound and the patenting of a method of using said compound although different statutory classes of invention are involved.

In the recent case of *In re Ward*[37] the Examiner held structurally obvious compounds unpatentable and stated that the real invention was in the use of the compounds. The Board of Appeals, in affirming the Examiner, held the claimed compounds had at least two properties or uses in common with the prior art compounds in addition to being structurally obvious therefrom. As to the unobvious property, shown by affidavits not to be possessed by the prior art, the Board stated:

> . . . Appellant also refers to the Hayes and O'Connor affidavits as showing a difference in kind in the esters over the alcohols; however, as to the utility of the affidavits, we agree with the Examiner that they are not convincing that the esters sought to be patented would be unobvious, *as the claims are not limited to such utility* of the ester compound but are directed to the ester compounds per se . . . We therefore, do not believe that ascertaining that the ester formed *is more effective in certain unclaimed uses* makes the ester any less obvious . . .[38]

The CCPA did not comment on this suggestion but reversed the Patent Office on the basis of the unobvious property admitting that the compounds *per se* might appear to be obvious in terms of the concept of their structure.[39]

The Examiner also presented this argument in the *Papesch*[40] case but

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[37]141 U.S.P.Q. 227, 228 (C.C.P.A. 1964).
[38]141 U.S.P.Q. 227, 228 (C.C.P.A. 1964).
[39]*Ibid.*
[40]137 U.S.P.Q. 43, 52.

the Board of Appeals did not comment on it, and the CCPA expressly repudiated it in the following language:

> As to the Examiner's view that in a case such as this the applicant should claim his invention as a process utilizing the newly discovered property, the Board appears to have ignored it, properly we think. It is contrary to practically all of the above decisions wherein no fault was found with granting product claims. Such claims have well-recognized advantages to those in the business of making and selling compounds, in contrast to process-of-use claims, because competitors in the sale of compounds are not generally users.

The court could properly have added that it is the sellers of compounds who discover the unobvious properties and not the users. It would therefore seem that the reasons for granting a patent to an obvious compound rather than to the real invention, its unobvious use, are based on economics.

Since a method of use claim would not prohibit competitors from making and selling the obvious compound, it is apparent that research is stimulated and better financed by the present method of granting compounds having unobvious properties. Conversely, it is also apparent that often the real inventor is not the one who synthesizes the compound but the one who discovers the unobvious property. The public is often prevented from utilizing an obvious compound for obvious uses as is a patentee of a closely-related compound.

It would therefore be desirable to strengthen in some way the law as to method-of-use claims to give proper recognition to the real inventor, to give to the public their right to utilize that which would be obvious from the prior art, and at the same time provide the proper stimulus and protection required in the promotion of the useful arts.[41]

It is realized that such a remedy is not forthcoming in the near future and that such a change would require much more thought and planning beyond the scope of this brief discussion; however, it is felt that there are certain fundamental concepts that should be given serious consideration in this area which do not imply any changes in statutory law as it now stands.

First of all, it is felt that whoever discovers an unobvious property relied upon to establish patentability of a structurally obvious compound should be considered a joint inventor along with the discoverer (s) of the compound. Inherent in this proposition is the fact that the earliest date that could be relied upon to establish conception of a structurally obvious invention would be the date that the unobvious

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[41]See Fellner, "Method Claims for New Uses and Their Enforcement," 41 *J. Pat. Off. Soc'y* 54 (1959).

property was conceived, and the earliest date that a complete reduction to practice could be shown would be the date that the unobvious property was successfully shown to be possessed by the compound. This position is fully supported by 35 U.S.C. 101 as discussed supra.

This proposition can best be illustrated by a hypothetical situation. Smith files on a structurally obvious compound A having properties X and Y. Compound A is rejected as being unpatentable over closely-related compound B having properties X and Y. Brown, subsequent to Smith's filing date, publishes an article showing that compound A has property Z whereupon Smith files a continuation-in-part on compound A alleging that it has properties X, Y, and Z, and argues that since property Z was inherent in compound A when he made it that he is the first inventor. In this case it is submitted that Smith be denied the benefits of 35 U.S.C. 120 and be rejected under 35 U.S.C. 102 as being fully met by Brown who was the first inventor since he discovered the unobvious property of a structurally obvious compound. Prior to Brown's discovery of the unobvious property, Smith had done only that which would be obvious from the prior art. This reasoning leads to the conclusion that this is a special type of situation in which conception and reduction to practice cannot be proven by showing the compound made had *a* utility but rather that the compound made had an *unobvious* utility. In such a situation as given above should Smith become involved in an interference with Brown, or should he try to swear back of Brown as a reference[42] such attempts should be futile since prior to that time no unobvious property had been established.

From the foregoing one can easily put together myriad fact situations wherein this reasoning could be applied, but it would serve no useful end to present them in this discussion. It is sufficient to say that it is immaterial who discovers the unobvious property. Whether it is the chemist who synthesizes the compound who subsequently discovers the unobvious property, someone to whom he has given a sample, or a third party working independently, the result would be the same.

This reasoning does not prevent the patenting of a structurally obvious compound upon a showing of an unobvious property, but it does place emphasis on what the author feels is the real invention. This proposal also tends to strengthen 35 U.S.C. 103 in that it excludes one from relying on subject matter that belongs to the public or, in other words, it prevents him from reaping benefits from doing only that which would be obvious to one with ordinary skill in the art.

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[42]Rules of Practice of the U.S. Patent Office. Rule 131.

Statutory Copyright Protection Of Fictional Characters

JAMES ROBERT PARISH*

I. Current Status of Fictional Characters[1]

The ravenous demands of twentieth century entertainment media have rapidly increased the value of rights attachable to literary portrayals.[2] Plots and locales often become repetitious, but fictional characterizations are versatile assets. They can reappear in sequels or be introduced into new situations through the device of spin-off.[3] As

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[1] (Any revisions in the copyright law which affect literary characterizations will alter the status of their brethren who appear in motion pictures. At first, it seems that it might be simpler to evolve some protection theory for motion picture characters alone, since they are visual and easier conceptually to protect than the more intangible figures in literature who take form only in the reader's imagination as "word portraits." However, after separating the actor from the role he is portraying, the motion picture character is parallel to the literary fictional character, with the addition of make-up, lighting, and costumes. Since Ferris v. Frohman, 223 U.S. 424, 32 S. Ct 263 (1912), determined that a live theater performance is not publication of the play, a stage character also is just another form of the literary characterization.)

See *Nimmer on Copyrights* (1963), at 134 (§30); Kerson, "Sequel Rights in the Law of Literary Property," 48 *Calif. L. Rev.* 685 (1960), at 695-696; Kellman, "The Literary Protection of Fictional Characters," 25 *Brooklyn L. Rev.* 3 (1958).

[2] In "The Seven Basic Program Properties," 47 *Trade-Mark Rep.* 440 (1957), Richard Wincor states:

> In short, an industrial revolution has caught the trade without doctrines, and new forms of property are coming to exist without name or classification. Nevertheless, networks, package producers and other dealers in literary property buy vaguely worded quit-claims to material whose nature has not been analyzed and which may even be in the public domain.

At 452, he inquires:

> Are we buying a Sherlock Holmes, or his name, or a Hound of the Baskervilles plot, or a pipe and detective cap costume or a mere idea which does not have to be bought at all?

[3] "Spin-off" refers to the use of a fictional character from a novel, motion picture, radio show, television film, etc. in another program or series, usually as the now featured character in a new situation and locale (e.g., "Breaking Point" as a spin-off from "Ben Casey."). "Extraction" may refer to the use of other elements of a writing which are similarly transferred (e.g., the restaurant of the play and motion picture

Richard Wincor[4] stated in *Variety* on January 9, 1963 at 8:

> The problem is that characters have no independent status at law. On occasion distinctive characters have been protected against piracy when the same name is used but there are much larger issues. What are we dealing with when we license or sell characters? If these assets are copyrightable one set of rules determines who owns what and for how long and under what circumstances. If they are trademarks different rules apply and if they are something else again there may be no protection at all.[5]

The Copyright Act of 1909 ("the Act"),[6] designed to promote the fine arts,[7] offers limited monopolies to creators, protecting expression of plot and theme if they rise above public domain generalities. Nevertheless, delineation of fictional characters which may be the most creative element of the writing, is currently denied any favored status. In the federal courts, literary characters are still used only as a tool to detect infringement of the copyrighted writing.[8]

If there were statutory copyright guides to character rights, writers could sell their marketable creations as a specific item of property. In addition, purchasers of literary properties could obtain complete or partial control of a copyrighted fictional character with the assurance of federal protection; ambiguous contract negotiations in the no-man's land of character rights could be avoided and hard-pressed writers would be less tempted to dress their colleagues' popular characters in new guises.

II. The Essence of a Fictional Character

A fictional character is an intangible artistic creation which relies upon the writer's words for any visible existence. The author evokes a mental image of the character for the reader and must convey his ideas adequately if people are to recognize the character as he intended him to be portrayed.

The multiple aspects of a fictional character include the outer or

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"Bus Stop" was of secondary locale importance, in the television series the "Bus Stop" restaurant became the pivotal element of the show).

[4]Member of the New York Bar; author of *From Ritual to Royalties* (1962); "The Seven Basic Program Properties," 47 *Trade-Mark Rep.* 440 (1957); "Some Trademark Reflections Upon Dramatic Sequel Rights," 44 *Trade-Mark Rep.* 1273 (1954); *How to Secure Copyright* (1950).

[5]"Copyright and the Spin-off Hero: B.O. Value of Incidental Characters," *Variety* (Jan. 9, 1963), at 8.

[6]35 Stat. 1075 (1909), 17 U.S.C. §§ 1-216 (1958).

[7]U.S. Constitution: Art. I §8 (9).

[8]Nichols v. Universal Picture Corp. 45 F. 2d 119 (2d Cir. 1930); Sheldon v. M.G.M. 7 F. Supp. 837 (S.D.N.Y. 1934).

objective individual and the inner or subjective person. The first category includes such aspects as physical appearance and biographical data. The second grouping involves such intangibles as the content of philosophical attitudes and the emotional dynamics manifested by interpersonal relationships. These revelations of the psychological aspects of the character give the reader a key to the future actions and reactions of the figure.

The well-defined fictional character is the creator's valuable asset, for which statutory copyright protection is sought by this author. A sensible dividing line on the sliding scale between a well-defined character and the stock figure[9] is the ability of the reader to discover more about the character than, for example, his name. There must be distinguishing characteristics in the presentation of such aspects as: physical appearance, manner of expression, pattern of action and reaction, attitudes and relationships.

III. Analogous Areas of Fictional Character Protection

The advantages which the Act can afford writers become apparent after investigating the results of the protection that our legal system currently offers writers for the various facets composing their fictional characters. This examination requires discussion of material which has been analyzed and presented previously. However, these prior surveys[10] have not been sufficiently convincing to demonstrate the need for changes in the field of copyright law as it applies to the status of fictional characters.

Judicial treatment of cartoon characters and performers' rights offer evidence that fictional characters are eligible for statutory copyright status. In their handling of these two analogous areas, courts have already overtly protected every item of which fictional characters are composed.

There is no specific class of cartoons and comic strips in §5 of the Copyright Act. An unpublished cartoon is registered in Class G, "work

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[9]"Stock figures are vaguely drawn personalities whose characteristics are a collection of hazy generalities. This occurs to a great degree when characterization is being made to contribute more to the development of the other facets of the writing; plot, atmosphere, or theme. A stock figure is merely a weak imitation, a de-personalized version of a human being."

[10]See: Kellman, "The Literary Protection of Fictional Characters," 25 *Brooklyn L. Rev.* 3 (1958); Kerson, "Sequel Rights in the Law of Literary Property," 48 *Calf. L. Rev.* 685 (1960); "Literary Property in Characters," 21 *Albany L. Rev.* 185 (1957); "Protection Afforded Literary and Cartoon Characters through Trademark, Unfair Competition and Copyright," 68 *Harvard L. Rev.* 349 (1954).

of art," and registered as published work with notice via the enumerated §5 classes.

As with other classes, the title or general idea for a cartoon cannot be copyrighted. "The embodiment of the artist's concept and not the artist's concept is what is protected by copyright."[11] Trademark protection, however, may exist for the title of a cartoon actively used in association with a commercial product.[12]

In *Nimmer on Copyright* (1963), Melville B. Nimmer offers basic reasons why cartoon characters received supposedly preferential treatment:

> A character is most readily protectible where both the original work and the copied work consist of cartoons or other graphic representation rather than "word portraits."[13]

This suggests why artists initially sought and courts first found a means of protecting cartoon characters. As will be discussed *infra,* it is seriously questioned whether the non-visual representation of "word portraits" should or do prevent fictional characters from enjoying the same rights as cartoon characters.[14]

In *Hill* v. *Whalen & Martell, Inc.*[15] the Court enjoined two performers from appearing as "Nutt" and "Giff" in a skit entitled "In Cartoonland," utilizing costumes and dialogue associated with the "Mutt and Jeff" comic strips.

The Court's support of the plaintiff's dramatic rights went far beyond protecting the third-dimentional reproduction rights to the copyrighted cartoon. If "Mutt and Jeff" had originated as fictional characters with a written description of their physical appearance, it is probable that when seen on stage or heard on radio they would be just as recognizable.

"Mutt and Jeff" were again the subject of controversy in *Fisher* v. *Star,*[16] a New York state action in which the cartoon's creator claimed unfair competition and not statutory copyright protection.

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[11]Fleischer Studios, Inc. v. Ralph A. Freundlich, 5 Fed. Supp. 808 (S.D.N.Y. 1934).

[12]Kellman, *supra,* note 10 at 5.

See also: Kerson, *supra,* note 10 at 688; 68 *Harcard L. Rev.* 349, *supra,* note 10 at 350-352.

[13]At 136 (§30).

[14]Kerson, *supra,* note 10 at 689. *Contra,* Umbreit, "A Consideration of Copyright," 87 *U. of Pa. L. Rev.* 932, 939 (1939): "It is fairly clear that what is being protected in these cartoon by-product cases is neither an idea, a character, nor a design, but a popularity value, a sort of psychological property."

[15]220 Fed 359 (S.D.N.Y. 1914).

[16]231 N.Y. 414, 132 N.E. 133 (Ct. of App. 1921), *cert. denied,* 257 U.S. 654 (1921).

In enjoining the use of these "distinct characters" and their names,[17] the Court was nominally protecting the plaintiff's distinctive drawings of "Mutt and Jeff" and its famed title. However, since the defendant was still allowed to republish those earlier strips of "Mutt and Jeff" which it owned, the Court was really guarding the plaintiff's right to control the artistic property created by the public's association of certain inner personality characteristics and biographical data with these cartoon characters in any new adventures.

Judge Crane's dissent offered an interesting prediction about the status of character rights: "This action in my judgment is in effect a substitute for the rights which the plaintiff might have had under the copyright law."[18]

In *King Features Syndicate v. Fleischer,*[19] the defendant was found to be infringing the copyright and the associated licensing rights in a book of cartoons about "Barney Google" and "Spark Plug." The Court subtly noted a distinction between the product of the cartoonist and of other types of artists.[20] The aesthetic essence here receiving protection via the Act was the horse's amusing personality,[21] exemplified in particular by its unique form. It is doubtful that if the plaintiff had drawn a realistic representation of a horse, whether it would have become famous per se.

In *Fleischer Studios, Inc. v. Ralph A. Freundlich,*[22] the Court held that the defendant's doll infringed the plaintiff's copyright cartoon book dealing with "Betty Boop," although "Betty Boop" was not used as a name by the defendant.

The opinion for the Court of Appeals for the Second Circuit was by Judge Manton, who had decided the *Sparky* case, *supra.* He relied upon *Sparky* which was itself based upon the Mutt and Jeff decisions as a precedent. Judge Manton found that this cartoon character had a sufficiently developed personality[23] to make the expression of her character copyrightable as well as the means of communication, the drawing.

The posture of this case did not require Judge Manton to reveal whether his "alternative copyrightable elements" theory would still apply if the defendant had manufactured its replica "Betty Boop" without accompanying dialogue or caption.[24]

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[17]231 N.Y. 414, 432, 132 N.E. 133, 139 (Ct. of App. 1921).
[18]*Id.* at 435, 132 N.E. at 140.
[19]299 Fed. 333 (2d Cir. 1934).
[20]*Id.* at 536.
[21]*Id.* at 537.
[22]73 F. 2d 276 (2d Cir. 1934).
[23]*Id.* at 278.
[24]Cf. Rushton v. Vitale, 218 F. 2d 434 (2d Cir. 1955).

In *Detective Comics* v. *Bruns*,[25] the District Court found that "Wonderman" was an infringing copy of the copyrighted cartoon strip "Superman." The recurring judicial interest in the non-visual copyrightable aspects of cartoons was further substantiated by the opinion of Judge Augustus Hand when the above case reached the Court of Appeals for the Second Circuit.[26] The delineation of character theory[27] would be embarrassing dictum, if the visual art phase of the "Superman" strips was the only copyrightable element.

Having accepted this sophisticated attitude toward cartoon characters, Judge Augustus Hand seemingly backtracked by enjoining the defendant only from:

> . . . portraying any of the feats of strength of powers performed by 'Superman' or closely imitating his costume or appearance in any feat whatever.[28]

This is in sharp contrast to the decree announced by the District Court which forbid:

> . . . the further publication by the defendant, Bruns Publications, Inc. of its cartoon character 'Wonderman,' in such form as will make that cartoon character trespass in any respect on the plaintiff's cartoon character 'Superman.'[29]

A possible explanation for this inconsistency is that the isolated expressions of "Superman's" personality concepts (characterization) only rarely rise above a public domain stock figure. Since "Superman's" personality was so integrated with the cartoonist's aim to present amazing adventures, Judge Hand found it easier to deal with the more distinctive exploits aspect as the non-visual copyrightable element.

National Comics Pub. Inc. v. *Fawcett Pub. Inc.*, [30] dealt with the alleged infringement of the copyrighted cartoon strip "Superman" by the defendant's cartoon "Captain Marvel." It can be assumed that the growing awareness of courts to protect character rights arising from cartoon strips delineation led the plaintiff to assert copyright infringement and unfair competition in the following posture:

> . . . (that the plaintiff had published) a variety and series of original cartoons, scenes, characters, incidents and pictorial delineations revolving principally about the figure and character of 'Superman.'[31]

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[25]28 F. Supp. 399 (S.D.N.Y. 1939), *modif'd*, 111 F. 2d 432 (2d Cir. 1940).
[26]111 F. 2d 432 (2d Cir. 1940).
[27]*Id.* at 433-434.
[28]*Id.* at 434.
[29]28 F. Supp. 399, 401 (S.D.N.Y. 1939).
[30]93 F. Supp. 349 (S.D.N.Y. 1950), *rev'd*, 191 F. 2d 594 (2d Cir. 1951), *clarif'd*, 198 F. 2d (2d Cir. 1952).
[31]93 F. Supp. 349, 352 (S.D.N.Y. 1950).

The District Court admitted that: "The 'Superman' character and strips are clearly original," citing *Bruns*.[32] However, the visual element of the copyrightable cartoon was once again shunted aside: "Thus the strips may be called short stories in pictorial form."[33]

The Court of Appeals for the Second Circuit[34] reversed this decision as to abandonment of copyright, remanding the case to the District Court for specific determination of relief. Judge Learned Hand ruled that each strip of the "Superman" series was an ". . . original 'work,' capable of independent copyright."[35] Judge Hand stated:

> . . . the "strips" in question had much resemblance in their subject matter: "Superman" is the same in all; he is only displayed in different magical feats.[36]

This would indicate that Judge Hand had grasped the concept that the visual elements of each strip were merely the cartoonist's means to express a series of adventures. But then Judge Hand added:

> . . . the copyright of a later exploit of 'Superman' was valid, in so far as the picture differed from those that had gone before.[37]

Judge Hand was apparently uncertain whether these "silly pictures" were meant as artistic ends in themselves or were another mode of relating stories.

Judge Hand bypassed the character delineation aspect which was discussed as an important facet of the *Bruns* decision, giving no indication whether he would admit that the copyright of the "Superman" cartoon strip created character rights under the Act.

In remanding the case to the District Court, Judge Hand demanded a strip by strip analysis to prove infringement of "Superman" by the defendant's "Captain Marvel" cartoon series. He relied upon *Bruns* for this ambiguous result, extracting only part of the *Bruns* rationale and utilizing only some of its holding. Thus the character right privileges afforded the artist of "Mutt and Jeff," "Spark Plug," and "Betty Boop" were denied to the creator of "Superman."[38]

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[32]*Id.* at 355.

[33]*Id.* at 352.

[34]191 F. 2d 594 (2d Cir. 1951).

[35]*Id.* at 6060.

[36]*Id.* at 599.

[37]*Id.* at 600.

[38]Kerson, *supra,* note 10 at 691:

> Thus where a fictional character can gain popularity without public identification as to source, the *National Comics* case would seem to bar the use of general principles of unfair competition to prevent character piracy.

Also at 692:

> The judicial contraction of the scope of unfair competition in the

The area of cartoon characters is still in a state of flux.[39] There have been no test cases to bring this field closer to that of literary characterizations.[40]

Performers' rights is the generic title for the second analogous area where courts find protection for personalities similar to those which this paper seeks for literary characterizations. Performers' rights have two aspects: the unique personality image and the collective entertainment personality.

Douglas Fairbanks, Sr., Charlie Chaplin, and the Lone Ranger are diverse examples of the unique personality image: a blend of publicized factual or fictional background data, exaggeration of personality traits, and channeled exploitation of particular skills. To insure the creative and financial efforts expended to make the public identify with these images, courts are willing to invoke the law of unfair competition. Since it was usually the posture of the case which determined the remedy, it would be a logical extension for courts to switch to the more reliable doctrine of copyrights to protect these personalities, visual characters parallel to their literary counterparts.

In *Fairbanks* v. *Winik*,[41] the New York Supreme Court awarded the cinema actor a temporary injunction to prevent the purchaser of Fairbanks' earlier feature films from chopping them into a series of two reel programmer and thus tampering with the actor's droit morale.[42] Although the Court stated no particular theory for granting relief, it is thought[43] that the contract cause of action was the basis.

Chaplin v. *Amador*[44] offers a more precise illustration of the growing trend to protect the intangible qualities of the unreal but albeit visible

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National Comic and the *Maltese Falcon* cases seem sound. Protection of fictional characters, divorced from consideration of name and physical appearance, comes dangerously close to the protection of ideas. If fictional characters, are to be protected by a monopoly granted to the creator, it should be through the copyright law, a statutory monopoly limited to fifty-six years, and not through the law of unfair competition, which has no definite terminal point.

[39]See: Archie Comic, Publications, Inc. v. American News. Co., 204 Misc. 1060, 125 N.Y.S. 2d 919 (Sup. Ct. Spec. Term 1953) is the most recent case concerning cartoon characters.

[40]See: *Nimmer on Copyrights* (1963), at 137 (§30).

[41]119 Misc. 869, 198 N.Y.S. 299, *rev'd* 206 App. Div. 449, 201 N.Y. Supp. 487 (1928).

[42]The "moral right" (droit morale) is a legal concept utilized to protect an author's artistic integrity and reputation in his works which others copy.

[43]Traicoff, "Rights of the Performing Artist in his Interpretation and Performance," 11 *Air. L. Rev.* 225, 230 (1940).

[44]93 Cal. App. 358, 269 Pac. 544 (1928).

screen figure. Amador was enjoined from imitating[45] the "Little Tramp" in name or mannerism.

Since this was also a state court action and no copyright claim involved, the decision rested on unfair competition relief. Since Chaplin's private life was dramatically different from his screen image and because monopolies were unavailable via costume design patents, the Court was shielding the character rights to the "Little Tramp."

In *Lone Ranger* v. *Cox*,[46] the plaintiff corporation alleged infringement of name and indicia, seeking an injunction and damages via unfair competition and copyright infringement, although the latter ground was not argued before the Court. The Court of Appeals for the Fourth Circuit[47] remanded to the District Court for an injunction enjoining the defendant from appearing under such misleading advertising,[48] which was diluting the value of plaintiff's fictional character.[49]

Courts have shown a definite tendency to guard fictional character rights in the following two cases, which go beyond a visual/audio commodity:[50] In *Pattern* v. *Superior Talking Pictures, Inc.*[51] the Court was shielding the image conjured up by the title name[52] through the writer's creation of a wholesome American boy, Frank Merriwell. In *Prouty* v. *National Broadcasting Company*,[53] the defendant utilized the title character of plaintiff's novel, *Stella Dallas*. The Court's refusal to dismiss the action,[54] demonstrates that the area of performers' rights is fast approaching the same high degree of judicial protection afforded to proprietors of cartoon figures.

The second subdivision of performers' rights concerns legal protection afforded the collective entertainment personality.[55] This composite image is created by name bands, opera companies, skilled recording companies and the like. Similar to the unique personality

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[45]*Id.* at 361, 269 Pac. at 545.

[46]39 F. Supp. 487 (W.D.S. Car. 1941), *rev'd*, 124 F. 2d 650 (4th Cir. 1942).

[47]124 F. 2d 650.

[48]*Id.* at 654.

[49]See: Lone Ranger v. Curry, 79 F. Supp. 190 (W.D. Pa. 1948). Also: Ettore v. Philco Television Broadcasting Corp. 229 F. 2d 481 (3d Cir. 1955), *cert. denied*, 351 U.S. 926 (1956), is relevant to this area, as well as to the field of right of publicity.

[50]As to exploitation by license to protect character rights, see: Wyatt Earp Enterprizes v. Sackman, Inc. 157 F. Supp. 621 (S.D.N.Y. 1958).

[51]18 F. Supp. 196 (S.D.N.Y. 1934).

[52]*Ibid.*

[53]26 F. Supp. 265 (D. Mass. 1939).

[54]*Id.* at 266.

[55]See: Traicoff, *supra*, note 43: *Kaplan & Brown, Copyright* (1958), at 589-590.

image, they suffer from dilution of value through unlicensed radio broadcasting, phonograph recording, and film televising.

For the purposes of this presentation, the following cases are cited *only* for their recognition of an intangible collective personality right and its occasional protection through the doctrine of unfair competition and common law property rights. Judge Learned Hand in *RCA Mfg. Co. Inc.* v. *Whitman*[56] recognized this emerging collective entertainment personality.[57] His argument can be extended to the other new media of communication as well.

Waring v. *WDAS Broadcasting Station*[58] was a Pennsylvania state court decision holding that the performance of Fred Waring's "Pennsylvanians" had been misappropriated. A similar situation involving Paul Whiteman's band was the basis of *RCA Mfg. Co., Inc.* v. *Whiteman.*[59] This decision in effect overruled the *Waring* case in the federal courts, holding that a restrictive legend on a recording could not fix a servitude once in the possession of a buyer. Contrary to some opinion in this area,[60] this author believes that the *RCA* case did not cut off the collective personality right initiated in *Waring.* At least, it gives token recognition[61] to the potential of this property right via indirection of the Court's opinion.[62]

In *Metropolitan Opera Assn* v. *Nichols,*[63] the plaintiff won injunctive relief and punitive damage relief against the defendant for pirating opera performances broadcast on radio. Here[64] the Court was protecting the high quality associated by the public with both the opera and recording companies.

In *Capital Records, Inc.* v. *Mercury Records Corp.,*[65] the Court of Appeals for the Second Circuit affirmed the theories presented in *Metropolitan Opera. Capital Records* effectively overruled the *RCA* decision by holding that the maker of records could retain a restrictive

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[56]114 F. 2d 86 (2d Cir. 1940).

[57]*Id.* at 88.

[58]327 Pa. 433, 194 Atl. 631 (1937). See: Waring v. Dunlea, 26 F. Supp. 338 (E.D. N. Car. 1939).

[59]28 F. Supp. 787 (S.D.N.Y. 1939), *rev'd* 114 F. 2nd 86 (2d Cir. 1940), *cert. denied,* 311 U.S. 712 (1940).

[60]Dubin, "Motion Pictures—Rights: United States & International," 28 *S. Calif. L. Rev.* 205, 235 (1955).

[61]114 F. 2d 86, 88 (2d Cir. 1940).

[62]*Ibid.*

[63]199 Misc. 786, 101 N.Y.S. 2d 483 (Sup. Ct. 1950), *aff'd* 279 App. Div. 632, 107 N.Y.S. 2d 795 (1951).

[64]199 Misc. 786, 796, 101 N.Y.S. 2d 483, 492 (Sup. Ct. 1950).

[65]109 F. Supp. 330 (S.D.N.Y. 1952), *aff'd,* 221 F. 2d 657 (1955).

servitude on records, even after the disc had been purchased by the buyer.

The most recent recording case is *Miller* v. *Universal Pictures Co., Inc.*[66] Besides contractual rights, the Court intimated that Glenn Miller had created a distinct sound with his orchestra which had evolved into a property right of unique performance. The plaintiff was denied relief upon appeal.[67]

These cases also suggest that the shelter bestowed by courts, although often unarticulated, upon performers' rights, can be extended to proprietors of fictional characters. These decisions offer substantial reasons for revising the status of fictional characters under the Act.

IV. WARNER BROS. PIC. INC., *v.* COLUMBIA BROADCASTING SYSTEM, INC.

There has been an inexplicable silence regarding character rights throughout the legal history of literary property. Richard Wincor[68] and Philip Wittenberg[69] have traced the origins from *Donaldson* v. *Becket*[70] to *Wheaton* v. *Peters*[71] and from the Statute of Anne[72] to the Copyright Act of 1909.[73] They suggest that character rights are a part of natural law, but this theory has never been put to a test.

The only federal decision which seemingly states that copyright protection of fictional characters cannot exist under the present Act is *Warner Bros. Pic. Inc.* v *.Columbia Broadcasting System, Inc.* ("Warner Bros.") .[74] This unfortunate result is an instance of misunderstood semantics, as will be shown *infra.* The ethereal result of the *Warner Bros.* case has obscured but not overruled the holding in *Nichols* v. *Universal Pictures Corp.* ("Nichols")[75], its noteworthy precedent.

In *Nichols* it is stated that statutory copyright for fictional characters can exist and that satisfactory guidelines for its scope of protection is feasible. Re-examination of *Nichols* reveals little or no basis for the so-called rule which has been read into the dictum of *Warner Bros.*

Nichols concerned the alleged plagiarism of Anne Nichols' play "Abie's Irish Rose" (1922) by Universal Pictures in their film "The

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[66]224 N.Y.S. 2d 662, 10 N.Y. 2d 972 (1962).
[67]Miller v. Goody, 139 F. Supp. 176 (S.D.N.Y. 1956).
[68]*From Ritual to Royalty* (1962).
[69]*The Law of Literary Property* (1956).
[70]4 Burr. 2408, 98 Eng. Rep. 257 (1774).
[71]33 U.S. (8 Peters) 591 (1834).
[72]8 Anne. c. 19 (1710).
[73]35 Stat. 1075 (1909), 17 U.S.C. §§ 1-216 (1958).
[74]102 F. Supp. 141 (S.D. Calif. 1951), *modif'd* 216 F. 2d 945 (9th Cir. 1954).
[75]34 F. 2d 145 (S.D.N.Y. 1929), aff'd, 45 F. 2d 119 (2d Cir. 1930).

Cohen and Kellys" (1926). In affirming the District Court's judgment that the plaintiff had not presented sufficient evidence of infringing, Judge Learned Hand observed:

> Nor need we hold that the same (as to appropriating a plot) may not be true as to the characters, quite independently of the 'plot' proper, though, as far as we know, such a case has never arisen. . . . It follows that the less developed the characters, the less they can be copyrighted; that is the penalty an author must bear for marking them too indistinctly.[76]

Too often the import of this landmark statement in the area of fictional characters is ignored and merely cited for the traditional proposition that when characters are used as another tool to test copyright infringement of a writing, the figures must be more than stock characters. Instead, Judge Hand's words unmistakably affirm the contention that *character protection via the Act exists in its own rigth as a feasible proposition.*

In *Nichols* The Court of Appeals for the Second Circuit[77] found that the four leading characters of plaintiff's romance were ". . . stock figures, the low comedy Jew and Irishman."[78] "The lovers are so faintly indicated as to be no more than stage properties. . . ."[79] Judge Hand summarily demonstrated that the people of "Abie's Irish Rose" were inadequate even as standards for testing plagiarism of plaintiff's expression of plot and theme.[80] However, a precedent now existed and proprietors of adequately-defined characters could shelter them under the Act per se. Unfortunately, few members of the writing or legal profession realized the full import of *Nichols* then; few do now!

In the *Warner Bros.* case, the defendants allegedly were guilty of copyright infringement and unfair competition of the novel and the motion picture version of "The Maltese Falcon."

The District Court for the Southern District of California[81] evolved an unprecedented theory that an artist was not divested of a perpetual right in his common law property by general publication, unless there was an overlapping statutory copyright privilege available in the area.[82] "Thus Hammett retained the right to use the characters of

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[76]45 F. 2d 119, 121 (2d Cir. 1930).

[77]45 F. 2d 119 (2d Cir. 1930).

[78]*Id.* at 122.

[79]*Ibid.*

[80]Universal Pictures Corporation made a successful series of "The Cohens and Kellys": ". . . In Paris" (1928), ". . . In Atlantic City" (1929), ". . . In Scotland (1930), ". . . In Africa" (1930), ". . . In Hollywood" (1932), and ". . . In Trouble" (1933).

[81]102 F. Supp. 141, 144 (S.D. Calif. 1951). For a more complete report, see: 216 F. 2d 945, 946-947 (9th Cir. 1954).

[82]In "Copyright 1955," 43 *Calif L. Rev.* 791 (1955), Melville B. Nimmer states

'Maltese Falcon' in subsequent works. And he was entitled to license third persons to use such characters,"[83] with one caveat.[84] Thus the District Court answered negatively the two questions posed in this case: "First, whether defendant actually used the copyrighted work; and second, if so, whether theirs was a 'fair case'."[85] Judgment for the defendant.

The Court of Appeals for the Ninth Circuit[86] should have based its affirming decision on the contract provisions between Hammett and WB.[87] Since the Court found that the plaintiff had no further standing in the matter once the contract provisions had been weighed, the remaining discussion of statutory copyright of fictional characters was dictum at best and not an alternative holding.[88]

The Court stated its *test* for determining the dividing line of what is a copyrightable character:

> It is conceivable that the character really constitutes the story being told, but if the character is only the chessman in the game of telling the story he is not within the area of the protection afforded by the copyright. The subject is given consideration in the Nichols case. . . .[89]

In delivering the opinion for the Court, Judge Stephens *must have* intended to follow the *Nichols* rule, as he relied on that decision so strongly. In rephrasing the test for sufficiently-defined characters as stated in *Nichols,* he incurred and propagated a semantical problem.[90] It appears that Judge Stephens blended the facts of *Nichols* with the rule suggested by Judge Learned Hand in that decision.

It is strange that Judge Stephens offered no analysis of the character Sam Spade,[91] but rather blandly stated: "The characters were vehicles for the story ('The Maltese Falcon') told, and the vehicles did not

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at 793:

> Certainly no preceding cases have ever hinted at such an extreme result. This implication is contrary to established copyright law, and seems to extend the scope of copyright protection far beyond the dictates of a wise public policy.

[83]102 F. Supp. 141, 147 (S.D. Calif. 1951).

[84]*Id.* at 147-148.

[85]*Id.* at 148.

[86]216 F. 2d 945 (1954).

[87]*Id.* at 950.

[88]*Ibid.*

[89]216 F. 2d 945, 950 (9th Cir. 1954).

[90]See: Nimmer, "Copyright 1955," 43 *Calif. L. Rev.* 791, 794 (1955).

See: Morris Ebenstein in the Introduction to *Rothenberg, Copyright Law* (1956), in which he criticizes Judge Stephens' analysis of the role of legislative enactment, at ix-xxx.

[91]In "The Maltese Falcon" (1930), Dashiell Hammett describes his detective-hero quite effectively at 3, 4, and 14.

go with the sale of the story."[92]

Thus, the *Warner Bros.* case has obscured *Nichols.* A re-evaluation of its applicability to copyright law is definitely in order.[93] Reading *Warner Bros.* for what it must have intended to state, would allow literary characters to enjoy their deserved status as copyrightable subjects.

V. The Technical Aspects of a Copyrighted Fictional Character

Assume that statutory copyright of a fictional character is fully recognized under the Copyright Act of 1909. This creates new legal and trade advantages for the writer. The limited application of trademark and tort law to one side, an unfair competition action would no longer be the sole remedy.[94] The latter has been used by the courts to assuage a wrong once it has occurred. In contrast, statutory copyright offers both limited monopoly privileges and more stable remedial protection.

The extent of benefits afforded the writer for his characters under the Act is best defined by illustration. Suppose that John O'Hara creates per se a fictional character named "Lois Francis." He could now obtain a copyright for this character, as an unpublished work via §5 and §10 of the Act, and keep the figure for some future vehicle. On the other hand, if he wishes to sell the rights to "Lois Francis," a producer would be more eager to purchase the item now that O'Hara can assign to him a federally protected and defined property right. (The copyright is now a substantial piece of evidence to prove earlier creation, should a question of access arise in an infringement suit.)

Under the recognition assumption, no longer must the character first be a part of a writing to gain ancillary status and protection from the Act. In copyrighting the character "Lois Francis," O'Hara could merely list her qualities, developing only the expression of her personality description beyond a mere listing of uncopyrightable ideas: (i.e., the written description of the character is not the protected copy-

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[92]216 F. 2d 945, 950 (9th Cir. 1954).

[93]See: Ebenstein, Morris, Introduction to *Rothenberg Copyright Law* (1956), at xvii.

[94]See: Sears, Roebuck & Co. v. Stiffel Co. 375 U.S._____ (1964), and Compco. Corp. v. Day-Brite Lighting, Inc., 375 U.S._____ (1964), which demonstrate a new judicial trend away from the use of unfair competition as an alternative catch-all remedy for nonstatutory protected items. The tremendous import of these cases remain to be seen as they affect in particular the realm of copyright law in the federal courts.

Cf.: Proposed Federal Unfair Commercial Activities Act, H.R. 7833, 86th Congress, 1st Session, 1959, H.R. 4590, 87th Congress, 1st Session, 1961, S. 1036, 87th Congress, 1st Session, 1961, H.R. 10038, 87th Congress, 2nd Session, 1962, and S. 2784, 87th Congress, 2nd Session, 1962.

rightable essence of a character. The fictional character is not artistically completed by the written word. The outer objective and inner subjective facets of a character are not confined to the past or to the present. The writer's delineation of the personality merely creates a sufficient basis from which the reader's mental image of the "word portrait" allows the character to be recognizable in future situations.)

Even after the copyright expires in fifty-six years,[95] or is abandoned, the remedy of an unfair competition action *may still* exist to prevent anyone from utilizing the character and confusing the public as to the source of the figure's origin. Granted, once the status of fictional characters under the Act is recognized, the allegedly timeless protection of the common law property right in the character would be lost.

Without detailing the action procedure, the form of a copyright infringement suit for alleged plagiarism of characterization would be similar to the format now employed by the courts for testing the validity of infringement actions for the misuses of copyrighted expression of plot and theme. As with the latter analogous area, the procedure used must be sufficiently flexible to avoid restrictions on creative efforts as well as preventing circumvention of the Act.[96] There are several landmark cases[97] which illustrate the evolving procedure employed by courts to determine copyright infringement of expression of plot and theme, which could be adapted by triers of fact in the fictional character area.[98]

VI. Means of Obtaining Recognition for Statutory Copyright of Fictional Characters

The more feasible and expedient alternative to remedy the situation would be to encourage the (re) education of the legal profession and writers on the *current copyrightable nature of fictional characters,* ei-

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[95]But see PL. 87-668 (September 19, 1962), 76 Stat. 555:

> That in any case in which the renewal term of copyright subsisting in any work on the date of approval of this resolution would expire prior to December 31, 1965, such term is hereby continued until December 31, 1965.

"Economics of New Copyright," *Variety* (August 12, 1964), at 7, 14.

[96]See Kerson, *supra,* note 10 at 695.

[97]See: Frankel v. Irwin & Scott, 34 F. 2d 142 (S.D.N.Y. 1918); Dymow v. Bolton, 11 F. 2d 690, 692 (2d Cir. 1926); Nichols v. Universal Pictures Corp., 34 F. 2d 145 (S.D.N.Y. 1929), *aff'd,* 45 F. 2d 119 (2d Cir. 1930), *cert. denied,* 282 U.S. 901 (1931), (see, esp. 45 F. 2d 121-123); Shelton v. Metro-Goldwyn, 7 F. Supp. 837 (S.D.N.Y. 1934), *rev'd,* 81 F. 2d 49 (2d Cir. 1936), *cert. denied,* 298 U.S. 669 (1936), (see. esp. 7 F. Supp. 842-844, 81 F. 2d 49, 54).

[98]Cf. Umbreit, "A Consideration of Copyright, 87 *U. of Pa. L. Rev.* 932, 952 (1939).

ther as an independent unlisted class of §5 of the Act or as a sub-class of the various "writings" categories in §5. By clarifying the *Warner Bros.* dictum-rule, it would appear obvious that as per *Nichols,* literary characterizations are subject to statutory copyright if they rise above public domain stock figures.

The legal shelter afforded the analogous categories of cartoon figures and performers' rights, substantiate the copyrightable nature of fictional characters. It is a logical extension of the judicial trend to protect the latter as well as the former subjects. However, this judicial protection now achieved nominally through the remedy of unfair competition actions, should be removed to the specific area of the actual theory of relief—statutory copyright law.

The other viable alternative to remedy the situation would be to urge Congress to specifically add another class entitled *"Fictional Characters"* to the list of suggested copyrightable items in other sections of the Act (in particular, §§ 10, 12, 13). It would alert the legal profession and the writing trade to the fact that fictional characters are and always have been copyrightable under the Act. By clarifying the status of literary characterizations, Congress would be specifically meeting its constitutional duty: "To promote the Progress of Science and useful Arts, . . . "[99] for the literary trade. Hopefully, the statutory area will then catch up to the practices of the marketplace[100] which for many years has been dealing with the problems of the character rights in its own ways—often, overly-complex and overly-generous in bestowing benefits and penalties since there are no legal sanctions in this uncharted area.

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[99]Congressional statutory revision proposals in re the Copyright Act of 1909 have been prepared for House Approval, but no particular mention has been made of the problem dealt with this presentation. See: "Further Drafted Copyright Proposals," *Variety* (August 12, 1964), at 7, 14, and (August 7, 1963), at 22.

[100]According to an interview with Richard Wincor, Esq., October 4, 1963.

Compare: Broadcaster-Writers Guild Radio Basic Agreement of 1960, Art. 8 (D), 11 (B)(6); Producers-Writers Guild Theatrical Basic Agreement of 1960, Art. 35 (e); 1960 Television Film Basic Agreement, Art. 18 (N)(h), 20.

REVIEWS AND ANNOTATIONS

Recently Published or Reported Material Relating to the Research Institute's Work

Books, Pamphlets, Periodicals

Ansell, Edward O. and Hamilton, Alfred L., "Security Considerations in Filing Patent Applications Abroad," *American Bar Association Journal,* Vol. 50, No. 10 (October 1964), pp. 946-950.

"The authors enumerate the statutes and regulations concerning the filing of patent applications abroad and they point out out the steps required under the present conditions. They suggest that measures be taken to eliminate the procedural maze and duplication of the government effort that marks the present system."

"Architectural Plans, 'Loss of Common-law Copyright,'" *Alabama Law Review,* Vol. 16 (Spring 1964), p. 451.

"Battle Over the Compulsory License: Mechanical Recording of Music," *University of Colorado Law Review,* Vol. 36 (Summer 1964), p. 501.

Brenner, Hon. Edward J., "Address of Commissioner Edward J. Brenner," *Journal of the Patent Office Society,* Vol. 46, No. 7 (July 1964), pp. 463-474.

"I would like to talk with you this afternoon about certain plans and programs which we intend to initiate in the near future in the patent examining area.

"Thus, it seems evident that we cannot continue to operate along present lines in the future, and that changes must be made which will have a substantial effect on our ability to handle our workload. In view of this, we are planning to take the following steps: (1) We plan to make changes which will give a better balance between workload and manpower in the various Operations; (2) We plan to adopt certain new examining procedures which will become effective on July 1, 1964; and (3) we plan to vigorously pursue additional studies directed toward maximizing the effectiveness of the time our Examiners spend on examination."

Brenner, Hon. Edward J., "American Economy, The Patent System, and the Bar," Text of an address before the Tenth Annual Corporate Lawyers' Institute, Park Motor Inn, Madison, Wisconsin, at 6:30 P. M., Monday August 3, 1964. *Journal of the Patent Office Society,* Vol. 46, No. 9 (September 1964), pp. 607-614.

"It is quite possible, however, that the next five to ten years may be the most significant in the history of the United States Patent System since it was first established in 1790. For example, important matters in the picture at the moment include new procedures to simplify and expedite the examination of patent applications; substantial efforts to cope with the enormous searching problems created by the ever increasing volume of technical and scientific literature worldwide, a recommendation to establish a Presidential Commission to review the U.S. Patent System and recommend possible statutory changes, cooperation with other countries on the international patent front, a new Patent Office building and increased patent fees."

Buxbaum, R. M., "Patent Licensing: A case study on antitrust regulation within the European economic community." *Antitrust Bulletin,* Vol. 9 (January-February 1964), p. 101.

Campbell, R. W., "Assisting Your Inventor-Client," *Michigan State Bar Journal,* Vol. 43 (May 1964), p. 26.

Castrodale, Robert A., "The Current Reconsideration in Europe of Trademark Protection Available Against the Importation of 'Genuine Goods,'" *Journal of the Patent Office Society,* Vol. 46, No. 7 (July 1964), pp. 502-530.

"(1) Trademark protection should not be available to protect a distributor against unwanted imports of the genuine products.

"This should be true regardless of who owns the mark.

"(2) However, trademark protection should be available to a domestic manufacturer, be he an independent licensee, or a wholly-owned subsidiary of a foreign parent."

"Conduct of Federal Agencies and How They are Likely to Affect Our Use of Trademarks:" "Food and Drug Administration and Trademarks," C. A. Karnavas; "Federal Trade Commission and Trademarks," M. L. Stockell; "Department of Justice and Trademarks," Robert E. LeBlanc; "Other Government Agencies and Trademarks," *The Trademark Reporter,* Vol. 54, No. 7 (July 1964), pp. 492-534.

"Copyright Restrictions on the Vitality of Canadian Theatre,"

Faculty of Law Review, University of Toronto, Vol. 22 (April 1964), p. 139.

Day, R. S. Jr., "State Anti-Dilution without a Statute," *Trademark Reporter,* Vol. 54 (August 1964), p. 590.

Derenberg, W. J., "Seventeenth Year of Administration of the Lanham Trademark Act of 1946," *Trademark Reporter,* Vol. 54 (September 1964), p. 655.

Dykman, Harry T., "Patent Licensing within the Manufacturer's Aircraft Association (MAA)," *Journal o fthe Patent Office Society,* Vol. 46, No. 9 (September 1964), pp. 646-659.

"Since the new patent policy of the U. S. Government includes a compulsory licensing provision, it is interesting to examine an Association which has as a basic policy a system of voluntary licensing, which, within the Association, is an effective substitute for compulsory licensing."

Finniss, G., "The Theory of 'Unity of Art' and the Protection of Designs and Models in French Law," *Journal of the Patent Office Society,* Vol. 46, No. 9 (September 1964), pp. 615-630.

"The French conception of the unity of art could not be more clearly stated than by an exposition of historical character, setting forth the conditions under which it has been progressively formed, by a very slow evolution which has reached its fruition only at a recent date.

"Such a method of 'dynamic' exposition presents a double interest. It brings out, first of all, the fact, often misunderstood, that the French judicial system, based on a rigorous differentiation of the domains of 'pure art' and 'applied art,' and of the legal provisions which apply to each of them, has arrived after some time, and not without effort, at the notion of unity of art. The latter does not represent then a primitive conception which the evolution of industry would make null and void today, but quite to the contrary it represents the result of reflection supported by experience.

"The evolution of French jurisprudence shows, in fact—and this is the second interest of its study—that our courts have had recourse to all criteria of differentiation between 'minor art' and 'major art' and they have successively abandoned them, after confirming their insufficiency, before deciding to eschew all such differentiation at the present time."

Hadl, R. D., "Parody Lyrics—The 'Mad' Magazine Case," *Bulletin of the Copyright Society of the U.S.A.,* Vol. 11 (June 1964), p. 319.

Iandiorio, Joseph S., "Patent Pools and the Antitrust Laws," *Journal of the Patent Office Society,* Vol. 46, No. 10 (October 1964), pp. 712-745.

". . . the efficient and effective application of our antitrust laws leaves us with only the smallest of pools to consider. In the future, perhaps, even now, a more appropriate name might be 'patent puddles.'

"The efficacy of analyzing these smaller pools is twofold. If we truly have seen or are seeing the last of the great pools then we are following the path of legal and economic progress. If large pools still appear from time to time then knowledge of the attitude of the courts toward minor pooling arrangements will certainly be of the utmost importance in predicting their decisions involving the larger agreements. Size and market dominance, especially by a large number of parties, will never enhance a defendant's position in an antitrust suit.

"In attempting to analyze the attitude of the courts toward the legality of patent pooling then, the approach taken here is to view separately each of the aspects chosen as the most prominent criteria used by the courts in deciding whether a given patent interchange has crossed the line into antitrust violation, in order to gain a fuller understanding of these elements when they appear in the aggregate in the decisions."

Illinois State Bar Symposium, "Conglomerate Merger and Reciprocity-Condemned by Conjecture?" E. H. Harsha; "Antitrust Aspects of Joint Ventures," J. C. Berghoff; "The Fred Meyer Case—its implications under Section 2 (d) of the Robinson-Patman Act," E. H. Hickey; "Cost Justification," A. E. Sawyer; "Agency and Consignment Selling," J. E. S. Baker; *Antitrust Bulletin,* Vol. 9 (March-April 1964), p. 201.

Kenney, E., "Commonwealth Copyright Law on Compilations and Telephone Directories," *American Bar Association Journal,* Vol. 50 (July 1964), p. 652.

Klein, Arthur O., "Why U. S. Corporations Should Now File Patent and Trademark Applications in Hungary," *Journal of the Patent Office Society,* Vol. 46, No. 8 (August 1964), pp. 584-593.

"This raises the paramount questions in the mind of U. S. patent counsel

a) whether it is worthwhile to file patent applications on U. S. inventions in Eastern Europe,

b) whether Eastern European patents and trademarks can give effective protection to a U. S. corporation, and

c) whether mutually profitable

licensing agreements can be entered into with suitable 'state enterprises' of Eastern Europe.

"The writer will only discuss Hungarian industrial property rights in this article, leaving the discussion of Rumanian industrial property rights for a second article."

Latham, Paul L., "Copyright Duration," *American Bar Association Journal,* Vol. 50 ,No. 10 (October 1964), pp. 958-960.

"Mr. Latham argues against the proposed extension of copyright duration beyond its present fifty-six years. Such an extension, he contends, would have a deadening effect on the production of new and useful works, and this would defeat the basic purpose of copyright protection."

McCarthy, J. Thomas, "A Patent Licensing Policy for Minimizing Antitrust and Misuse Risks," *Journal of the Patent Office Society,* Vol. 46, No. 8 (August 1964), pp. 547-576.

"The purpose of this paper is to present a generalized outline of an economically feasible licensing policy that a medium-sized research or manufacturing corporation can follow and still operate within the scope of its patents and keep clear of the prohibitions of the Sherman Act and the Clayton Act."

Marks, Frank H., "Copying an Article of Commerce Not Necessarily Unfair Competition," *Journal of the Patent Office Society,* Vol. 46, No. 9 (September 1964), pp. 660-665.

"Petitions for certiorari were granted by the U. S. Supreme Court in both the *Day-Brite* and *Stiffel* cases solely as to the unfair competition issue, 374 U. S. 825, 102 L. ed. 1050.

"The Court went on to reaffirm the established law that unfair competition might be found under State Law on the basis of secondary meaning, confusion or palming off. However, the Court emphasized, neither 'these facts nor any others can furnish a basis for imposing liability for or prohibiting the actual acts of copying and selling, regardless of the copier's motives.'

"Corollaries under the *Stiffel-Compco* ruling have appeared in three published decisions of the New York Supreme Court, viz., *Columbia Broadcasting System, Inc.* v. *Documentaries Unlimited, Inc.,* 140 USPQ 686, on reargument, 141 USPQ 310; *Flamingo Telefilm Sales, Inc.* v. *United Artists Corp., et al.,* 141 USPQ 461 and *Capitol Records, Inc.* v. *Greatest Records, Inc.,* 142 USPQ 109.

"All of these cases were decided for the plaintiff under the Supreme Court's dictum in Stiffel-Compco that State Law, statutory

or decisional, may in appropriate circumstances grant relief where deceptive or fraudulent practices rae shown, such as palming off or mislabeling."

Morley, M. G., Wylie, I. M., "Infringement of Copyright by Reproduction," *Australian Lawyer,* Vol. 5 (July 1964), p. 102.

Pravel, B. R., "The Need for the Impartial Expert in Patent Litigation," *Journal of the Patent Office Society,* Vol. 46, No. 8 (August 1964), pp. 535-546.—Reprinted with permission from *Houston Law Review,* Vol. I, No. 3 (Winter 1964), pp. 272-279.

"The expert who is employed and paid by the party for whom he testifies has become known as a 'partisan' expert. Bench and bar alike have become increasingly outspoken concerning the problems of using partisan experts in personal injury litigation. Mr. Pravel deals with the objectionable features experienced in personal injury litigation through employment of the partisan expert, and he more particularly notes the additional problems which are peculiar to patent litigation. The writer further treats recent United States Supreme Court action favoring jury trials in patent cases as accentuating the problems of the partisan expert when patent cases are tried to a jury. The solution advanced is the selection of the patent expert by the trial judge from a panel of experts, with adequate safeguards being provided to protect the rights of the litigants."

"Proposed Amendment to Section 5 (A) of Clayton Act Would Increase Evidentiary Aid for Subsequent Litigants," *New York University Law Review,* Vol. 39 (May 1964), p. 518.

Sawer, G., "Australia-Embarrassing Interlude," *Bulletin of the Copyright Society of the U.S.A.,* Vol. 11 (June 1964), p. 313.

Schwartz, Herbert F., "Competing Claims for Jurisdiction Between Federal Courts in Patent Suits," *Journal of the Patent Office Society,* Vol. 46, No. 10 (October 1964), pp. 685-711.

"In the decade following *Kerotest,* most lower federal courts have followed its counsel by avoiding mechanical solution of the complicated problems faced by coordinate courts in the multiple party patent litigation situation. In a few instances their quickness to affect other proceedings is questionable instead of a course of judicial self-restraint. A minority of courts, by overemphasizing the separate statutory right to sue infringing customers as well as manufacturers as the reason to refuse to affect concurrent proceedings have fostered solutions tending to be mechan-

ical and inapposite to the *Kerotest* mandate."

Smith, A. A., "In Vino (David Mogen Brand) Veritas?" *Trademark Reporter,* Vol. 54 (August 1964), p. 581.

Stewart, C. E., Jr., "Antitrust Considerations Involved in Product Distribution," *Business Lawyer,* Vol. 19 (July 1964), p. 967.

"Subtests of 'nonobviousness': a nontechnical approach to patent validity," *University of Pennsylvania Law Review,* Vol. 112 (June 1964), p. 1169.

Swartz, E. M., "Protection of Intangible Interests," *Massachusetts Law Quarterly,* Vol. 49 (June 1964), p. 107.

Tournier, J. L., "Reappraisal of the First Seven Years of Application of the French Law on Copyright of March 11, 1957," *Bulletin of the Copyright Society of the U.S.A.,* Vol. II (June 1964), p. 295.

Tunnell, J. M., Jr., "Lawyer in General Practice Looks at the Trade Mark Specialty, Its Prime Functions and Some of Its Present Concerns," *Trademark Reporter,* Vol. 54 (July 1964), p. 487.

von Kalinowski, J. O., "Per se Doctrine-An Emerging Philosophy of Antitrust Law," *U. C. L. A. Law Review,* Vol. II (May 1964), p. 569.

Wade, Worth, *Industrial Espionage and Mis-Use of Trade Secrets,* Advance House, Ardmore, Penn. (1964), 134 pp.

This book is a "practical handbook for business executives, security administrators and research directors." It should also be of interest to lawyers. Written in manual form, the book consists of 21 chapters and 4 appendices. Both the chapters and appendices are quite brief. The last appendix is a bibliography which is followed by an index. As is the case with Dr. Wade's other manuals, this one is written in nontechnical language and can be read very rapidly. It provides much useful information. In view of the current interest in the subject matter, the sample of chapter titles chosen at random is informative: "Techniques of Industrial Espionage, Contributory Negligence in Industrial Security, The Mobile Employee and Trade Secrets, Security Measures for Management, Security Controls in the Patent Department, Legal Remedies Under U. S. Federal Laws, Relief Under U. S. State Laws, Legal Remedies Under Foreign Laws."

Wetzel, James M., "The New Approach to Infringement-271," *Journal of the Patent Office Society,* Vol. 46, No. 9 (September 1964), pp. 631-645.

"Now that some ten years have passed since the effective date of the Patent Act of 1952 and we do have some decisional history that lends of investigative support, it may be well to take measure, if we can, of the success that we have bred from this new section 271 entitled 'Infringement of Patents.' "

Wood, L. I., "Patents, Antitrust and Prima Facie Attitudes," *Virginia Law Review,* Vol. 50 (May 1964), p. 571.

Yarbrough, F. L., "Protection of Territorial Rights in Corporate Names and Trade Names," *Business Lawyer,* Vol. 19 (July 1964), p. 925.

REPORTS

Annual Report of the Offic eof Economic and Manpower Studies, fiscal year 1964, National Science Foundation.

"An important objective of the Office has been to emphasize what the national totals represent in terms of progress for science itself, the ultimate aim of the Foundation. In this direction, the national totals for research have been divorced from those for development, a necessary beginning to probe the meaning of these components. Throughout the following account of the year's activities, the changes in direction may be better understood if they are viewed in relation to these objectives.

"The program activities of the Office reflect the functions as stated in part I. Part II describes and classifies the work under (A) the manpower studies, (B) the R&D studies, (C) the foreign studies, and (D) the general analyses.

"Publications giving the results of the surveys and special studies are listed in appendix A. Appendix B lists the current contracts and grants by organizational unit of the Office."

Employment of Scientific and Technical Personnel in Industry, 1962, Bulletin No. 1418 (June 1964), Bureau of Labor Statistics, U. S. Department of Labor.

"This report presents the major findings of a survey of the employment of scientific and technical personnel in industry as of January 1962. The survey, the fourth in a series of similar surveys, was conducted by the Bureau of Labor Statistics, U. S. Department of Labor. The series was developed under the sponsorship of the National Science Foundation, which published the reports on the earlier surveys. These surveys of industrial employment of scientific and technical personnel are a part of a

comprehensive program designed to yield complete coverage of the employment of scientists and engineers. The Bureau of Labor Statistics conducts related surveys of State government agencies biennially, and of local governments on an occasional basis. Other U. S. Government agencies cover the remaining sectors of scientific and technical employment."

Research And Other Activities of Private Foundations, 1960, NSF 64-14, National Science Foundation, Surveys of Science Resources Series.

"To obtain a better picture of the volume and characteristics of research and other activities supported by private foundations, the National Science Foundation conducted a survey of these organizations covering the year 1960. This report presents and analyzes the final data from this survey. The study is part of an overall statistical program of the National Science Foundation, designed to appraise the Nation's resources devoted to research and development and related activities. This program obtains data from four major sectors of the economy: industry, the Federal Government, colleges and universities, and other nonprofit organizations. Private philanthropic foundations are part of the nonprofit sector, which also includes organizations such as independent nonprofit research institutes and professional and technical societies."

NOTES

First Clinic Signal Achievement

The first Clinic of The PTC Research Institute was held on December 3, 1964 on the campus of The George Washington University.

The topic chosen was: Forms of Statutory Protection of Intellectual Creations American Companies Need, Now and in the Future, in the Light of Recent Court Decisions and Existing Company Situations. A limited number of leading specialists, invited to participate in this unique experiment, permitted informal exchange. To encourage discussion, it was agreed that the report of the proceedings would be subject to the approval of all participants.

Clinic discussion was led by the following four experts: Marcus Hollabaugh, an antitrust specialist with the firm of Hollabaugh and Jacobs; Jesse W. Markham, a member of the staff of the Research Institute and a Professor of Economics, Princeton University; Harry R. Mayers, a member of the Research Institute's Advisory Council and General Patent Counsel of the General Electric Company; and Walter A. Slowinski, a tax specialist and resident partner of the firm of Baker, McKenzie and Hightower. L. James Harris, Executive Director of The PTC Research Institute acted as moderator.

The deliberations of the meeting were highly successful and further meetings, sponsored jointly with The George Washington University Graduate School of Public Law, are planned for 1965.

Inventor Films Being Negotiated

Negotiations are underway with the first group of organizations concerning participation in the motion picture series "Living Archives of Inventors" which the Research Institute is producing. We look forward to establishing a program of films of outstanding living inventors that will be available to academic institutions, television and motion picture media, business firms, and other institutions throughout the world. The films will underscore the relationship of the industrial property system to the protection, assignment, and marketing of inventions.

Digest to Highlight Conferences

We are gratified that the Annual Public Conference numbers of *IDEA* are attracting increasing attention. The next issue of the *Digest* of the Institute will be devoted to the last three Conferences. The themes of these Conferences were: Current and Emerging Problems in Property Rights to R&D and Related Information; Fostering and Rewarding Invention in the Company, the Government, and the University; International Outlook on Industrial Property.

Additional Year For Edison Fellows

Candidates applying for The Thomas Alva Edison Fellowship may, in the future, be granted an extension of the Fellowship for an additional year to a total of two years, should the Research Institute deem this in the best interest of the Fellowship objectives. Candidates must satisfactorily meet the degree requirements in one of the graduate schools of The George Washington University and must apply on or before April 1, 1965.

Applications for this Fellowship should be directed to The Patent, Trademark, and Copyright Research Institute of The George Washington University, Washington, D. C. 20006, and should include evidence of high intellectual and personal qualifications for productive scholarship, proposed outline of thesis, and letters of recommendation from two professors with whom the applicant has studied or worked.

This Fellowship of $3,000 is made available annually to The PTC Research Institute by The Thomas Alva Edison Foundation, with special assistance from The McGraw Foundation.

Members are urged to bring this Fellowship to the attention of potential candidates.

Duncan Named For Student Award

The Patent Office Society Student Award has been presented to John Robert Duncan, a student in the George Washington University Law School. The award is made annually for the best paper by a student in the Seminar and Lecture series conducted by the Institute. Mr. Duncan received a citation and honorarium of $100 contributed by the Society. His paper, "The European Patent Convention As A Guide To Modernizing Our Patent Examining System," is published in this issue of *IDEA*.

The three previous winners of the Patent Office Society Student Award have been Mr. Jerry Cohen,

Mr. R. Steven Pinkstaff, and Mr. Don W. Martens, who wrote on "The Constitution and Enforcement of Government Owned Patent Rights," "Copyright Notice Requirements for Foreign Works Published Abroad," and "Trademark Registration of Patented Articles—Extension of Monopoly?", respectively.

The Clinic

The first Clinic-Seminar of The Patent, Trademark, and Copyright Research Institute was held in December 1964 on the campus of The George Washington University.

The topic chosen to be explored in depth was the "forms of statutory protection of intellectual creations American companies need, now and in the future, in the light of recent court decisions and existing company situations."

The Clinic was limited to a relatively small group to permit informal discussion and exchange among the participants. Actual company situations were considered and opinions were expressed on appropriate corrective action. Attendance was by invitation, and the group primarily included experienced, top-level practitioners.

To encourage give and take, it was understood that no public report or publication of the stenographic minutes of the meeting would be authorized without the express consent of all participants. The edited minutes as published in this issue of *IDEA* have received that consent.

Clinic discussion was moderated by L. James Harris, the Executive Director of The Patent, Trademark, and Copyright Research Institute, and was led by the following four experts:

Marcus Hollabaugh, an antitrust specialist with the firm of Hollabaugh and Jacobs;

Jesse W. Markham, a member of the staff of the Research Institute and a Professor of Economics, Princeton University;

Harry R. Mayers, a member of the Research Institute's Advisory Council and General Patent Counsel of the General Electric Company;

Walter A. Slowinski, a tax specialist and resident partner of the firm of Baker, McKenzie and Hightower.

Summary

Executive Director Harris welcomed the participants and informed them of the nature, purpose, and procedure of the Clinic. He pointed out that it was intended "(1) to develop a more effective *instrument of communication* among the users of industrial property by means of a Clinic interchange; (2) to develop a generally unaccessible *type of information,* based on actualities that might enhance the decision making of the Courts, the Congress, and the interested citizenry; and (3) to *develop a record* which might be used as a foundation for additional research and as a guide to further effort in improving the systems for the protection of intellectual creations.

"To accomplish these purposes, we will engage today in a unique and bold experiment to distill from the experience of some of the leading specialists in corporate industrial property practice the essence of the problems facing them in their actual company situations, and to exchange opinion on appropriate action that might be taken with respect to such actual situations. To do this, we are going to experiment with a new instrument which we call a Clinic. This will differ somewhat from a medical clinic in that (1) only a limited number of leading specialists are participating; (2) the participants have been selected for their experience and position; and (3)—and I think this is most important—the deliberations of this meeting will be held strictly confidential. The consent of all participants is necessary for publication of the proceedings, or any part or summary thereof."

Following his presentation, the Executive Director introduced Mr. Marcus Hollabaugh, one of the four discussion leaders. Mr. Hollabaugh presented a resume of recent court decisions relating to patent antitrust matters. He pointed out that the permissible area of commercial exploitation of patents has been narrowed during the past 25 years mainly by judicial decision. He was of the opinion that the Antitrust Division has exhibited a deep distrust of patents and patent activities. He cited the Division's amicus briefs filed in two recent patent cases in which "there were no antitrust issues at all." He went on to detail the frontal attack the Division was now making against "what remains of the General Electric doctrine." Mr. Hollabaugh recommended that those that have outstanding licenses with price-fixing agreements in them re-examine such licenses.

Dr. Markham, another discussion leader, stressed the extraordinary activity going on in the antitrust and patent policy area. He concurred with Mr. Hollabaugh "that the area of permissible conduct seems to be

narrowing considerably." Dr. Markham was particularly interested in "how much and in what direction and in what specific ways" permissible conduct was being narrowed.

Dr. Markham indicated that there was, in the cases, a growing tendency of turning antitrust toward the protection of small enterprises. He pointed out that although a relatively small percentage of the total recorded mergers are challenged, when the cases get to the Supreme Court, the Government is generally the winner. Dr. Markham wanted to know how this atmosphere affected business men in acquiring property capable of producing goods and services. He concluded his remarks by raising several general questions relating to the 17-year patent protection.

The presentations of the first two discussion leaders were followed by a comment from one of the Clinic participants on Section 7 of the Clayton Act. He questioned whether companies that have capital but lack staff to commercially develop certain major products relating to their business could sell the patent rights to a corporation already engaged in the field without violating Section 7. He stressed the hesitation of companies to enter a joint venture, and suggested the desirability of obtaining clarification of Section 7 doctrine with respect to such ventures. This was thought to be particularly necessary where the penalty for violation of the antitrust laws might throw open the patent structure of a company dependent thereon.

At this point reference was made to the *General Electric* case doctrine and the control of minimum selling prices. The Clinic was told about the bill drafted in the late 40's by the Patent Section of the American Bar Association recommending to the Congress that the principles of the *General Electric* case be legitimatized.

Mr. Mayers, a discussion leader, to demonstrate that in the field of economic policy circumstances alter cases, directed his opening remarks to the former free trade policy of England, the present Japanese merger policy and United States past policy with respect to mergers.

He went on to say that one of the circumstances in the future which might conceivably suggest alteration in our statutory laws for the protection of inventions is the possibility that by the year 2000 the cost of our allocation of resources to the pursuit of science will exceed the total gross national product. Another circumstance he referred to is the backlog of work, which is now increasing in the Patent Office.

A third circumstance he noted concerns the attitude of the Supreme Court with respect to intellectual creations as revealed in the recent *Sears Roebuck* & *Compco* cases.

Mr. Mayers thought the following eight questions might profitably be discussed by the Clinic:

"First, what kind of patent system, if any, would be optimum for the last one-third of the twentieth century?

"Second, what practical obstacles may prevent our having or maintaining the optimum kind of patent system?

"Third, if a compromise patent system must be accepted in the interest of practicality or expediency, what forms of compromise should industry favor?

"Fourth, in the field of product simulation, is there any better legal solution than that adopted by the Supreme Court in the *Sears* and *Compco* cases?

"Fifth, in the trade secrets area, assuming a statutory approach, what kind of statute would best reconcile the needs of our society for mobility of technical personnel with industry's interest in protecting the results of innovative investment?

"Sixth, in the area of appearance design, what prerequisites to legal protection should the law impose?

"Seventh, in the area of copyright, are the present proposals to extend the period of protection from the present maximum of fifty-six years to a possible maximum of over one hundred years compatible with the interests of our industrial economy?

". . . [Eighth,] should the same ground rules of copyright apply to scientific and technical writing as to writings which are produced for literary or artistic purposes?"

Mr. Mayers invited the Clinic first to consider the kind of patent system that would be optimum for the last third of the twentieth century.

It was suggested that additional examiners be engaged by the Patent Office, greater financial support be provided by the Government, that Patent Office fees be increased and a new Patent Office building be provided. Another participant cautioned that now, when technology is burgeoning, would be the worst time to leave tested methods and adopt the less successful methods being used in other parts of the world.

One participant recommended that the Patent Office review its internal functioning. Another referred to the almost complete removal of the patent system from Government procurement, the difficulty of enforcing patents, and the undue rigidity and waste in the system of obtaining patents. Considerable discussion was also devoted to a deferred examination system. It was pointed out that some less developed countries are looking to the United States Patent System as a model

that they might adopt. A member of the Clinic thought that it would be helpful to place the burden of the Patent Office prosecution on the applicant and also proposed that the claiming system be radically changed.

Each Clinic participant was asked by the moderator to indicate specifically the problems, in the fields of interest to the Clinic, that troubled him most. Among the problems voiced were:

1. over-technical Examiners
2. time, expense and risk involved in patent litigation
3. provision for interim protection of a broad concept on a broad disclosure
4. differences in the requirements of our system as compared to the European systems
5. Government patent policy
6. difficulty of obtaining patents rapidly
7. interference practice
8. Patent Office correspondence
9. acquisition and retention of qualified professional personnel
10. difficulty of enforcing trade secrets
11. defensive patent applications
12. publication
13. appeals to Board of Appeals
14. opposition procedure
15. package licensing
16. expert witnesses and unscientifically trained judiciary
17. copyrights
18. ambush claims in trademark matters

The afternoon session commenced with a presentation by Mr. Slowinski. He pointed out that the United States has an industrial property lead in some industries and that this lead can be utilized to sell, license or distribute abroad, and to earn dollars resulting in increased tax revenues at home.

Mr. Slowinski cautioned that the other commercial nations of the world have become sophisticated in their tax systems and the business man must be careful that he does not pay taxes abroad which cannot be recovered via tax credit. He referred to the bellwether reports that had been published in *IDEA* on foreign licensing and taxation.

Mr. Slowinski called attention to the countries in which the royalty rate may be prescribed by a local government or limited through controls on foreign exchange, taxes, et cetera; the possibility of obtaining capital gains treatment in the United States if all substantial rights to industrial property are granted in an exclusive license in a specific

country to an unrelated licensee; the exchange of industrial property for shares of stock in new foreign joint ventures in tax free reorganizations under the United States Internal Revenue laws; and the use of military sales and licensing of industrial property rights to certain foreign governments or corporations for military production.

After a brief discussion of tax matters, the Clinic returned to the question of litigation, Patent Office practice, and trade secrets. The latter was examined in some depth.

The final part of the afternoon session was devoted to a consideration of compulsory licensing, misuse, direct appeal to the Supreme Court in civil antitrust cases, proposed copyright legislation, particularly copyright protection accorded to computer programs and the possible antitrust implications.

The Proceedings of the Clinic

DECEMBER 3, 1964

STATUTORY REQUIREMENTS OF COMPANIES FOR PROTECTION OF INTELLECTUAL CREATIONS

The first Clinic of The Patent, Trademark, and Copyright Research Institute was convened at 9:15 a.m., L. James Harris, Executive Director, presiding.

EARLY MORNING SESSION

WELCOME

EXECUTIVE DIRECTOR HARRIS: I should like to welcome you all on behalf of The George Washington University and The Patent, Trademark, and Copyright Research Institute of the University.

I know you have had a little difficulty getting here this morning and we do appreciate your promptness.

The major purposes of this Clinic are (1), to develop a more effective *instrument of communication* among the users of industrial property by means of a Clinic interchange; (2), to develop a generally unaccessible *type of information,* based on actualities that might enhance the decision-making of the Courts, the Congress, and the interested citizenry; and (3), to *develop a record* which might be used as a foundation for additional research and as a guide to further effort in improving the systems for the protection of intellectual creations.

To accomplish these purposes, we will engage today in a unique and bold experiment to distill from the experience of some of the leading specialists in corporate industrial property practice the essence of the problems facing them in their actual company situations, and to exchange opinion on appropriate action that might be taken with respect to such actual situations. To do this, we are going to experiment with a new instrument which we call a Clinic. This will differ somewhat from a medical clinic in that (1) only a limited number of leading specialists are participating; (2) the participants have been selected for their experience and position; and (3)—and I think this is most important—the deliberations of this meeting will be held strictly confidential. The consent of all participants is necessary for publication of the proceedings, or any part or summary thereof.

As in the case of a medical clinic, we are seeking to diagnose the actual complaint of the patient in order to understand the generally felt disease. Before indulging in theory we want to know what is wrong, where it hurts. If we can diagnose the complaint, perhaps we can work up some practical remedy and be in a position to determine the prognosis and perhaps develop generalizations. But first, to mix a metaphor, we must talk "nuts and bolts". What we want to do here, today, is to let our hair down. We are not going to pry for any skeletons that your companies may have in their closets. We do not intend to disturb industrial or other trade secrets.

On the contrary, we believe this interchange of technical opinion and technical information will serve the larger interests of your companies. But if we are going to come up with some practical, useful solutions, we must achieve an accurate diagnosis.

Realistically speaking, this means that we must tell, at least ourselves, the facts. This requires an attitude of trust among experts so that they may function with maximum effect as knowledgeable citizens to provide guidance for the responsible decision makers with respect to the "forms of statutory protection of intellectual creations American companies need, now and in the future, in the light of recent court decisions and existing company situations."

Such open and frank professional discussion can best be accomplished under academic aegis. As an integral part of a great institution of learning and pursuant to the objectives of our charter, the Research Institute has undertaken this exploration today as one of its research functions and in furtherance of the public interest. We do not conceive the public interest to be incompatible with constructive private interest. Of course, we will discuss court cases, but today we have to go further and find out what it is that doesn't show up in court cases, or in questionnaires; what it is that keeps companies from going near the water; what it is that prevents companies from achieving their full potential in the profitable use of industrial property rights.

It originally had been suggested that we invite to this meeting certain Government officials having major responsibilities in the area of interest. We early decided against this, for this initial meeting, in order to avoid anything that might discourage frank professional discussion. In fact, as I previously mentioned, no public report will be made of this meeting unless all the participants consent to publication. However, let me say, at this point, that publication need not necessarily be verbatim. If it is the consensus of the Clinic, a suitably edited type of public record may be authorized.

I believe that it is essential to have some kind of record of this

meeting available to certain publics, if their decisions are to benefit from our specialized and informed deliberations and if further productive study is to be guided by this group.

Indeed, I believe that the Clinic at this time has a unique opportunity to enlighten the Congress, the executive agencies, the courts, fellow practitioners, the general public, and to influence academic research on industrial property.

The appointment of a patent panel to the Commerce Technical Advisory Board and the steps it recommended with respect to administration, international activity, examination of the law; and flowing therefrom the administrative actions taken by Commissioner Brenner, the establishment of an international office in the Patent Office, and the recommendation that a Presidential Commission be appointed, have recently occurred. Furthermore, Senator McClellan has written a number of letters to "large patent-holding corporations" seeking corporate views with respect to the patent system.

A new patent design law has been in the process of development, and a revision of the copyright laws is imminent. I am sure you are all aware of the antitrust, unfair competition and tax legislative stirrings that have been going on lately in the Congress.

I think you are all well acquainted with our four specialists who are to lead the discussion. There is Marcus Hollabaugh, who is an antitrust specialist with the firm of Hollabaugh and Jacobs; Jesse W. Markham, a member of the staff of the Research Institute and a Professor of Economics, Princeton University; Harry R. Mayers, a member of the Research Institute's Advisory Council and General Patent Counsel of the General Electric Company; and facing me is Walter Slowinski, a tax specialist and resident partner of the firm of Baker, McKenzie & Hightower.

Mr. Hollabaugh will make the introductory presentation to which Dr. Markham will make a short response to help direct the discussion at the outset. Mr. Mayers will make his presentation after the coffee break.

The afternoon session will be introduced by Mr. Slowinski. Dr. Markham and Mr. Hollabaugh will make short statements following the afternoon coffee break. Mr. Mayers will sum up at the completion of the discussion. Luncheon will be served at 12:30. There will be coffee breaks at 10:30 a.m. and 3.

I have asked three members of the Research Institute's research staff, in addition to Dr. Markham, who is one of the discussion leaders, to be present. Dr. Bangs is a tax economist; Dr. Sanders, a statistician-

economist; and Dr. Siegel, an economist, specializing in technology and productivity.

As I mentioned in my letter of invitation, subsequent Clinics will be co-sponsored with the Graduate School of Public Law of The George Washington University, and Dean Mayo of that school will join us for a short while after the coffee break. I expect President Colclough to pay us a visit this afternoon.

Please feel free to speak at any time. This is an informal discussion. I emphasize the "informal". If you get the urge, just raise your hand and you will be recognized.

Marc, will you lead the discussion? By the way, Marc, do you think it would be better to retain your seat? Would it be easier to remain seated?

MR. HOLLABAUGH: Let's all sit down.

EXECUTIVE DIRECTOR HARRIS: I think it will be more informal that way. I stood up for the greeting.

MR. HOLLABAUGH: Good morning, gentlemen.

His reference to sitting down reminds me of the old legend in the hills. The feeling used to be that if a child, a baby, could speak well, he'd been kissed in the mouth by an angel, or that if he had excellent eyesight, the angel had kissed him in the eye. I hope you will note that I do my best work sitting down. (Laughter)

As you know, the theme of this meeting today is the "forms of statutory protection of intellectual creations American companies need, now and in the future, in the light of the recent court decisions and existing company situations."

To me, this theme comprehends two basic questions: (1), what is the present state of the law, and (2), what, in the best interest of the creators—the companies expending vast sums of money to create—and our general business economy, should the law be?

As a practicing attorney, I spend most of my energies trying to find out the answer to the first question. This, in itself, is a difficult task, as the so-called antitrust patent field of law is sometimes exceedingly complex. It is frequently impossible to accurately predict all of the implications of a particular judicial decision, and the penalties are harsh if one errs in his prediction.

I daresay that, even if a Solomon should give up all of his thousand wives, take a vow of chastity and concentrate all of his time and effort in the patent antitrust field of law, he would find it both vexing and confusing, just as we do.

Under these circumstances, I think that The Patent, Trademark, and Copyright Research Institute should be congratulated for its

efforts to sharpen and define these problems and to seek balanced solutions. After all, what could be more important than the statutes and precedents governing the development and exploitation of technology in this age of technology?

Now, as a background for the discussion today, Mr. Harris has asked me to present a quick resume of the most recent developments, particularly those in the Supreme Court, relating to patent antitrust matters.

Without attempting at this time to indicate whether I think they're good or bad, I shall begin by presenting the following points which seem to me to be necessary to a realistic appraisal of where we find ourselves today.

1). Insofar as patentable inventions are concerned, there are already in existence, of course, the patent laws, which are intended to provide statutory protection for such intellectual creations that fall within its scope.

However, the metes and bounds of the permissible area of commercial exploitation of patents are determined by the antitrust laws. And during the past 25 years, mainly by judicial decision, the area of permissible conduct has been narrowed, and it is conceivable that it could be narrowed even more.

2). In this scheme of things, the Antitrust Division of the Department of Justice has the power, and for practical purposes, sometimes the decisive power, to investigate and determine whether the metes and bounds are narrowed or broadened.

So far, the Division has exhibited a deep distrust of patents and patent activities. While the Division has brought relatively few patent antitrust cases within the past five or six years, it has, during that same period of time, in my judgment, struck at patents in a new way.*

I refer to the Division's amicus briefs filed in the *Convertible Top* and the *Thys* cases, neither of which cases involved orthodox antitrust issues, and if I recall—and I was trying to think even back in the period of time when there were probably more patent antitrust cases pending

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*In a speech delivered January 27, 1965, to the Antitrust Section of the New York State Bar Association, Assistant Attorney General Orrick made special mention of the Division's current renewed interest in patent cases and its policy of filing amicus briefs in the Supreme Court. He announced that the Department was filing such a brief in *Walker Process Equipment, Inc.* v. *Food Machinery Corp.*, a treble damage case, decided by the U. S. Court of Appeals in Chicago (1964 Trade Cases, paragraph 71.175). The complaint charged that a patent owner had monopolized commerce in patented equipment, in violation of the Sherman Act, by using a fraudulantly obtained patent. The Court of Appeals held this did not allege a cause of action.

in the Antitrust Division than any other single kind of case—I don't recall that the Division ever brought or ever filed an amicus brief in private litigation unless there were some that I call orthodox antitrust questions involved.

But if you will notice both in the *Convertible Top* and in the *Thys* cases, these were what I would call purely patent cases. And as far as I can recall or can find, there were no antitrust issues at all, except to the extent that one might argue, I suppose, that if you limit the scope of the patent statutes and narrow them, then perhaps, this has some implication in the area of restraint of trade and freedom of competition, and so forth. But the point I am making is that both of these cases involve purely patent issues. And in both of these cases, the Division's brief or briefs played a substantial role in persuading the Supreme Court to further narrow and restrict the scope of the patent laws.

3). In view of this long line of unfavorable decisions or decisions unfavorable, generally, to the patent owner and the Division's attitude, I think it might be appropriate to use an analogy that has been used with respect to trade associations.

Jim Withrow used to say that a trade association could be compared to an airplane. An airplane operates in a dangerous medium which, unless it is properly designed, is mechanically sound, and skillfully piloted, will result in a disastrous crash. I believe the same analogy probably would be just as apt when you are talking about commercial exploitation of patents.

And in getting back to the Antitrust Division, as we will come to it in more detail in a moment, the Division is now making another frontal attack upon what remains of the *General Electric* doctrine of the 1926 case.

Now, I'm sure that all of you gentlemen are familiar with this case. You may not be familiar with the arguments made in the jurisdictional statement which the Department filed, not too long ago, in the Supreme Court, and I want to spend a few moments on that, if I may.

As you probably know, the grand jury, in Detroit, returned a criminal indictment, charging that the *Huck Company* and the *Townsend Company* had violated Sections 1 and 2 of the Sherman Act by restraining trade and conspiring to monopolize the manufacture and sale of patented lock bolts—which are metal fastening devices used principally in the construction of aircraft.

The basic charge was Huck, the patentee, and Townsend, the licensee, had agreed Townsend would sell the patented product at the prices and terms and conditions fixed by Huck, and Huck would issue

no additional licenses under the patent for so long as Townsend maintained the fixed prices.

Following the presentation of the Government's evidence, the criminal case was dismissed. The companion civil case was tried and Judge Macrowitz granted defendant's motion to dismiss.

Subsequent to the entry of the judgment and the filing of the notice of the appeal to the Supreme Court, the District Court granted the defendant's motion to supplement the record by adding two pretrial orders.

The Court added, over the Government's objection, the following statement to one of the pretrial orders:

"On October 15th, reporting on the applicability of the *General Electric* case, the Government stated that it is not attempting to have the doctrine set in the *General Electric* case overruled and stated only that the facts in this case do not fall within that doctrine, that the doctrine is still good law, but does not apply as the actions in this case are illegal without application of the doctrine and that it will write a letter, by December 29th, describing in what way the facts of this case differ from the facts of the *General Electric* case. A copy of the letter to the Court, dated October 10, 1962, from the Assistant Attorney General of the United States, is attached hereto and made a part hereof. The letter referred to by the Court sets forth the Government's reasons for believing that the facts of this case do not fall within the General Electric doctrine."

What this comes to is that there is a squabble as to whether or not it is appropriate, under these circumstances, for the Department in the Supreme Court to attack what remains of the General Electric doctrine. But the Department, in its jurisdictional statement, has asked the Supreme Court to overrule the General Electric doctrine completely and, as you recall, of course, that was the doctrine that held it was legal for General Electric, the patentee, to grant a license to make the patented article on condition that the patentee maintained the price at the level fixed by the patentee.

There is a second question presented in the jurisdictional statement. That is, whether, even if the General Electric doctrine is not overruled, agreement by a patentee not to grant additional licenses as long as the licensee follows the price which it sets, contravenes Section 1 of the Sherman Act.

Now, this is about the fourth time that the Department has made an effort to get the Supreme Court to overrule the General Electric doctrine completely. Although the Supreme Court has severely limited

the doctrine in the past, it thus far has been unwilling to completely overturn it.

Now, while it seems to me that the Court could reverse the District Court without reaching the question of whether or not the doctrine should be overturned—and if the Supreme Court should do that, I should say it would be on a very weak case. Nevertheless, in trying to decide what the Supreme Court might do under the circumstances, there is another course I suppose, open to the Supreme Court, which would not require it to overturn the doctrine.

But my view is, I would not be surprised at all if at this time the Supreme Court does overturn the doctrine completely.

By the way, one reason I say I would not be surprised is that I don't think that the Antitrust Division has lost a case in the Supreme Court in about four years, maybe five. And those of you that have read the *Thys* decision recently—which I don't regard as much of a decision or a very persuasive decision—I think that the Antitrust Division's amicus brief in the *Thys* case was one of the reasons why they got the result they did.

But going back to the reasons that the Government advances as to why the General Electric doctrine should be overturned, first they make the standard argument that the patent owner derives no more from his statutory grant than the right to exclude others from making, using, and selling, and so forth. And then they argue, in return for royalty, he may agree to waive that right of exclusion permitting a licensee to manufacture the patented product free from the threats of an infringement suit, but that there was nothing in the patent laws, patent statutes, which authorizes the patentee to demand as an additional quid pro quo for waiving the right, a price-fixing agreement plainly prohibited by the antitrust laws.

The second argument they make is that the doctrine has been distorted and used as a color of legality for schemes not properly within the scope of the doctrine.

And then this is the interesting argument that they are making here in the jurisdictional statement. They say in the *Line Material* case—The last time the question was before the Court the eight justices split four-to-four. At that time the Court was understandably reluctant to disturb business arrangements which had been "repeatedly, even though hesitatingly, made in reliance upon the contractor's interpretation of General Electric and its antecedents". Today there is little ground for such solicitude.

Line Material served notice, according to the argument: All license agreements entered into prior to *Line Material* and thus in justifiable

reliance upon the General Electric doctrine, will have expired by 1965.

Well, let me give this background. Of course, as you know, there is lower court authority to the effect that you may have understood the General Electric doctrine of a single license price fixing, and I suspect there are, perhaps, several such licenses in existence. All I wanted to say to you, is in the event any of you have any outstanding licenses with price-fixing agreements in them, I would strongly recommend that you re-examine your licenses, take a look at this jurisdictional statement, make your minds up as to what you think the dangers are of reversal, and it may be advisable, depending upon your decision, to take some steps to deal with the matter. This is the reason I raise it this way. And, of course, if you have such a license and you don't do something about it prior to such decision, I think the dangers in that situation could vary, depending upon what the Supreme Court does and how it does it.

I can imagine, however, that if the Supreme Court should decide to overturn the doctrine completely, indicating that such agreements have been illegal ever since the passage of the Sherman Act or the beginning of time, it could create treble damage problems, I should think, or at least inspire and stimulate the institution of treble damage suits that would be a problem to you or to your companies.

There is one point in the jurisdictional statement or one on the point about the *Huck* case that I would point out to you. It seems to me that so often businessmen get into trouble by doing something that may have been perfectly innocent—or let us put it this way—giving a sinister air or an appearance of evil to some act of theirs which, if they handle it in a normal way, probably nobody would pay any attention to it.

One of the reasons that attracted the Department in this case was that they were having a conference between the Townsend and Huck representatives and near the end of the meeting, the President of Townsend asked the attorneys to leave the room, stating that the others wanted to "talk business". Well, of course, I haven't the slightest idea what they talked about, but I will give you odds that if they had not done that—and if no one had given any appearance of evil to this thing, I doubt—It might have had considerable influence on whether or not the Department even got in the case in the first place.

I am sure all of you are familiar with the *Thys* decision which came down last month and held that a patentee may not require, in a patent licensing agreement, the payments of royalties for the use, after the

patent has expired, of a machine which incorporates mechanisms covered by the patent.

Now I won't take any time to discuss that at the moment, other than to point out one thing about it. In the Government's amicus brief, it says: "To be sure, had the machine been unpatented, the parties, if permitted by state law, could have entered into an agreement for its sale on precisely the same terms."

Then the argument is made that: "The fact it was patented constitutes critical difference and compels a contrary result. Since the owner of the patent is granted an exclusive right to exploit his invention, he is in a far stronger bargaining position."

Of course, what this really means is that if the Court continues to follow the course it has been on, if we have not already reached this point, we soon will reach the point where a patentee has fewer rights than a nonpatentee, insofar as the product is concerned.

I want to mention that in the trademark field the *Susser* v. *Carvel* case is before the Supreme Court now. It deals with the question of alleged tie-ins and trademark licensing in connection with the sale of soft ice cream. Another case I would like to mention to you very breifly is the *Seeley* case, from Chicago, on the question of territorial licensing.

The Department brought a suit in the District Court of the Northern District of Illinois and that Court said that the territorial phases or aspects of the agreement were not in violation of the law and dismissed the case as to that question.

Now there are probably other cases around that I should mention, but I won't at the moment because we need to move along and I wanted to start us off by mentioning these particular cases. If any of you have any comments or questions about them, we would be very pleased to hear them and we ought to discuss them because it might well be that the Supreme Court will now knock out whatever is left of the General Electric doctrine.

Thank you.

EXECUTIVE DIRECTOR HARRIS: Jesse, will you do us the favor of responding?

DR. MARKHAM: Well, Marc Hollabaugh has already given you one of the reasons why I consider this a very important conference. I think if anybody had been writing on public policy prior to, oh, say fifteen years ago, as they frequently did, I think the general attitude of any group like this would have been that public policy is what it always has been and there's no presumption that it's going to be much different in the future. And that is particularly true, I think, if you

take a look at these areas that Marc Hollabaugh has been identifying, such as antitrust and patent policy.

What I'm saying is: It is an extraordinarily active area and therefore for this reason, while it might be a little painful on the business community, it at least, becomes a fascinating topic and a very timely one, I think, to explore.

Now, I would concur in what Marc Hollabaugh has said, namely, that the area of permissible conduct seems to be narrowing considerably. I think you would use "narrowing" as well as "has been narrowed" implying that the process is still going on. And I'd like to take one or two of these areas and view them from the point of view of an economist; and raise with you some questions, because I think economists might answer some of these from the point of view of an economist in terms of his more abstract models, but he always assumes that businessmen are logical and will always do the logical thing, but from an economist's definition of what is logical. So he may not get too far in predicting precisely what effects all of these may have for several reasons.

Similarly, I think lawyers might reason somewhat abstractly in terms of all the cases that have been handed down. What I'm really saying, gentlemen, is that this is a very good time for you to educate the people at this end of the table, but let me raise some questions first, so that I can indicate my own area of comprehensive ignorance on some of these things.

An economist basically would be concerned not only with the basic problem of whether the permissible conduct of business has been narrowed. I think you can agree to this. But what seems really to be important is how much and in what direction and in what specific ways.

Take antitrust policy, for example. It is perfectly obvious that here we have had movements that are swift, decisive, and dramatic in terms of outlawing certain practices heretofore considered to be quite legal, and the doctrines under which they have been declared illegal seem to be so inclusive that they could be extended to almost anything.

For example, at least from an economist's point of view, if you take the so-called "deep pocket" doctrine as announced in the *Procter and Gamble* case, its acquisition of Clorox, one could, by extension, argue that we are on our way toward making illegal the acquisition of any firm by any large firm that has any small firms with which it is in competition.

Now, obviously, the case itself doesn't go that far, but if you distill from it the language of the decision, you can easily see this being ap-

plied to any such merger, conglomerate merger, as this. To what extent and how does this affect the future course of the growth of corporations in the American economy?

Take another doctrine, the one that was announced or enunciated in *Brown Shoe* and considered further in some of the more recent cases. Here, again, one could conclude by a rather extravagant interpretation of that case, that virtually any vertical merger involving the top six, seven or so firms in any market—that is, provided any one of them in any of the vertically related markets is relatively that large—can be declared illegal if you have in these same markets unintegrated producers, in this case retailers of shoes or manufacturers of shoes, in competition with the vertical firm that is created by the vertical merger.

So there are several constructions, I think, that can be put on the recent trend of antitrust and we are not likely to know very much about them until the business community speaks up and tells us how such trends really affect them.

Obviously, much of this has been cast in terms—or at least I have been inclined to cast it in terms—of an extension of what has traditionally been done by the Small Business Administration.

There is, I think, a growing tendency in these cases to insert language that is consistent with a subtle, but nevertheless obviously developing policy of turning antitrust toward the protection of small business enterprises.

One might argue that from one point of view this is, therefore, protecting corporate property rights of small business by maintaining a safer environment for it to operate in. This is a question.

Again, one could state, however, this is depriving even small business of some of its corporate property rights in that one of your rights should be also to dispose of assets once you have created them, and it is perfectly obvious that that freedom to dispose of property has been restricted in the framework of these cases. And it is perfectly obvious, also, that large corporations especially are having certain restrictions put on them that heretofore they had not had.

But then it is relevant to ask: How important is this from the overall performance of the economy and, indeed, how does it affect most companies?

For example, we hear the statistic very often thrown around—To be sure, as Marc has suggested, no antitrust case has been lost before the Supreme Court. I think I can go further and say no Section 7 case, since 1950, has been lost—

MR. HOLLABAUGH: Right.

DR. MARKHAM:—by the Department of Justice or the Federal Trade Commission, before the Supreme Court. But, then, those cases total relatively small, in terms of the percentage of total recorded mergers.

What I am really saying is if you are challenged, you are likely to be found guilty, but the prospects of being challenged, at least in terms of total numbers, don't seem to be so great.

We get about a thousand or fifteen hundred recorded mergers a year. The two agencies tend to, on the average, issue from twelve to fifteen civil actions or complaints. I think this is, roughly, about right. They build up a backlog. But I think by last count they probably, at one stage or another, had decided around sixty or sixty-five of them. They are winning like mad when they get to the Supreme Court. There's no question about that. But the number that they have won is still a relatively small percentage of all mergers. It may be that many of these that are overlooked are completely inconsequential, but we just don't know about that.

I think one of the really important questions is: What do decision-makers in business consider this atmosphere to be in terms of their own activities, in terms of launching out into new product lines, and the acquisition of property already in being and capable of producing goods and services.

Just how serious a constraint do they consider antitrust?

I have appeared around the country in some of these executive programs—I don't know whether there is anyone here from IBM or not. Is there?

EXECUTIVE DIRECTOR HARRIS: There is. Mr. Hanifin.

DR. MARKHAM: You may remember that I have been around at some of these at Sands Point and I think the general consensus of President Tom Watson of your company would be that IBM now is, in view of the present status of the law, barred completely from acquisition; that it considers that it is in such a position that it could not acquire anything. At least it could not acquire anything without probably prior clearance from the Department of Justice in writing that "in perpetuity you won't challenge this." Why? Because of its great technological lead, particularly in electronic data processing machines, et cetera, and its foothold there that it has had and so forth.

I think you could raise some of the same questions about the present tenor and movement of patent policy. I here again agree with all that Marc has said. I'm not as familiar with this topic as Marc is. But let me throw out some questions that are being batted around among social scientists these days. While this used to be an innocent sport, it is

now fairly dangerous because you are likely to be called before a Senate committee if you state them in words. They get published in Senate hearings; then the staff reporter will pick you up and quote you. So the first thing you know you've said a good deal of gospel about patent policy where all you really were doing was being speculative at one time in front of a group of students.

(Laughter)

Well, some questions that are being raised about the patent law, about the patent laws—and my friend Mr. Wolk knows about this in the context of, say, the Drug Patent Law. Here was a movement expressly to limit the duration of the patent protection period to six years and, really, in one version to three where you had exclusive use for only three years, compulsory licensing for the next three, and dedication to the public at the end of six, which is a rather serious revision of the patent law.

There is the question, just because it's been proposed in the context of a single industry, whether or not even those who are not in the drug industry shouldn't raise serious objections to this approach. Why? Because, first of all, it affords disparate development under a general law to one industry vis-a-vis all others.

Indeed, I think I could argue, with some persuasion, that what you would really do with this kind of a statute, without even committing yourself on whether or not the patent laws, as presently administered, stimulate progress or not—What one would say I think is that you would certainly tend to destimulate progress in drugs and stimulate it more effectively in other industries, and I'm not so sure society wants to pay this price in an industry, say, like the drug industry.

And I'm sure that this question hasn't really been raised this way—that disparate treatment is somewhat different from total treatment because it does have these disparate effects.

Some more general questions being asked are: Do we need to have seventeen-year protection when most of the ventures these days are being made within the context of a large corporate laboratory where it can more or less develop its own actuarial tables and it really isn't tackling the uncertain, the way we used to think it was, and therefore needed high rewards, possible rewards, in case it were successful. Is it true that the large corporate laboratory can pretty well predict that one out of twenty, one out of eighteen, one out of fifteen ventures will be sufficiently successful to carry the losses? If this would be true, the fact that you can predict, it then becomes something like an insurance problem and not an activity that needs special seventeen-year protection.

Another question that's being raised, and rather seriously, is whether or not you should have different years for different types of invention. It seems, on the part of those who propose this view, that it's rather ridiculous to give seventeen-year protection to a new bottle cap and, at the same time, seventeen years to a really massive stride in technology or a new product that requires an investment in plant and equipment that cannot be depreciated in less than twenty years. The latter one argues for perhaps longer protection, the first one for much shorter protection.

Well, I have specialized here in raising questions rather than answering them, but these would be some of the questions that I should think the business community could shed some light on and at least enlighten some of the academicians that occasionally have to express themselves on them.

EXECUTIVE DIRECTOR HARRIS: Thank you, Jesse.

Gentlemen, I'm sure that the discussion thus far has generated a good deal of thinking. Are there any questions or responses from the table?

Yes, Mr. Brown.

MR. BROWN: I would like to comment briefly on Mr. Markham's reference to the Section 7 situation. Our company is somewhat peculiar in that our products—all of our products—are patented.

We are in an extremely vulnerable position—at least, this is management's position—so far as antitrust violations are concerned. Any antitrust violations which would result in throwing open the patent structure would be disastrous. We have a highly imaginative, ingenious chap at our head, Dr. Land, who spawns inventions literally by the dozen. Some of these are in fields in which we are not now active.

For example, we have certain major products which are related to our business only in that they deal with optical matters. But we are not engaged commercially in the specific fields in which these products are being developed.

We lack the mechanical knowledge, if you want to call it that, to bring these ideas to fruition promptly. We would welcome, and we are anxious to enter into some sort of joint arrangement with a company already engaged in these fields which has the technical ability to commercialize them and market them, and we hesitate to do so because of the Section 7 rule.

We have the capital. We are not looking for capital. We have the capital to develop these fields but we lack the staff. We can't get the men. It seems to me that we have a situation here, which may be more typical than I know, where what I would call venture capital remains

dormant and stagnant and where the economy suffers from the inability to invest the venture capital freely without the danger of antitrust violations. The economy suffers in that these new products are not coming on the market.

We even question whether we could sell the patent rights outright in these products to a corporation already engaged in the field, whether this would not constitute a violation of Section 7. So we are faced, essentially, with the situation where, because of *Penn-Olin,* we hesitate to enter into any joint venture where we ourselves cannot sell the product, and it therefore doesn't get on the market.

I think this is a bad situation. I think there should be some clarification of the Section 7 doctrine with respect to joint ventures. God knows it's up in the air now. Nobody knows what you can do. I think there should be some recognition of the desirability of getting venture capital more freely available because if we're in an economy where you have to run like the Red Queen in order to stand where you are, you need venture capital and you need new productions and you need expansion of the economy. This is a major problem with us and it's a major problem because of our patent structure, because of our dependence upon the patent structure and because of our fear that a penalty for violation of the antitrust laws would be throwing open the patent structure.

If you get big enough, if you do not have a patent structure, if all you are faced with is a cease and desist order, this is something you can live with, but you cannot live with a penalty which takes away the bulwark upon which you are really going to maintain—to be quite frank about it—to maintain the entire corporate manufacturing and marketing systems.

We are not making and selling products on a competitive basis. We are making and selling our products on a basis in which the patent structure heavily supports corporate profits. And it would mean a complete overhaul of the manufacturing and selling techniques of the company, if the patent structure went down the drain.

MR. HOLLABAUGH: Well, I can understand your fears—perhaps I shouldn't say this—but it is my recollection, or to the extent I know anything about your company, that your company started from scratch, that it has grown, and you have made virtually no acquisitions of your own.

MR. BROWN: Everything has been internal growth.

MR. HOLLABAUGH: You fellows started from scratch and you have built what you have. I think a way could be found by which you could sell the patents, if you wished to, without running too great a risk.

Maybe I'm speaking off the top of my head too much but I think a way could be found to do that. Another possibility, which I'm sure you fellows have thought about, is the idea of setting those patents that you don't have any particular need for in your own manufacture into a separate corporation as a licensing organization. I suppose you have given thought to that and there may be practical problems about that. But I should think that possibly that could be done, if you wished to. However, it may not, as a practical business matter, be as profitable for you as maybe the sale of the patents outright.

I have always been curious about one thing, and this doesn't really go with your question. In the joint venture-type situation, particularly where the joint venture is directed to doing research, I have always had in the back of my mind, the thought that two companies go together to perform joint research, and if that arrangement between them has a provision in it that one year after a patent is issued we will license it to all comers at a reasonable rate of royalty—but having a year lag on all patents before you actually follow that—I wonder if you could not cut the ground right out from under the critics of the joint venture for research. Now, I don't think it would necessarily work where it is a joint venture for manufacturing, but I have often wondered—I think you could make a very good argument in the court if anyone questioned this joint venture, if you had that kind of a provision in it, where you are saying, "Look, we're going to do joint research. We hope we get patents out of this. It is going to cost us a lot of money and we're not going to license the patents the day we get them, but we'll license the patents one year after we get them or some reasonable period of time after the patent is granted," and assuming the joint venture is an otherwise fairly reasonable venture—I think you could sustain that kind of joint venture. I have always been looking for a situation like that because I have thought there were some real possibilities in that kind of approach.

MR. BROWN: Excuse me. You see, what you have just said points up an attitude of difference in approach that I think is very important.

You would welcome a situation of that kind in order to try it out in the courts. We can't afford taking the chance, and this is something that you fellows have got to realize.

MR. HOLLABAUGH: Wait a minute.

MR. BROWN: I'm not going to approve a situation which has a 60-40 chance of winning unless this is the only way, only possible way, of doing it, and even then I may not approve it if the penalty is disproportionately great.

What I'm looking for and what I'm never going to get—I'm perfectly

free to admit—is reasonable asurance that what we're doing is legal. We don't want to violate the laws: nobody does.

MR. HOLLABAUGH: I understand that.

MR. BROWN: This is the thing: The penalties in connection with an antitrust violation are so disproportionate, it seems to me. This is the frustrating and inhibiting part of it.

DR. MARKHAM: You mean in your particular case it could be almost devastating?

MR. BROWN: That's right.

DR. MARKHAM: Your risk is more than losing your right in the particular patent involved.

MR. BROWN: That is right.

DR. MARKHAM: But that this may shake the whole enterprise that rests on patents?

MR. BROWN: That is right.

DR. MARKHAM: I would like to have you extend your idea on this joint venture thing. As I read that, almost in that last decision the mere fact two firms entered into a joint venture was pretty much sufficient evidence to indicate that they were potential competitors in the sense that both had planned to get into this product line and, unless I misread it, you coud again say, if you take the harsh view that I have toward some of these others, that all joint ventures are virtually, per se, illegal, particularly if carried on by large firms.

MR. HOLLABAUGH: I think that is true now, and you are speaking now of a manufacturing joint venture?

DR. MARKHAM: Yes.

MR. HOLLABAUGH: A moment ago my comment was directed to joint research.

DR. MARKHAM: Mr. Brown, you see, has patents already. He wants to produce a product.

MR. HOLLABAUGH: May I make this kind of comment. Again, it doesn't solve your problem. One of my criticisms of the antitrust policy, enforcement policy—and having been a participant in it at some stages, I guess maybe I'm not in much of a position to talk about some of these things—that is in the sense of being too critical—but it seems to me that one of the common faults in Washington in various programs—it is true in antitrust and it is true in various agency activities in other fields—is that a Government agency sets forth upon a course of conduct and they grind out a form of relief in antitrust, and in every case it is sort of the same mechanism. You have an antitrust case and you have compulsory licensing of the patents. I think one of the things this sort of an organization should do is this: As I have gone over it

I have come to the view that competition in the research lab is one of the most important of all of the forms of competition that we can have. I think the time has come, either by writing or talking to people in the Justice Department, to undertake to convince them of the point of view that these 107 judgments that we had outstanding, in which there is compulsory licensing required, is not the end-all, so far as appropriate relief is concerned, and that what you're really doing—and I would still reserve on this—There are certain types of cases where I think compulsory licensing—assuming there is a violation—would be an appropriate form of remedy. But I believe that it is time for the boys at the Antitrust Division to back up and start thinking in terms of, "What are we doing with a compulsory licensing situation?"

I think that if "X" over here has a patent and if he won't grant a license to somebody else, that could be a very fine thing, as far as competition is concerned, because "Y" over here might have to do research to invent around it and if he can get access by compulsory licensing arrangement, he doesn't have to do the research and the research is not done. I think a very strong argument could be made that it is time for the Antitrust Division to pause and reappraise its position and see whether or not this idea of automatically asking for compulsory licensing is sort of an obsolete way of handling these things and they could get a better result if they handle them in a different way. But on the question of selling patents, I know of no case—I would agree with you that a strong argument could be made that Section 7 has application to the sale of a patent.

I don't know of a case that's ever been decided squarely on that point. Maybe there has been. My partner handles most of the Section 7 things in our office. But it seems to me that a way could be worked out—

MR. BROWN: Excuse me. There is a case out in the Far West, *Coby,* where the acquisition of patents—

MR. HOLLABAUGH: Other things, too, were involved in that.

MR. BROWN: I know, but still you take the language of that case and you come up with the conclusion that if you set out to acquire patents for the sake of increasing your monopoly you are violating the antitrust laws.

MR. HOLLABAUGH: Well, I wouldn't question the fact that Section 7 would have application to acquisition of patents. It just seems to me there may be ways of doing it that would somewhat cutback the dangers.

EXECUTIVE DIRECTOR HARRIS: Mr. Plante, did you want to say anything?

MR. PLANTE: Well, I was a little puzzled by this discussion about the penalties. As I understand it, Mr. Brown is talking about a situation

in which Polaroid has a large block of patents that are quite vital to them. And, incidentally, that is a refreshing confession from a corporate organization. But then they also have some collateral or spinoff inventions on which they would like to enter into joint ventures. But he's concerned that if they went into these joint ventures, and if there were any antitrust attack, the penalty would be taking away the heart of their patent situation.

Now, of course, on the face of it, such a penalty would be pretty illogical. Maybe it's a possibility. I wonder if this is really a very likely thing? I could see that the joint venture might be broken up, but frankly it's been my impression that many of these—well, I'm not talking about court decisions, I'm talking about negotiated agreements, consent judgments—many of those appear to be cases where the corporation trades its patents for something else.

MR. HOLLABAUGH: That very often happens. What you are saying is, isn't it, that here are "X", "Y" and "Z" patents that relate to a specified field different than the product which is being manufactured.

In the event a transaction is put through which is then attacked and some form of relief comes out of it, of course, the Department would probably attempt, as it usually does in compulsory licensing situations, to get as broad a coverage of the patents as it can.

However, I should think that the company would be in a very strong position to argue: "Look, the only patents that are involved in this transaction are 'X', 'Y' and 'Z' and to the extent there is going to be any relief, it ought to be confined to 'X', 'Y' and 'Z'."

MR. BROWN: Unfortunately, if you have a good patent structure you start out with a patent that covers this much (indicating) and then you have another group of patents that cover this much (indicating) and then another group of patents that cover this much (indicating) and then you have "X", "Y" and "Z" way down here at the end. And if you are forced to give licenses under "X", "Y", "Z", it goes right up through the whole picture and comes out at the top and you have given licenses for the whole group.

Not only that, but you may have to give know-how. And this is another toughie.

MR. HOLLABAUGH: No clear line of demarcation, is what you are saying?

MR. BROWN: That's right.

EXECUTIVE DIRECTOR HARRIS: Are there any other comments from the table?

Yes, Dr. Siegel.

DR. SIEGEL: As an economist, I want to contribute two small inputs

that might have some pertinence. One is to recall to you that Section 9 of the Small Business Act of 1958 gives explicit permission to small firms to enter into research pools with freedom from antitrust action. The Small Business Administrator is authorized to approve such joint programs after consultation with the Attorney General and the F.T.C. Chairman.

There has been very, very little activity as yet under that section. I suggest, with the changing atmosphere in Washington, especially with the Department of Commerce trying harder than ever to point Prometheus toward the smaller companies, special new opportunities may exist for a company like Polaroid. Perhaps, such an organization would nowadays be encouraged to enter into some kind of agreement with smaller companies to provide the technical cover which they have not been able to develop jointly, working only with companies on their own level. Small firms are less likely to find a common technological ladder by themselves than if they get help from more advanced organizations. The second point that I would like to make also involves intercompany aid, but without reference to Section 9. I recall, about three years ago, that a small company licensed IBM to use the Kanigen nickel-plating process for hardware.

This company had used the patented process in making parts supplied to IBM under contract. Through a licensing arrangement, the smaller company expected new advantages—not only royalties but also opportunities for market expansion as a technically sophisticated industrial partner discovered new uses by direct experience.*

EXECUTIVE DIRECTOR HARRIS: Yes, Mr. Kinney?

MR. KINNEY: I had a few comments on this *General Electric* case and this matter of controlling minimum selling prices.

Now, of course, there has been the series of decisions, *Line Material* and others, that have said that the agreement was illegal in those situations. In every one of them there is some situation that a lawyer would not want in the case if he were trying to defend the control of minimum selling prices.

You probably noticed that in this *Union Oil* case, which wasn't a patent case but which commented on the *General Electric* case just this past summer—and there were some vigorous dissents—they held that—Of course, the *General Electric* case also stood for the proposition that you could control the price at which your agents sold it; and the majority of the Supreme Court, in spite of what they regarded as window dressing, did not think that *Union Oil* was a true agency

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situation. And they said they were not inclined to extend the *General Electric* case to that kind of situation.

But interestingly, Justice Douglas, in the majority opinion, commented that in the *General Electric* case there were patents involved, and I'm not sure of the Latin expression he used, but I think he said the patent laws are *pari materia,* or something like that, with the antitrust laws.

Now, some of the other judges said that in that case the Court really overruled the *General Electric* case and might just as well have come out flatly and said so. But certainly this language of Justice Douglas, in the majority opinion, would not seem to indicate that the majority thought they were overruling it. And it certainly left as a completely separate matter whether they were going to put the antitrust laws in the ascendency over patent laws and submerge the patent laws or whether they were going to stick to what Justice Douglas said last summer.

Most of you realize that the Antitrust Committee of the Patent section of the American Bar Association, back in 1948 and 1949, drafted a bill and it was recommended to the Congress to legitimize the principles of the *General Electric* situation. At some opportune time—and this may not be the time—I would think that Congress ought to take that up again. Because I have heard it said over and over again, and I have no doubt that it's true, that in respect of many patents, especially those involving consumer items, that if you cannot control the selling price of your licensee, you just will not grant any license.

Now we all know, I think, in this room, that the *General Electric* decision has been used as an excuse by some people over the years to take some flimsy patent and make it the basis for a price-fixing agreement in an industry. And I'm not suggesting that these cases that were litigated were that kind of cases.

But I've seen situations that I regarded as that kind of a situation. But where you have a good patent on an article or a product, and the fact that it's a good patent is shown by the fact that the licensee pays a respectable royalty, let's say, five percent on a consumer item, and there's a control of a first sales price of the licensee, I can't see where any economic argument can be made against that kind of agreement. Because I think the reasoning of Justice Taft in that *General Electric* case is just as good today as it was then. If the alternative is that you are not going to grant any license, you have to postulate you have a good patent, but there are some good patents and there are some sustained and quite a few sustained. And I have heard it said, and I cannot quarrel with this statement of businessmen, "Why isn't the

public better off if they have two sources of supply at the same price than one source of supply?"

Years ago, I was on my way out to Chicago and I talked to a man who is president of a company that has many patents—I won't mention his name—but he said, "I think they ought to stamp out these price control license agreements."

I said, "Do you mean that under one of your patents you would grant a license to a competitor, particularly if he were bigger than you, with out any control over what he could sell the licensed product for?"

"No, I didn't say that," he said. "I just would not grant any licenses." Well, that's exactly the point that other businessmen make. There is going to be a great step-up in litigation if the *General Electric* case goes out and the principles of it go out, and I don't see where the public is going to be helped.

Anybody who has had experience with price control license agreements and the application of the General Electric doctrine to business, I feel sure, will tell you this: That there is a lot of competition on quality of product within the standards set up under the price control license agreement and there's vigorous competition on customer service, and except as it is restricted by the license there's a lot of competition on advertising. And it seems to me that that's a better situation than to confine the public to one source of supply on any important item.

EXECUTIVE DIRECTOR HARRIS: Yes.

MR. ASHLEY: Mr. Harris, we have here a Clinic and people who are expert in the industrial property field and I think we ought to get down to fundamentals and see what the areas are in which we have problems, antitrust and otherwise. We ought to try to determine to what extent present trends on limitations, on restrictions in licensing, compulsory licensing, misuse doctrine, and so forth, are applicable.

I would start with the fact that we have patent laws with Constitutional authority which grant to the patentee an exclusive right. What can he do with it? If he wants to license it, to what extent should he be limited as to the restrictions he can place in his license, not only as to price, but as to territory, field of use and quantity, perhaps at different prices. That's why he would be willing to grant a license. I would assume it would certainly be in the public interest to encourage licensing, which is a relaxation of the monopoly in the public interest.

I think we should look at the matter of restrictions not merely in the framework of recent cases or even the *General Electric* case, but we should get back to fundamentals and see to what extent these court decisions are sound and right and in what respects they are wrong and hurtful to the economy and to the public interest.

I would suggest that we take these things up one at a time. I think that public policy should encourage licensing as far as possible and that the restrictions have gone much too far, that is, the limitations placed on restrictions.

Someone manufacturing patented goods in a certain price field, for example, might want to license them restricted to lower prices where he wouldn't be hurt too much by the competition which would give the public more goods at lower prices. Or he might want to license somebody to manufacture and market better products at much higher prices, if he were in a medium or low-price field.

The same as to the other restrictions that we ordinarily consider in licensing—territory and so on, and antitrust. Next—compulsory licensing. What has been the effect of it? Is is a good thing and in what circumstances is it good? A third thing that bothers us a great deal, of course, is the misuse doctrine.

I think if—in the first hour of this talk, we pick up all snatches of price restrictions and licenses, the general antitrust laws as affecting acquisitions, and joint ventures and these specific cases, we're not going to arrive at a program. I am just suggesting a format to take these things up more specifically, and see if we can exhaust some views as to what the effect is on industry and what should be done about it.

EXECUTIVE DIRECTOR HARRIS: I think you've raised some important questions here. In the first place let me say that this is all an experiment and we want your suggestions.

It was the concensus of the Clinic that Mr. Hollabaugh open the discussion with some remarks directed to the antitrust aspects of industrial property.

Much has been said so far this morning concerning licensing. Two very pregnant points were discussed, I think, that could affect licensing.

One is price competition. The other is research competition. I think, Marc, that you have some rather definite thoughts on these. Is this right?

MR. HOLLABAUGH: Well, yes, I suppose you could say that. Of course, let me just add one little caveat to what Merwin is saying. I think that what you are saying is absolutely correct. I always get into trouble whenever I approach these things that way, unless I have clear thoughts in my own mind about whether I am talking about what the law is today as against what it ought to be. I think one of the reasons, or at least it seems to me, in this field of law that we get into a lot of confusion, sometimes, or I'm confused, at least—

I like to approach it from the standpoint of what is the state of the

law, and then go from that and say: What should the law be? Is this the way the law ought to be?

Is that what you're really talking about when you say "misuse" and these various points?

EXECUTIVE DIRECTOR HARRIS: In other words, you want us to approach the problems systematically—from patent use to patent abuse, including compulsory licensing, misuse, etc. You think Marc, that we ought to find out—and this is, I think, exactly what we are trying to do—what the difficulty actually is, what these difficulties are? And then perhaps surface some suggested remedies. Merwin also cautions us to be specific, not just wander all over the lot. He suggests that we pick one, two or three subjects in this area and talk about them.

Yes, Lou?

MR. WOLK: Shouldn't our first objective be to get out on the table the various problem areas which we see?

Now we have been discussing, mainly, one problem area, so far, and that is the antitrust field, but there are other problem areas, if we are going to survey this whole patent field, and I think we ought to take a look at those first before selecting special problems which we can discuss exhaustively.

EXECUTIVE DIRECTOR HARRIS: We had a meeting yesterday among the discussion leaders and decided on an order of presentation. This is what I previously mentioned.

We are going to talk about antitrust this morning. After our coffee break we will go into special patent problems, but everything we talk about, sooner or later is going to have antitrust implications. Industrial property is framed to the other side of the antitrust picture. This is the benign monopoly side.

After the coffee break Harry will present three or four industrial property problems. I know you will be interested in them. They are very specific and very important.

MR. MAYERS: It is up to eight now, Lou.

(Laughter)

EXECUTIVE DIRECTOR HARRIS: Oh, is it?

At any rate, it is 10:30, and a good time for a coffee break, gentlemen.

(Whereupon at 10:30 a.m., the Clinic recessed to reconvene at 10:55 a.m., the same day.)

LATE MORNING SESSION

EXECUTIVE DIRECTOR HARRIS: Gentlemen, let us resume.

We recessed for coffee as Mr. Ashley was making his statement about

our plan of presentation. Let me repeat what I said this morning, that the leaders did have a meeting last night and we did come up with a program. However, as you know, we could talk for months on these subjects and there are many different constructive approaches.

Nevertheless, no matter what the approach, we can all agree that we must attempt to explore certain very specific and practical areas to find out what the actual problems are and that we should try to find some solutions for them.

We are abundantly aware that we cannot find all the solutions today. Hopefully, we may find at least a few solutions, perhaps, and explore a very few problems. I trust that you will all feel free to make your suggestion for future meetings. By the way, talking about future meetings, we have with us this morning Dean Louis Mayo, of the Graduate School of Public Law of The George Washington University. I told you this morning that our future Clinics will be carried on in conjunction with the Graduate School of Public Law.

Dean Mayo, will you please stand and make yourself known?

DEAN MAYO: Thank you, Lou. I am glad you gentlemen could be with us today.

EXECUTIVE DIRECTOR HARRIS: Now we're going to hear from Harry Mayers, and Harry's presentation is going to deal more specifically with industrial property.

Please feel free—this is going to be very informal—to make any comments or suggestions as we go along.

MR. MAYERS: As I look down this table, I see very many old friends and acquaintances. It is quite a challenge to imagine what we may have to say to one another that will be new on these subjects that we've talked to one another about sometimes before, particularly since, as Mr. Ashley pointed out, we are somewhat in danger of letting our subject become "the universe and other things". (Laughter)

As I interpret the intention of this Clinic, it is to consider some such questions as this: What kinds of protection of intellectual creations does industry want and need for the immediate future and for the remaining third of the twentieth century?

Now in discussing this, it seems to me that we ought to be as free-wheeling as possible in our discussion, rather than extremely conservative in the attitudes we take. We ought to be practical, but we ought not to make the sole criterion of practicability things that come to us from the past.

In trying to think how to open a discussion effectively on this note, I tried to conceive some analogies that might be appropriate, basically,

on the theme that in the field of social and economic policy circumstances alter cases.

As Professor Markham has pointed out more effectively than I can, we are certainly in an era of changing circumstances. We always live in an era of changing circumstances.

As one possible analogy that may be provocative of thought, it occurred to me to reflect upon the position of England with respect to free trade and protectionism.

I recall that England, from about 1874 to 1932, seemed irrevocably committed to a policy of free trade, and was strongly opposed to the creation of tariff barriers either on its own shores or elsewhere. And yet, in 1932, England turned strongly to protectionism. This, I take it, was a result of the fact that in the period from about 1874 to the 1930's England was the leading manufacturing, selling, investing country in the world, and free trade served the needs of its society and economy. By 1932, it was in the throes of depression. The balance of trade had turned against it, and it therefore turned again to protectionism as a matter of expediency and perhaps as a matter of necessity for its national survival. This is a case in which circumstances altered cases.

Another thought of the same kind that occurred to me is this. We are told that in Japan today there seems to be a national policy which favors the creation of large industrial companies by the process of merger.

This seems odd to us because while Professor Markham has reminded us that mergers go on in this country in large numbers, we certainly can say that national policy appears to be against the creation of large industrial companies by the process of merger. And yet, it is interesting to recall that there was a period in, I think, 1894 to about 1904 when as one historian has noted, there were about 300 mergers which produced very large industrial complexes. This, I suppose, was in the period when our momentum in changing from an agrarian to an industrial society was near its peak.

And so we can reason here that it is a change in circumstances which has changed our approach to these problems.

Our purpose today, then, might well be to ask ourselves whether there is anything in today's technological and economic circumstances, or those which we can foresee in the immediate future, which suggests alteration in our statutory laws for the protection of inventions and related intellectual creations.

I have no frozen convictions on this subject, but I am concerned

about a number of impressive circumstances which overhang us and which might conceivably alter cases.

One of the circumstances which it seems to me is worth mentioning was noted by Professor Price of Yale in a very provocative book issued about a year and a half ago, entitled *Big Science–Little Science.* Professor Price observed that the number of scientists appears to have doubled with great regularity once every ten to fifteen years for the past 300 years.

That has meant many interesting things, one of which is that today 87 percent of all the scientists who ever lived are living, and this has been true at any point within the last 300 years. This is the nature of the exponential curve.

Professor Price notes also–I'm not sure with what accuracy but I think probably with substantial accuracy as applied to the immediately past period–that the cost of science tends to increase as the square of the number of scientists.

If you then project the figures which result from this analysis and take them at face value, you come out with the answer that by the year 2000 the cost of our allocation of resources to the pursuit of science will equal or exceed the total gross national product as projected for that period.

Now, it is clear that this particular result cannot occur, but the fact that the possibility of its occurrence exists if present trends are continued suggests–and Dr. Price suggests–some kind of instability in the further development of our scientific trends in the next third of a century.

A second distressing and significant circumstance which has occurred to me–it certainly is present in the minds of all of us here–is the unsatisfactory state of the United States Patent Office.

We all know that the backlog of work in the Office is right now increasing on what seems like a crescendo basis. Under a temporary policy of examining old cases rather than new incoming cases, the Office is right now setting aside approximately 5,000 new applications a month without action, for action at a later date. By sometime next summer, when these cases are reached–and this will be the first time any of them will be reached–there will be 50,000 unacted on patent applications, new patent applications, lying in the United States Patent Office.

A third circumstance of which, I suppose, we must take account in any discussion of what ought to be done in the immediate future and the next twenty-five years, concerns the attitude of the Supreme Court with respect to the protection of intellectual creations as revealed, for

example, in the recent *Sears Roebuck* and *Compco* cases.

Incidentally, I want to be clear that my comment on these decisions does not indicate disagreement on my part with their outcome. It does indicate a concern with their implications.

One commentator has said that Justice Black's decision in the *Sears Roebuck* and *Compco* cases is characterized by "the unqualified absolutes which are the hallmarks of Justice Black's juristic art". And I think that's an understatement of the case.

These decisions, as you all know, greatly delimit the power of the States to extend protection to aesthetic or intellectual conceptions under the guise of prohibiting unfair competition. The language of the cases goes so far that in his current article in the *Columbia Law Review,* Professor Derenberg has said that upon first reading of these decisions one is inclined to declare the law of unfair competition a disaster area.

How far-reaching the implications of the cases may be, beyond the particular subject matter they deal with, is suggested by the fact that in Professor Milton Handler's commentary on these cases, also in the current *Columbia Law Review,* Professor Handler seriously states the following question: "Suppose a manufacturer has a valuable trade secret which one of his competitors wrongly procures. Is this another area, though not explicitly mentioned in *Sears* or *Compco,* in which a re-evaluation of well settled legal principles is required?"

Handler is noting the fact that the rationale of these decisions can be very readily extended to the conclusion that the law of trade secrets, at least as administered by the States, no longer exists.

It might be some consolation that Professor Handler, in his final conclusion, doubts that these cases intend such devastation of the law of unfair competition as their wording seems to imply. But there are serious questions in this area.

Now, all of these changed or changing circumstances seem to me to pose a number of issues as justifying our consideration over and above the antitrust issues which we have partially discussed already.

I don't mean to say that we should necessarily try to treat all these problems today, and I certainly do not mean that we should treat them all together and at once. But here are some questions which it occurs to me are realistically before us:

First, what kind of patent system, if any, would be optimum for the last one-third of the twentieth century?

Second, what practical obstacles may prevent our having or maintaining the optimum kind of patent system?

Third, if a compromise patent system must be accepted in the in-

terest of practicality or expediency, what forms of compromise should industry favor?

Fourth, in the field of product simulation, is there any better legal solution than that adopted by the Supreme Court in the *Sears* and *Compco* cases?

Fifth, in the trade secrets area, assuming a statutory approach, what kind of statute would best reconcile the needs of our society for mobility of technical personnel with industry's interest in protecting the results of innovative investment?

To my mind, this last question may be the hottest one of the bunch, at least in terms of current impact upon industry and the courts.

Sixth, in the area of appearance design, what prerequisites to legal protection should the law impose? I am raising here, I think, the question of whether the protection extended to appearance design should be literally of the copyright variety or whether there should be some insistence upon a standard of creativity being met as a prerequisite to the granting of any protection.

Seventh, in the area of copyright, are the present proposals to extend the period of protection from the present maximum of fifty-six years to a possible maximum of over one hundred years compatible with the interests of our industrial economy?

As a sub-question to that—perhaps an easier one to cope with—should the same ground rules of copyright apply to scientific and technical writing as to writings which are produced for literary or artistic purposes? And I think that is my eighth question.

Now it's clear we have no lack of subject matter. The problem is, what subject matters shall we undertake to cover this morning?

My suggestion is that we might start first to talk about the several patent questions which I have raised. The first is, what kind of patent system would be optimum for the last third of the twentieth century?

That invites the question of whether anybody thinks, on the basis of experience or otherwise, that change is desirable or wholly to be opposed. And this and other questions must take into account practicalities, including the condition of the Patent Office.

What should we hope for or work for as representatives of the industrial complex?

Now I hope that what I've said will encourage someone to come forward with some ideas related to this. Merwin, would you like to start us on that?

MR. ASHLEY: Well, I would say just a few things.

We know that, in various parts of the world, patent systems of the

character that are being proposed for adoption in the United States have been used, or tried, or are still current.

We know that our American patent system was the first, is the oldest, and has generally been considered the best. And I think everyone here will agree that it has contributed tremendously to the position of the United States in the world as an industrial nation, and as a trading nation.

I don't think there's anything fundamentally wrong with the patent system as we have it. I think it can be improved within the framework of the present laws and rules, and on the basis of world experience with patent system. I would be very cautious to recommend any changes in the fundamental procedures that we follow.

I think the difficulty is largely financial. We are today in a field of burgeoning technology, as you have indicated and as your quotation from the works of the professor you refer to pointed out.

We have a Patent Office that has substantially the same facilities and only 20 percent more staff than it had in 1950.

Our gross national product then was less than three hundred billion dollars. Today it is over six hundred billion dollars. The working hours of the Examiners are shorter, the working week is shorter, the vacations are longer now than they were then. And the amount of art that has to be considered is much greater. But I don't think that we have reached the point in the present examination system where we should abandon it merely because it is doing a bigger and better job than it ever had to do before. I think that the Government should take the same attitude toward a problem of this sort that industry would take. If you have more business than you have staff to handle you get more staff, and if you need more facilities or more machines you go out and get them.

The backlog is serious but it isn't nearly as serious as it is in many other countries that have some of these systems that are now being recommended to us.

It isn't as bad as it is in Holland. It certainly is no worse and I think it is better than it is in Germany. And Mr. Halloman stated, I think yesterday, to a group in the Patent Office, that with their new compact prosecution system, which has a good deal of merit and is within the framework of our present system, currently their dispositions of cases have equaled the filing rate.

I think we would not need a very large expansion of Patent Office staff and facilities to keep up, under the compact prosecution system, with the burden of work that they now have.

But the backlog is still a problem and I think the way to take care

of it is to do as industry would. If you haven't people to assign to the job, you go out and hire them or you bring in people from a volunteer organization that supplies temporary help. You might reactivate some of the retired Examiners and have them come in and help with the searching and tackle the backlog, increase the permanent staff moderately and if, after catching up with the backlog, you don't need it all, it's always very easy in the Patent Office to cut it back by attrition. But it seems very strange to my people, and my president so said to Senator McClellan in a letter written yesterday, that in a nation that is spending next year, through NASA, billions of dollars—I think they expect to spend between four and a half and five billion dollars in efforts to reach the moon and Mars—that we cannot afford the modest incentives for encouragement of the technology that makes such ventures feasible.

The situation in the Patent Office is different than it was in 1932 or in earlier years when it was self-sustaining. It needs more financial support and the Government should give it more support. I think that we should pay higher fees. On what basis, is another question. But it's true that the dollar has come to be worth less than half of what it was as recently as 1940, and doubling the Patent Office fees to industry would still not give the applicant a larger share of the costs than he had at that time.

But the Government derives a tremendous revenue from the new industries and the marketing of the new inventions stimulated by the patent system. Inventions are the things that are enabling them to undertake these great projects and the Government, I think, should contribute more support.

If I may quote from our letter to Senator McClellan, "Why not a substantially expanded Patent Office operation? All that is needed is more Examiners and facilities. We are trying to meet the great explosion of scientific information in a six hundred billion dollar economy with approximately the same facilities and a staff only 20 percent larger than in 1950 when our gross national product was half as great. Much of our economic growth during this period has undoubtedly been due to the patent system.

"It seems strange that a nation, spending billions of dollars in an effort to reach the moon, cannot afford relatively modest incentives for the technology that makes such projects feasible.

"I am convinced that industry would gladly pay higher Patent Office fees for better services, particularly if they were matched by commensurately larger appropriations by the Congress."

We need a new Patent Office. It looks as if we are in a fair way

to get that. But it seems that because so much is being done in the scientific field, because the inventions are more complicated, because the technology is burgeoning, it would be the worst time in the world to run away from the time tested methods of dealing with it to adopt the less successful methods that have been tried in other parts of the world. That deals with the backlog only and I think that is as far as I will attempt to lead off now.

MR. MAYERS: That's good. Mr. Wolk?

MR. WOLK: I agree wholeheartedly with what Mr. Ashley has said and I think that the primary problem is a recognition of the needs of the Patent Office to cope with the growing scope and magnitude of the problem.

However, in addition to that, I think that the Patent Office has to take a good hard look at its internal functioning because this is what any business would do if it wanted to improve its efficiency. I'm not convinced that everything has been done that can be done in reviewing the present internal functioning of the Patent Office. I believe that if that is done the Patent Office will be in a much better posture to go to Congress for the additional funds it will need.

Of course, some of these things are now being done, but not necessarily all. The question is: can the Institute, for example, play a role in bringing to the attention of the Patent Office internal problem areas which can contribute to greater efficiency?

EXECUTIVE DIRECTOR HARRIS: Then you are agreeing with what Mr. Ashley just said?

MR. WOLK: Yes.

EXECUTIVE DIRECTOR HARRIS: Mr. Plante?

MR. PLANTE: Well, I agree. But I also disagree to a considerable extent. I certainly agree that the financial approach towards the problem by the Government is what I would characterize as "chintzy", and I'm entirely with you there. But I feel that we're in deep trouble and we must recognize it, partly for psychological reasons.

I don't think we can convince people effectively that we want to maintain the basic features of the patent system, the incentive features, unless we're willing ourselves, to take a new look at the system, to pull back and take a fresh start in analyzing it.

For example, as indicated by Harry's words "if any"—in his question —"What kind of patent system if any"—I think we have to be prepared to grapple with the issue on this broad basis; and I do think, when I pull back and take that kind of look, that I'd like to see quite a few changes made, primarily in the procedural aspects of the patent system.

I feel that, by substantially improving the procedural operations,

we might actually solve some of the problems which people regard as substantive problems in the system. We were talking here, during the break, about what our own major problems are, and the desirability of perhaps going around the table and asking everybody what his problems are. So, I wrote down what I think our main problems are.

I would put as number one—this is somewhat new, and that is why I bring it in here—the almost complete removal of the patent system from the operations of Government procurement.

To me, this is a major issue. It is particularly significant because so much of our business is Government business, but I think that what we are here to talk about is what bothers us.

My second and third listed problems are the difficulty of enforcing patents, and the undue rigidity and waste in the system of obtaining patents. I had already committed myself, by writing these problems down, to the idea that I believe we need a new look at them.

EXECUTIVE DIRECTOR HARRIS: Mr. Bowes.

MR. BOWES: I would like to debate Merwin's position considerably.

I'll go a long way in agreeing with what he said. The system has worked fine in the past. There isn't anything about it that a few dollars would not cure over a period of time. But we are faced with certain facts and merely seeking additional funds for the Patent Office isn't going to take care of them.

Those of you who attended the October meeting of the American Patent Law Association heard Tom Brennan give as his feeling that it was a consensus of the Congress that the Patent Office was not going to get any more funds in the foreseeable future for expansion purposes.

I have checked this out a little bit. I have already, since then, talked with two Congressmen. I have talked with staff people with Senators, and I have on my list some appointments with others just to check this out and this one thing is unanimous: I find unanimous agreement that the Patent Office feels there is something wrong with the Patent Office operation, and they aren't going to give them any more money so they aren't going to get any more Examiners. If we want to reverse that we have a very tremendous problem on our hands.

Next, I don't know whether the Commissioner of Patents' sentiments as to what is going to happen to the backlog are correct or not, but he has said on several occasions that over the period of the next ten years he will need to double the size of the examining staff in order to handle the expected load. Even if today the Congress would give the Patent Office the kind of money that would do this—I would be happy to see it—but how long is it going to be before you get at that backlog?

First you must hire the Examiners. From the experience the Patent

Office has had in the past, this is a tough proposition. They are losing ten percent of their staff a year, or something like that, which means to increase the force at an average rate of ten percent a year you have to hire twenty percent more Examiners.

You not only have to hire them, you have to train them. They don't become fully effective or even reasonably effective for a substantial period of time. So maybe after five, six, seven, eight years you have enough Examiners to get at this thing.

Now the backlog has doubled or trebled in this time and it's going up fast, so it's possible—I haven't attempted to analyze this carefully—but it is possible that it might be twelve or fifteen years before you would get a real good grab on this backlog. I don't think you've got that time. What could we do which would not change the system and which would cause the least inconvenience or damage to the system but help the Patent Office reach this desirable state of being current and yet in such a way that you can reverse your field very quickly?

A year ago if you had said I would be thinking seriously of agreeing to try a deferred examination system I would say you're out of your cotton picking mind. But today I'm not only agreeing I would accept it, but I am actively in favor of it for several reasons.

Now when I say "a deferred examination system", let's make it clear that it is an examination system according to the way I would set it up. (Laughter) I can set up a system which, to me, would sound fine and dandy.

A system could be set up. If you made it fully retroactive for instance —of course I don't think you would want to do it—you would not want to apply it to all pending applications. You could, if you wanted to do so, make the Patent Office current the day after the thing went into effect so that no Examiner engaged in examining would have a single thing to do.

You could put the whole corps to revising the classification system and as requests for examination came in, they could gradually drift back.

If the system were such that there would be examination only for scandalous matter, for a determination of whether proper form were met, applications could actually be published within 60 or 90 or 120 days, perhaps, so you could meet your objective of prompt publication.

Everyone would know what they were faced with. You wouldn't have to wonder for four or five years if a patent might issue which would trouble you from an infringement standpoint.

Those of you who want examination under the present system could make application for examination concurrently with your filing under

the new, so if your client wants to have the standard examination he can have it. Those of us, like me, who would expect to ask for examination on only 20 or 25 percent of the cases would not spend that money.

You could go back to the old system anytime that it seemed not to be working right. And we do have—Let me say who "we" is. There is some intimation that the patent profession, the trade associations, at least their patent committees and so on, are held in poor regard in the Congress. I can give you the answers, complete extremes at both ends.

I talked with one Congressman who said, "Forget it, it's a bunch of baloney. They are fine people." He happens to be a person who works very actively in this field. He has had enough experience, called on enough people, so he understands the situation.

On the other extreme you can get people who say "You guys are for the birds. Not only are we unhappy with you up here, but you don't have any reputation in the field of law in general."

MR. CLARK: Who are those, may I ask you, do you care to name them?

MR. BOWES: I don't think I should, but I may later.

So you can get a lot of these things. I think you can gain a lot of political mileage. And political mileage today can be very helpful because you have the problem of Government patent policy that has not been solved.

So that if making a change which will make the Patent Office rapidly current, which will not hurt you in any way whatsoever, as far as the quality of the patents you get—In fact, you will probably get better quality patents because if they have to examine only half as many as they do now, theoretically the present staff of Examiners can spend twice as much time on the cases without bringing down the backlog and you could get some real quality jobs.

I think we have some problems and I think it is time maybe—We have lost the battle, I think, just as we have lost the battle temporarily in the Government patent policy. We might as well recognize it, grab the bull by the horns, take what we've got, gain some advantage by taking affirmative steps and gradually, if this is what seems desirable, work back toward the other again.

EXECUTIVE DIRECTOR HARRIS: Mr. Slowinski.

MR. SLOWINSKI: Lou, I realize that later this afternoon (rather than now) we are going to discuss international tax matters. But I can't help but stress now that the basic United States patent system must remain unchanged, without substantial amendments, if we are going to have any success in expanding our international investments in coun-

tries such as India where some would like to reduce our patent life protection to five years, or Italy where some would like to continue their system of no patents at all in certain industries. The less developed countries which do not yet have a sophisticated patent system are looking at ours and may adopt it if it remains strong, effective, and meaningful.

I think we in the patent and tax field are getting great support from other parts of the legal profession contrary to what some observers may say. In the area of the tax world the industrial property which your companies invest abroad today is our biggest item. We can obtain more equity participation in foreign joint ventures today by offering them trade secrets, patents and ideas, secret processes, plans, drawings, designs, specifications, et cetera, then we can by offering them cash. And this is extremely crucial to us in the area of industrial property invested abroad to help us raise dollars to improve our balance of payments position here at home. So revise the administrative system, the method of operation, if you will, inside the Patent Office. But the patent system itself is a bulwark in terms of our international investment.

MR. BOWES: That is it. But I have deferred patent examination.

MR. SLOWINSKI: That is correct.

EXECUTIVE DIRECTOR HARRIS: Yes, Mr. Ashley.

MR. ASHLEY: I was asked to open and I'd like to come back. I want to make clear that I don't think the Patent Office operation is sacrosanct, that it's perfect, that it's always been right and that therefore we must not disturb it.

I don't think that at all. I did not mean to say that. I'm talking against such things as registration patents, petty patents, things which would change the system, not the method of operating it and not the procedures before the Patent Office. And I agree with Mr. Plante. I agree with Mr. Slowinski, and I agree with Mr. Bowes up to a certain point.

I do think there are many things that we can do to minimize the work of the Patent Office and to get more expeditious actions, to clear up the backlog, and for the future to get patents out more promptly. Some of those things would be fundamentally, I think, to give the burden of prosecution in these cases to the applicants and their attorneys and not leave all the sweating and rejecting to the Examiners. There have been some plans submitted to accomplish that.

For example, by getting a search from the Patent Office before a first action, allowance or rejection, and permitting the attorney to argue his case before any action is taken on it. A patent application

is a petition to a quasi judicial tribunal and in every other field of law that I know the judge wants to hear something about the case before he decides it.

In the Patent Office you start off with a rejection and then you try to change the Examiner's mind. I think that it would be very helpful if we put the burden of prosecution on the applicant.

Secondly, I do think that the claiming system could be radically changed. There are some new proposals for dependent claims.

I don't like the proposal of the Commissioner, but I think something could be done along that line and I have some specific suggestions which I won't bother with now.

But as for having a deferred examination system, I thoroughly disagree with Mr. Bowes. I think that merely recognizes and makes legal, so to speak, a bad situation. We already have a big backlog. We have some slow prosecution; it's taking four or five years to get some patents out of the Office. So should we do what the Dutch do and say, "Well, this is a bad situation and everybody is criticizing us for it, so let's eliminate the criticism by just deferring examination for three years."

That accomplishes nothing and when we look at the public interest in that situation, when can an inventor market his patent to industry if he can't get it out fairly promptly?

At what date will industry determine how much money it is going to allocate to a research project when it has no idea of the protection it is going to get from the patent?

We're slowing down not just the Patent Office operation by a deferred prosecution system, but we are slowing down the whole economic impact of patents on industry, on research and investment, and on the rewards to the inventor.

I think we needn't go that far. I would hope we would never have to. But I do think there are a number of things in the prosecution of cases that could be tried first.

I might mention something I did unilaterally here some years ago with the Commissioner. I told him that I felt sure that if he could speak to the Bar, which he was doing regularly, and ask the attorneys and corporate patent departments and offices to condition as many cases as they could for prompt allowance, and identify them as being for that purpose, we could get rid of a lot of backlog.

He said "That's a fine idea. Why don't you try it and show me what you can do?"

I did a lot of work. We took all our cases, looked them over where invention was recognized and some claims had been allowed, and we found a lot of them where we were quarreling about slightly broader

claims that might have been invalid anyway. I filed a lot of conditioning amendments for allowance all on one day, identifying the cases. I got a very nice letter of thanks and a statement that it had been referred to a committee, and I never heard of it again. But that's the kind of thing the Bar might do to be helpful in this situation.

Now, the claims the Examiners have to read I think are atrocious, particularly in some of the cases I file. (Laughter) And one suggestion that I will just throw out as something you might like to consider is this: Suppose the first claim in the case, instead of being a broad claim and dependent claims with further limitations, were to be a comprehensive claim, such as a French resumé, in which all the features believed to be novel and patentable were related with their functions in a first main claim?

That would indicate to the Examiner his field of search. It would probably give you an almost immediate allowance of that first claim if you had any invention at all, and then add dependent claims which would put and take, add to and take from, incorporate by reference the language of that main claim to cut down the amount of reading and careful comparison that has to be done by the Examiner. That might be a helpful suggestion.

There are probably many things that can be done that would help to get more expeditious action from the Patent Office and I think we should do them, but I don't think we should go to petty patents or opposition systems or deferred examination systems at least until we have made a better try to bring the system up to a current or reasonably current basis within the existing framework.

EXECUTIVE DIRECTOR HARRIS: Thank you, Mr. Ashley.

Harry has just made a suggestion that we pursue Mr. Plante's comment, by asking each participant, in turn, around the table to indicate which problem areas were bothering him most. Could we do this, go right down the line and get a few of the major ones? In this way we can find those that are most common.

When we get some commonalities, we will know better where to spend our time most profitably.

Mr. Bowes, will you begin?

MR. BOWES: It is a little difficult to do because there are so many. But I guess the one that troubles us the most is the picayune types of—it is really partially answered by Mr. Ashley—the picayune, picky type of approaches that the Examiners take so often. Not only do the patent attorneys sometimes try to get claims too broad but the Examiners get overly technical at times. I think this single thing bothers us more than anything else.

EXECUTIVE DIRECTOR HARRIS: Mr. Cooke?

MR. COOKE: I would echo that.

EXECUTIVE DIRECTOR HARRIS: You would?

MR. COOKE: Yes.

EXECUTIVE DIRECTOR HARRIS: Mr. Clark?

MR. CLARK: I will change ground just a little bit. I think one of the great things wrong with the patent system is the extreme time and expense and risk that is involved in patent litigation.

It is an excessive burden upon the patent owner and upon the defendant as well, and I think the patent system is most vulnerable to criticism at that point.

The costs and burdens of patent litigation were pointed out by the Federal Trade Commission to support their opinion in the tetracycline case.

Patent claims should be revised, as Mr. Ashley suggested, from the standpoint, not only of prosecution of the application and to help the Patent Office, but also from the standpoint of enabling the public to know what the scope of the invention is and, in the event of litigation, to enable the judge to handle the case with somewhat greater ability than Federal judges now possess when they run up against patent claims.

I speak with some conviction here because my company is involved in a case, and it's still pending, in which the discovery proceedings amounted to, I think in excess of a hundred depositions, perhaps—and this is just an estimate—60,000 pages of deposition record. This litigation resulted in discovery of in excess of 250,000 documents. The case has been at trial for some months now, since April, 1964. It is not done and will not be finished perhaps for another nine or ten months. I'm sure that a number of the other people have had similar experiences. I think that Bendix went through a case on a smaller scale not too long ago, which was nevertheless, a burdensome case.

To me, the Achilles heel of the patent system is that we can't handle the patents after they are issued. We can't handle them from the standpoint of interpretation with any certainty. That's because of bad prosecution or good prosecution; I don't know which is involved. And the courts can't handle them with any certainty.

Many of the patents are bad. They're bad from the beginning. And it's these bad patents that have made the legislators and the public and the courts look with great disfavor upon the patent system. And I think it is up to the patent bar to assume the burden of seeing to it that bad patents don't issue.

I agree wholeheartedly with Mr. Ashley that we should assume the

burden in the prosecution of patents. It should not be a completely adversary proceeding as it is now in the Patent Office, with each side not being entirely frank and being overly technical.

I think we should assume the burden of getting good patents in the Patent Office, in such form that they can be handled properly after they have issued, so that we can tell our clients what they mean and so that the courts can readily tell us what they cover. A patent that is vague and ambiguous is a burden and not an asset to the public, to industry, and to the patent system.

EXECUTIVE DIRECTOR HARRIS: Thank you, Mr. Clark.

Mr. Brown.

MR. BROWN: I am in complete agreement with Mr. Clark on the question of endorsement and protection of the patent rights. I think this is one of the greatest difficulties that we now face. I think, however, that a great deal could be done here within the framework of the court rules as they now exist, and if the district judges were competently able and willing to enforce these rules to the hilt.

I have specific reference to the use of the pretrial conference procedure which could reduce, I think, the time of patent case trials substantially and to the effective control of the pretrial deposition procedure, which is now almost endless, if you want to make it that way.

One of the other problems that we face is the great difficulty or inability under our present system of patent prosecution to obtain any sort of protection for the broad conceptual invention at the stages of the initial concept. That is, you must have specific embodiments of the invention. You must have a series of species. In chemical cases, you must have actually performed a great deal of experimental work if you're going to get broad claims.

This holds up the filing of the application or at least makes it necessary to file a series of continuing applications with added disclosures which complicates the work of the Office and of the attorney.

If some provision could be made for interim protection of a broad concept on a broad disclosure, I think this would be an advantage.

And the third point that I would like to make is that I think you could greatly facilitate your patent prosecution work if you were permitted—as you may be, and I am not sure, but nobody does it—if you were permitted to say, "This invention relates to the substitution of the following element for the elements shown in Figure 3 of the drawing of patent so and so," and that would be all the disclosure you needed.

And if you get away with something like that—and I don't know why you cannot, as a matter of fact—but, no, you must rewrite the whole case from beginning to end—Take some of these computer applications.

We heard the President of the Dutch Patent Office say there was a company there with seven hundred pages of specifications and three or four hundred sheets of drawings. The same boilerplate over and over and over again in each patent application.

I think this could be done away with. Some system of precise pointing out of where the invention lay in an improvement patent to be devised.

EXECUTIVE DIRECTOR HARRIS: Mr. Waters.

MR. WATERS: Well, our area of greatest concern is in the area that Mr. Clark discussed. We would be extremely interested in any process which would result in a maximization of the chances of a patent being held valid when finally issued.

Our concern is that the recent developments in United States prosecution seem to be leading in the opposite direction.

EXECUTIVE DIRECTOR HARRIS: Mr. Dann.

MR. DANN: Well, I was going to say something very much like Mr. Waters. I think our main problems come down to uncertainty at every step in the process. When you get ready to file, you don't know what sort of protection the Patent Office may be willing to give you and when you get a patent, you don't know what you have. And it's extremely expensive in terms of money and time and effort to get any good answers. At every stage you're faced with technicalities so you spend tremendous amounts of money and sometimes end up with something, but more often with nothing. That's the main problem area.

EXECUTIVE DIRECTOR HARRIS: Mr. Hanifin.

MR. HANIFIN: Well, I categorize our problem somewhat along the lines Mr. Brown was talking about. Now, we have labs in several European countries as well as the United States, and we have a lot of technology going back and forth across the water, and yet we're having considerable problems with patent applications that are filed first in Europe and sent here for filing in the United States and vice versa.

For example, detailed descriptions are necessary in the United States, but when we send them to Europe they throw up their hands as being too detailed.

I think we've got to be prepared to make several compromises and go toward what will really amount to an international patent system. And while I think the United States patent system has been very successful, as Mr. Ashley points out, in years to come technology is going to be more international than it is today and I believe considerable saving will be made if our systems are closely fitted to the Europeans and vice versa.

MR. WOLK: I have noted a number of problem areas which have

concerned us. These include obstacles we face in the Patent Office which, in my opinion, necessitate a review of the attitudes, procedures, and policies within the Patent Office. Some of these policies are partially to blame for generating this backlog that we're worried about. I agree that the nature of the subject matter being covered now requires better facilities and more staff, but that is not the only answer.

From the standpoint of numbers of applications, I think we find that the number of applications filed now is not much greater than ten or twenty years ago. So one of the problems is the internal functioning of the Office. Here again it's a problem that is being worked on, but perhaps not as thoroughly as possible because they are relying too much on getting favorable action from Congress.

I agree with Mr. Brown that with respect to the litigation question the solution to many of the problems is in the hands of the courts themselves. For instance, in the Southern District of California, the judges won't let you drag a case out very long and create the kind of effort and delay and so on that is involved in Mr. Clark's case. In the Southern District of New York you might be able to drag on a case indefinitely. But I think it's up to the Courts themselves to develop rules and practices which will expedite litigation.

Another problem that has been mentioned before, by one of the other men, is in connection with Government procurement and that requires, in my mind, amendment to Section 1498 or severe limitation of that Section.

Of course, there are the antitrust questions which have already been discussed. And some mention has also been made of the problems we face in Government patent policy. These are problems which are receiving continuous scrutiny, but as Ted Bowes says, so far we're fighting a losing battle.

I might mention that Senator McClellan is going into these same questions in his questionnaire, and we also have the possibility of a Presidential Commission to consider some of these same problems too, so we will have a lot of action on many fronts.

MR. KINNEY: As we look at it, the expeditious issue of valid patents is one of the main concerns. If more people would use some rule of reason in the number of claims they present initially, a lot of these things would move along a lot faster. I don't know how to suggest enforcing that. But it's a pretty unusual case where the main issue cannot be resolved in respect to three or four or five claims, I would think.

I have come to think that maybe we are going to have to accept some sort of limited opposition or notice when patents become available to

the public, with the arts becoming more complicated and people talking about the volume of scientific literature doubling every ten to fifteen years. It gets somewhat harder and harder for the average Examiner to have a feel for all of this; but the competitor of somebody who files an application ought to have a pretty good feel for it and maybe it would not be too bad a system if, during a period of 60 or 90 days after a patent issues, one could file a notice with the Patent Office and—I don't know what the patent owner would do then if he had claims that were too broad. Maybe he would have to reissue or something like that. But that would get some things on the record in a hurry.

Now we are also concerned about the complication of enforcing the patents, but I really think that it is the rules of civil procedure that are mainly at fault there—where they let you go into everything—not only what is relevant, but anything that might lead to something relevant which, of course, includes almost everything. But even some judges who have a case can control that if they want to. Some judges will sit and listen to a case six or nine months.

Out in St. Louis, a few years ago the judge said, "How long will it take to present your side of the case?" And the other lawyer said, "About three weeks." He said, "I have news for you. It won't take longer than four days." (Laughter)

MR. BROWN: Could I interject just a little point here? On that last point I had a case before Judge Woolsey in the Southern District of New York, many years ago. He was ill then, but he was still sitting. He had counsel file pretrial briefs and five days later he called us into court and he said, "Gentlemen, I have decided this issue, this issue and this issue, in this way. The case will be limited to the introduction of testimony on these points. This point I want first."

We put in the testimony. He went out and decided that and came back and after the second point was in, the case was finished. That terminated the case. So what had looked like three or four weeks' trial actually took about four hours of courtroom time.

Now, it's the only time I have ever come up against this procedure, but we all liked it.

EXECUTIVE DIRECTOR HARRIS: Your suggestion is that we need good judges rather than new laws.

MR. BROWN: Good judges and implementation of the present rules.

EXECUTIVE DIRECTOR HARRIS: Mr. Spencer.

MR. SPENCER: I think our chief problems, as far as the Patent Office is concerned, are the lack of quality and the high degree of technicality in the examination, plus the fact that individual Examiners are not

putting out as they did ten or fifteen years ago. I agree with Mr. Plante. I think it was he who said it. I guess it's common practice today for the Examiners to work overtime to increase their income. I prefer to see the working day limited to the normal working day and some other form of money incentive given for output.

It is a very difficult thing as far as determining quality. There is always the danger of mixing elephants and rabbits. But I think with competent supervisory examination that this could be taken care of and I think it would increase the effective output of the Office.

I think also that it's become more and more the policy of the Patent Office to consider its duty is to reject applications whereas the statutory authority is to issue patents, not to reject them. I think that it is over its head in one area—this isn't my original idea; John McKinney and Johns-Manville, I think, first brought it to my attention—but it might facilitate the output of the Patent Office if the examination were limited to matters of form and to prior art that can be determined through references.

In other words, if the Office did not consider the issue of obviousness, but either found anticipation in the reference or issued the patent—this would speed up the output.

This is not to say that I would remove from the issue of validity of a patent the question of whether there was an inventive advance or not, but I think that in terms of issuing valid patents there would be just as many issued without the Office considering the issue of obviousness as there would under the present examination system. I don't think that the percentage of patents held invalid in the courts, those that the patentees and their professional advisors considered worthwhile litigating, would increase in number by eliminating obviousness from the examination.

I also think, in terms of our particular trials, that we find the interference practice rather devious and costly. I cannot imagine but that perhaps organizations less well heeled find this even more objectionable. I think that although this is in the course of examination, we drastically need to do something to improve the interference practice to the point of issuing a patent to the first applicant to file.

MR. SLOWINSKI: Lou, I'd like to make two small points. One is the interest of foreign corporations coming here and the seeming brusqueness of the correspondence with the Patent Office which they do not understand. They have not been exposed to our method of patent correspondence as you have during your professional lifetime. Now perhaps this can be changed. It's a matter of attitude.

And the second one is in this matter of the litigation and expense

of litigation. It is incomprehensible to many persons that patent cases can be so long and so expensive, depending upon many factors, including the caliber of the judge.

Substantial improvements can be made without legislation if we really try. For example, in a Court of Claims case recently, the attorneys in a tax controversy were able to introduce eight hundred pages of testimony and a hundred exhibits in less than four days in a complicated case involving a large sum of money. It was done by cooperation of bench and bar with a realization that costly litigation could benefit neither the taxpayer nor the Government.

Our attention must be directed in a group like this, I think, to the Administrative Office of the United States Courts which has offices in the Supreme Court Building and is dedicated to better administration of our courts and their workloads. We can also petition the Judicial Conference in our respective areas to improve our system. A great amount of work must be done in this area of cost and length of litigation. It has been relatively overlooked by some of our bar associations.

EXECUTIVE DIRECTOR HARRIS: Irv, do you want to say anything?

DR. SIEGEL: No.

EXECUTIVE DIRECTOR HARRIS: Mr. Artman?

MR. ARTMAN: Our problem is one of time, much like that of the Patent Office. There has been something done about it by some of the Examiners and that is to give Office Actions which are more constructive than the usual Action. I think this should be encouraged.

Most frequently Examiners give a more or less technical type of Action and stop instead of going on and giving what we regard as something positive. I think constructive suggestions by the patent Examiner would expedite the prosecution. Some Examiners have done this and we find that when this is done we can bring an application to a close much faster and much more satisfactorily.

Some Examiners have gone so far as to telephone and discuss a point. We think this is good. We don't care if they reverse the telephone charges. I would like to see something done toward encouraging that type of communication with the patent Examiner; if that could be done I think it would be a help to the Patent Office. It is a help to us, as well.

EXECUTIVE DIRECTOR HARRIS: Dr. Sanders, do you want to say anything?

DR. SANDERS: No.

EXECUTIVE DIRECTOR HARRIS: Mr. Patty?

MR. PATTY: I think it comes down to the disparity between the standards of invention imposed by the courts and those imposed by

the Examiners which leads to a very high degree of uncertainty as to what we should file patent applications on.

I hope I'm not alone in corporate practice in saying that we file many applications on which I think a patent should not issue. But I see patents issuing to competitors in this field. (Laughter)

I'm deadly afraid—I'm deadly afraid of seeing a patent issue to a competitor on something we did not file on. I like my job. I like to eat. And I think we're all faced with this. If there can be some way that one could know that when a patent issues it is a valid patent and not a ten thousand dollar dog where you have to find two five thousand dollar cats to swap for it, I think this would do away with a good part of the tremendous backlog the Patent Office has today.

They have some of our cases they would not have if it were not for the same fear on the part of our competitors that I have of them.

MR. HOLLABAUGH: Why would not a publication system work in a system of that kind?

MR. PATTY: It would not work unless my competitor and I could get together now and say, "I'll publish if you'll publish," because I'm still afraid he will get a patent, that he will get a ten thousand dollar dog—

MR. HOLLABAUGH: If you publish first he can't get a patent, can he? If you publish first, can he get a patent?

MR. PATTY: Yes.

MR. HOLLABAUGH: What is your publication; isn't it prior art?

MR. COOKE: One year rule.

MR. PATTY: One year rule.

MR. HOLLABAUGH: I see.

MR. PATTY: I am not ready to give up the one year rule because I think there is some advantage in it. But I think the low standard of invention that is required for everybody else and the high standard that is required for everybody else and the high standard that is required for me—(laughter) is the big problem which forces me to lower the standards that I would like to see.

Isn't everybody here somewhat ashamed of some of the patents he has? (laughter)

MR. COOKE: We have a special file in which we put all those letters, and it is fairly bulky, in which our research people said, "You told us we couldn't get a patent on that, but somebody else did."

MR. PATTY: Sometimes it is very difficult to go back and explain, and sometimes you can't explain,— "This is not exactly your invention. This guy used a right-hand bit and you used a left-hand bit". And this

is sometimes the degree of difference between what you turn down and somebody else gets. This is very, very difficult.

I could double the staff of my Patent Department and still not keep up with the applications that should be filed to let us get our share of worthless patents. (Laughter)

EXECUTIVE DIRECTOR HARRIS: Then that's not the answer.

MR. PATTY: I would like to close out about 500 dockets that I have. I have a backlog that on a man-to-man basis is higher than the Patent Office and I'm afraid to close them out.

MR. BOWES: Clarence, we are talking about doubling the size of the Patent Office staff so we can issue twice as many worthless patents. Why don't you do the same thing?

MR. ASHLEY: May I cut in on worthless patents? I don't think anybody knows how many worthless patents there are.

MR. BOWES: You don't.

MR. ASHLEY: Judge McClelland said approximately half of litigated patents are declared invalid patents. I think this is true and, of course, I think this prejudices the courts against the Patent Office and the patent system and it prejudices the public and prejudices our bosses. Judge McClelland said that. But actually you could say nearly the same thing—that approximately half of our citizens indicted for crime are convicted, but we are not a nation of criminals. In a usual situation the patent is respected. You engineer to avoid it or you apply for license or you say, "This is something we can't make". It is only the very doubtful cases that ever reach the courts on questions of validity, less than one percent of the patents. And it is true that of those very doubtful cases approximately half of them are good and half of them are bad. Two good law firms have had different opinions as to this.

But to take from that, as I think a Commissioner did in an interview he gave the press, which was very bad publicity for the patent system —To project that to say that somewhere near half of all patents issued are invalid, doesn't follow at all.

As a matter of fact, you could argue just as well that only one-half of one percent of the patents are invalid, and they are ninety-nine and forty-four one hundredths percent pure, like Ivory soap. Where is Procter and Gamble?

MR. PATTY: I don't mean necessarily invalid patents. I am talking about patents we get issued to cover—

MR. BROWN: Defensive patents.

MR. PATTY:—inconsequential details that would cost the competitor if he had to copy our patents. He would revise—

MR. ASHLEY: I understand, but other speakers have talked about this

matter of invalidity. Mr. Waters did, and some others did, and I don't think it is that bad. I think the Patent Office does a very good job of issuing valid patents and I think of course the courts are often wrong too, in turning them down.

EXECUTIVE DIRECTOR HARRIS: Bob, do you want to say anything?

DR. BANGS: I will pass.

EXECUTIVE DIRECTOR HARRIS: I'll get you off the hook, Mr. Patty.

Mr. Plante, do you want to add anything to what you said before? I think you mentioned your three points.

MR. PLANTE: I get the message. I have noted the different ways in which the members of the staff have been asked to comment. Mine was a little different too, so I'll pass.

(Laughter)

MR. SNOW: It's getting late. You asked what is my biggest problem. It is sort of like asking me, after I ran through a cactus patch, which thorn is the worst one. (Laughter)

Are we talking about in the Patent Office now?

EXECUTIVE DIRECTOR HARRIS:Your particular problem with the Patent Office or with the courts or with any area that relates to industrial property.

MR. SNOW: Well, you could—

EXECUTIVE DIRECTOR HARRIS: Or problems, maybe two or three—

MR. SNOW: On the international scene: The disparity in the kinds of disclosures in patents that are needed or accepted among different countries is a real problem in dealing with your associates and with the other Patent Offices, in addition to the differences in substantive law.

In the United States, domestically, I would say the biggest basic problem is the conflict between the policies on antitrust and unfair competition at the zone of conflict, and the policies respecting proprietary rights in industrial or intellectual property. This leads to great uncertainty as to what you can or cannot do and you have to go on the very conservative side, particularly, if you are a large corporation. And even when you are conservative, you're still uncertain.

Also, domestically, this resolution of whether industry should at all, or to what extent it should, participate in Government projects. The policy which I have recommended, and so far which the company has pretty well followed, is that we may not take research contracts and therefore cannot contribute, in our areas of greatest skill, to the solution of Government research problems.

We take Government research only where it is not at the hard core

of our business, but where it's a fringe area in which we also think we have some skills to contribute.

MR. BROWN: We take none.

MR. SNOW: Well, we haven't gone that far, but when it gets to the hard core of our business we say we simply cannot afford to contribute. It's still a problem, though, because our research people want to get in and get the contract and compete.

In the Patent Office—I would characterize the difficulty in the Patent Office and in my own office as acquiring and keeping qualified people who have the necessary professional skills and judgment.

EXECUTIVE DIRECTOR HARRIS: Mr. Yates.

MR. YATES: I have so many problems—I think maybe I'm the problem. (Laughter) But I think the unnecessary or unavoidable delay in getting things out of the Patent Office bothers us more than any other single thing and we're the cause of it in some measure.

I think maybe the laws need changing. When we make an invention, the first decision to make is, "Are we going to patent this or are we going to keep this secret?" Well, in the present state of the law it is very rare that we can decide to keep anything secret. We pretty nearly always want to patent it. Whereas, if there were some more sure-footed way of being able to enforce trade secrets or if, maybe, the theft of trade secrets were declared to be a crime as it is in many foreign countries, we might not take out quite so many patents.

Then the next thing that happens is that we file a lot of defensive patent applications. I suppose a third of them or a half of them are this way. And what we would like is simply a publication, but is has been mentioned here already that we also want the right to contest interference or assert priority, or whatever the case may be, in connection with this publication, and the only mechanism available today is patenting. Maybe we should go back to some of these proposals of a publication patent coupled with a right to contest priority, but no request for a monopoly. This might speed up the Patent Office proceedings quite a lot.

Well, then the next delay: the chemical companies are accused of taking too many appeals. Half of the appeals, I think, are in chemical cases. The answer, of course, is that we win sixty percent or more of the appeals, so it is profitable to take this many. This could only mean the Patent Examiners are not seeing eye-to-eye with the Board of Appeals or that they are passing the buck upstairs.

This next is a matter that probably doesn't require any new legislation. I think this is a matter of administration. We would like to, if not oppose other people's patents, at least call to the attention of the

Patent Office relevant prior art so that the patent might be reconsidered. This is either before issue or after issue. Maybe the fellow would like to haul in his claims a little bit if he had the benefit of the totality of the art. Not that we could find it. But in many a case we are horrified when we see a patent and we can in five minutes find the total anticipation that has been missed. This could be avoided by some kind of an opposition procedure.

Then another area that we are concerned about is package licensing. I don't mean block booking but I just mean whether one can put a number of patents into a license for the benefit of the licensee, and then withstand a charge of package licensing. I think this is probably a developing area of the antitrust law but we would like to see a little more certainty in the area. These are patents, ordinarily, that are alternatively useful or optionally useful rather than tying any two together.

A further area: we have a lot of trouble in patent cases with expert witnesses for both parties, some saying yes and some saying no. And the judge has no mechanism for coming to any rational, educated conclusion, in most cases, as to what the fairly abstruse scientific factors are. He needs access to a special master or a referee or we need a scientifically trained judiciary to work on patent cases.

And the last area is one that's also been mentioned here and that is the problem of getting enough people to enter the patent profession. We have recently initiated a scholarship to encourage people to go into law school having left engineering school. I would like to encourage a lot of people. Have you done it, too?

MR. SNOW: Yes.

MR. YATES: I think a lot of companies should offer scholarships in the area here so that this Bar could be built up to a size where it could discharge the demand put on it by industry.

MR. HOLLABAUGH: There is a block booking case in the Supreme Court now that you probably ought to follow if you have not.

MR. YATES: Yes.

MR. SNOW: On package licensing I wonder if we can do anything constructive by getting over the concept of what I call the naturally integratable package. Making analogies, for example; if a real estate operator buys lots separately and then puts together a whole solid block of property so he can set up a shopping center or a motel or what-not and somebody comes along and says, "I want four square feet in the middle of that package for a shoe shine parlor," he doesn't say, "You have to put a price on it and it has to be less than the price of the whole block." You may refuse to break-up the natural package.

Now, in licensing there are also natural packages and if you have a natural package it seems to me it is a different thing than where you say, "You must buy my white acre if you want my black acre," and one is in San Francisco and the other is in New York.

I don't know whether the courts and Congress will accept this concept of a natural package in patent licensing.

We have the West Coast case where there were two patents, a generic and a species patent, and the Court said, well, it's all right to say the licensee must negotiate a license under both at the same time. And that is one kind of a natural package. There are many other types, too.

EXECUTIVE DIRECTOR HARRIS: Mr. Ashley, do you want to add anything to your remarks?

MR. ASHLEY: I would just like to comment on—I would like to comment on a lot of things, but I have chosen two things.

Two of the speakers said they thought we were fighting a losing battle. Having been around with these patent problems for some years, back to the MacFarland Committee, TNEC, Thurman Arnold and the Bone Committee, all of which threatened horrible things in the patent system, I just want to point out that the paent system has survived what were real attacks.

Today, we are only faced with problems. As far as I know we haven't any attacks, really, and I don't think we are in a losing battle. The attacks on the patent system, I think, began as early as 1836 in this country.

I also wanted to ask Mr. Hanifin a question. He says he thinks we have to modify our laws to conform with the foreign patent laws, and the quick question to that is: Which ones?

There is no uniformity in the patent laws abroad. You have countries like Belgium, France and Italy with pure registrations. Germany has an extensive examination and opposition system. You have something less than that in the Scandinavian countries and you have an entirely different system in Great Britain. So I know of no system in Europe that we could conform to and have anything that was reasonably universal as a patent. The EEC patent in which I have been tremendously interested for the last five or six years, looks as if it is bogged down. There is great opposition to it and I think no very real prospect that it is going to come into being anytime soon, if ever.

MR. HANIFIN: That is the one I had reference to.

MR. ASHLEY: I don't think we ought to talk about changing our system to conform to other systems that don't exist in the world.

EXECUTIVE DIRECTOR HARRIS: I think we ought to hear from Mr. Ferebee.

MR. FEREBEE: Everything, I think, has been said so far in the way of objections. I would agree with Mr. Clark about our litigation. It is too voluminous.

It can get way out of hand. I would agree with Mr. Ashley that the Patent Office could be helped probably by better claiming procedures and also by pointing out to them art that we know about that they don't. We may disagree on it, but nevertheless it is on the record.

MR. COOKE: Had you finished, sir?

MR. FEREBEE: Yes, sir; go right ahead.

MR. COOKE: I was under the impression when we started around the table that we were simply talking about prosecution problems in the Patent Office. Most of the other problems we have, have been stated around the table and I am not going to repeat them.

We have the same problems, too, but we did talk this morning, or Mr. Mayers set up a list of seven points covering patent problems, trade secrets, copyrights, and he left out one area of great concern to us. It is ambush claims in trademark matters. I think that I was opposed to it at first, but I believe something like the Dirksen bill requires very serious consideration. I believe it is appropriate. I would just like to add one comment; that is, if some of these people around the table—and I know some of them quite well—are as tough in getting things out of the Examiners as they are in negotiating with us, I can sympathize with the Examiners.

(Laughter)

EXECUTIVE DIRECTOR HARRIS: If there are no other comments, this is a good place to break for lunch.

(Whereupon, at 12:37 p.m., a luncheon recess was taken, to reconvene at 1:30 p.m., the same day.)

EARLY AFTERNOON SESSION

EXECUTIVE DIRECTOR HARRIS: Gentlemen, now that we're relaxed and smoking our cigars, I think we can take taxation.

(Laughter)

This afternoon's discussion will be led—the first part of the afternoon's discussion—by Mr. Slowinski. He, of course, is going to talk about tax matters, particularly international tax matters.

MR. SLOWINSKI: There has probably never been a time in the history of our profession when the patent lawyers and the tax lawyers have come so close together in terms of mutual interest. There has also probably never been a time when the international management of our companies has worked closer with both branches of our profession in foreign operations.

I recall working in London in 1951 when an editorial appeared in the Times suggesting that the United Kingdom had an excellent opportunity to touch off its second "Industrial Revolution" by becoming the jet transport aircraft producer for the entire world.

You will recall that Britain at that time had produced the Comet, and it was already operative in European transportation—at least five years in advance of the United States competitive aircraft such as the Boeing 707 and the Douglas DC-8. The editorial stressed the British lead in industrial property rights and production, and urged an all-out program to produce jet transports as rapidly as possible for the British economy while this industrial property lead continued.

You will recall the tragedy of the Comet losses and the fact that the British had to redesign, retool and resell Comets after several years of outright loss—during which period our Boeing and Douglas aircraft took over the world market.

By analogy, today we in the United States have an industrial property lead in some industries, but it is uncertain as to longevity. We can use this lead today to sell, license or distribute abroad and to earn dollars to help in our fight to prevent a serious balance of payments deficit in our economy. These dollars earned abroad also lead to increased tax revenues at home if we plan our companies' international tax structure appropriately.

There was a time in our life-span when it was possible to do business internationally at a cost of little or no direct or indirect taxes other than customs duties. Even in the United States for he first one hundred and thirty-five years of our history we had no income tax, but relied on customs duties and excise taxes primarily for our Government revenues. Beginning in 1913 we adopted an income tax which was relatively low, unproductive and therefore unobjectionable. Beginning in 1933, however, it became a burgeoning system of progressive rates which, over the next thirty years, continued to threaten a businessman with the loss of as much as 90 cents on an earning's dollar if he were adventurous enough to risk his fortune in foreign or domestic commerce.

The other commercial nations of the world have now become far more sophisticated in their direct and indirect tax systems, and it now behooves the twentieth century businessman to engage in careful tax planning to be certain he does not pay excessive, unreasonable or unnecessary taxes abroad which cannot be recovered via our foreign tax credit and represent a total loss of funds to the United States company and to its shareholders.

In the area of foreign licensing, our Patent, Trademark, and Copy-

right Research Institute's *IDEA* has been, by all means, the leading intellectual journal in the publication of materials helpful to patent lawyers, tax lawyers and corporate officers and counsel, beginning with a series of articles a number of years ago on foreign licensing and taxation. More recently the Institute has begun a series of articles entitled "Taxation of the Foreign Licensor". The first two articles appeared in the spring and summer 1964 issues of *IDEA* and covered taxation of the foreign licensor in Australia and taxation of the foreign licensor in Canada. We understand these will now be followed by similar articles on the United Kingdom and the other major commercial countries of the world.

By way of comment aside, it should be noted that a few years ago a major United States company announced that it was now paying more in taxes per year than it paid in labor costs. Depending upon the country or countries which your company chooses as your area of foreign operations, it should be important to consider the direct and indirect taxes applicable in those countries as important items in determination of the cost of goods sold or cost of operations.

It is not necessarily true that the high corporate tax rates exist only in developed countries. For example, the withholding tax on royalties from licensing in India several years ago was sixty three percent. This, in the last several years, has been reduced to fifty percent.

It is also true that in a number of countries, such as Japan and India, your rate of royalty on licensing may be either prescribed by the local government or limited in amount by the local government through controls on foreign exchange, taxes, et cetera.

One of the most interesting tax aspects of foreign licensing is the fact that if all substantial rights to your industrial property are granted in an exclusive license to manufacture, use and sell in a specific country to an unrelated licensee, it is possible to obtain capital gains treatment in the United States. Here, again, I refer you to a leading article in the Journal written several years ago by John F. Creed and Robert B. Bangs entitled " 'Know-How' Licensing and Capital Gains." This article has been cited by a number of United States courts, including the United States Court of Claims, when discussing capital gains treatment on the sale of a trade secret. The case is *DuPont* v. *United States,* Court of Claims, 288 F.2d 904.

We are now working with Dr. Bangs and Mr. Creed to see if this article can be brought up to date shortly because of its precedent-setting nature and because of the great interest shown by United States corporations in capital gains treatment of licensing proceeds.

MR. ASHLEY: Will you identify that publication again?

MR. SLOWINSKI: Volume 4, No. 2, Summer 1960, of the Journal of The Patent, Trademark, and Copyright Research Institute. I also have reprints of the articles on licensing in Canada and Australia and would be glad to send them to you.

The second area of profitable use of industrial property for your companies and to the United States Government (in terms of dollar flow and tax revenue) is the possibility of exchanging such property for shares of stock in new foreign joint ventures in tax-free reorganizations under United States internal revenue laws. Such exchange of industrial property for stock makes the United States company a shareholder in a venture abroad from which dividends or royalties may flow back to the United States to offset our balance of payments deficit.

For example, a United States company may contribute its plans, drawings, designs, specifications, secret processes, patents and trademarks to a joint foreign company in which the foreign joint venturer may contribute cash, land, buildings, machinery and equipment for his share of the equity.

This type of joint venture company is especially welcomed in less developed countries where industrial property is in great demand, as well as in Government-controlled economies such as Japan and India.

This type of transaction is one we analyze carefully in many countries during our seminars at the law schools of the Universities of Virginia and Georgetown. At Virginia it is taught as a seminar entitled "Tax Planning for United States Corporations Abroad". At Georgetown it is a graduate course on "Comparative Tax Law" in which we analyze and compare the major tax systems of the commercial countries of the world to see how they can be coordinated in business planning to avoid double taxation or the payment of excessive or unnecessary taxes.

As you may know, there is no rule of international law which prohibits double taxation of the same income by several countries. This becomes the responsibility of the international businessman himself and his tax counsel. The United States Internal Revenue Code now ends at Section 8023 (c)—with many gaps in numeration. Nevertheless, it is the most extensive, complex and confusing tax law in the history of the world. To make its foreign income provisions more accessible to businessmen, we have prepared an outline of only those sections of the Code which apply to the United States taxation of foreign income, such as the foreign tax credit, tax treaties, Western Hemisphere Trade Corporations, Possessions Corporations, Export Trade Corporations, et cetera. A copy of this reference list with a

selected bibliography and current reading list is available should you wish to have one. It also includes materials on such worrisome problems as taxation of foreign currency gains and losses and the need to obtain favorable Section 367 rulings in advance from the Internal Revenue Service on specific types of foreign transactions.

This ends my general comments on taxation of international operations. I would now briefly wish to discuss the use of military sales and licensing of industrial property rights to certain foreign governments or corporations for military production.

On December 8 and 9, 1964, the National Security Industrial Association will sponsor a symposium here in Washington entitled "Use and Profitability of Industrial Property Rights in the Military Export Program." This is a new and challenging project to promote our export expansion program and to bring dollars back to the United States in the form of profits from exports; royalties from licensing; or proceeds from outright sales of industrial property rights to foreign military goods manufacturers in friendly countries.

You may recall that during the Marshall Plan days and the years which followed, it was our objective in the United States to make available to our European allies as much technical data as possible to build and maintain NATO at peak effectiveness. Under certain of these Patent and Technical Information Agreements we agreed to give the rights to certain inventions to foreign governments without cost if the United States Government had acquired such rights for defense purposes. Millions of dollars spent in United States research and development contracts resulted in thousands of inventions, plans, designs, et cetera, becoming available to the United States Government which, in turn—and upon request—would turn them over to our allies.

The competitive situation and our balance of payments position has changed since 1955. This NSIA symposium will now concentrate on promoting allied interdependence through industry-to-industry licensing and exchange of technical data for dollars; increasing exports of military products from the United States to Europe; protecting United States industries' industrial property rights abroad; use of industrial property rights to gain access to foreign markets—and tax planning for maximum profit return on licensing or sale of inventions, patents, technical data and know-how.

Pentagon officials have recently revised their procedures to permit United States contractors to retain title to their inventions—even though reduced to practice while under Government research and development contracts—if the contractor demonstrates a serious intent to utilize such inventions abroad to promote exports or to earn dollars

through licensing. For more data you may refer to the Armed Services Procurement Regulation, Section IX, Part 2.

My third and final point is a non-tax matter which involves foreign operations—specifically the application of the antitrust provisions of the Rome Treaty to exclusive distributorships in the European Economic Community.

On September 23, 1964, the EEC Commission handed down its first major antitrust decision in *Grundig-Consten,* (a translation is reported in the *Commerce Clearing House Common Market Reporter,* No. 7026). Grundig Verkaufs, G.m.b.H., the German sales company of the large German manufacturer of radio and television equipment, appointed Consten S.a.r.l., a French company, as its exclusive distributor in France. In the agreement Grundig undertook not to supply anyone in France except Consten with its products and to impose export prohibitions on its other dealers in Germany and elsewhere so that Consten had exclusive distribution rights and responsibilities in France. In return, Consten agreed not to sell outside France. Grundig also transferred its French rights in a trademark "Gint" for the life of the distributorship.

A French competitor of Consten with an abbreviated name of "UNEF" bought Grundig equipment from German wholesalers and sold it in France at prices lower than Consten's quotations. Consten sued UNEF on the theory of unfair competition and for violation of the trademark "Gint." UNEF defended on the grounds that the Grundig-Consten exclusive distributorship agreement was in violation of Article 85 (1) of the Rome Treaty. This legal action took place in French courts which, after deciding for UNEF in the first instance and then reversing on appeal, decided to suspend proceedings until the EEC Commission took action.

The Commission of the EEC decided on September 23, 1964 that the exclusive distributorship agreement and the trademark arrangement constituted a violation of Article 85 of the Rome Treaty. It also refused to give a dispensation under Article 85 (3).

The case has now been appealed to the European Court of Justice and we are awaiting developments.

Should you wish to read an analysis of the Commission's decision, you will be able to find it in the January 1965 issue of the American Bar Association's publication *The Business Lawyer* written by my partner, Klaus Newes, of Brussels.

Mr. Chairman, that is all I have.

EXECUTIVE DIRECTOR HARRIS: Thank you, Walter.

I should like to direct your attention to the matter under discussion

this morning and the various comments you made. We were talking about it during lunch. We were most surprised at the commonalty found in the problems raised around the table this morning. It's going to be very helpful for us in our final discussions this afternoon. It will also aid us in determining the most constructive use for the information we gather . Later on we will talk in more detail about how we propose to utilize this information.

I would like to ask for comment from the table on Walter's discussion. Are there any comments or questions?

(No response.)

Walter, do you want to add to your presentation about the domestic aspect of your subject?

MR. SLOWINSKI: Yes. An interesting domestic tax case on the sale of trade secrets is *Du Pont* v. *United States,* decided in the United States Court of Claims on April 7, 1961.

Du Pont developed a nelectrolytic process for producing the metal sodium. The company kept the process as a trade secret rather than applying for a patent. In 1950 a British company, Associated Ethyl Corporation, Ltd., bought the nonexclusive world-wide rights to use the process for $225,000, and Du Pont agreed not to assert any rights against Associated Ethyl, while Associated Ethyl agreed not to disclose the secret to anyone else for five years.

Several months later Du Pont agreed to grant similar rights to Ethyl Corporation, a Delaware Corporation, for $400,000.

Du Pont claimed capital gains treatment on the sale of the process to Associated Ethyl. The Court of Claims ruled against Du Pont because it felt that since Du Pont retained the right to make disclosure to anyone else (and in fact did so to Ethyl Corporation later), it had not completely disposed of a trade secret so as to meet the test of a "sale".

You may be interested to know that the Court of Claims, in discussing what type of disclosure of a trade secret amounts to a sale for tax purposes, cited an article by Creed and Bangs on " 'Know-how' Licensing and Capital Gains" in *The Patent, Trademark, and Copyright Journal of Research and Education* in volume 4, number 2 (Summer 1960), pp. 93-107.

My point in mentioning this case is to show that it is possible to make sales of industrial property and obtain capital gains treatment if the transaction is carefully planned and executed.

EXECUTIVE DIRECTOR HARRIS: Yes, Mr. Plante?

MR. PLANTE: Would an exclusive license, involving the customary royalty on products sold in a foreign country, be subject to capital gain?

MR. SLOWINSKI: Yes, if it is an exclusive license to manufacture, use and sell for the full life of the patent. A leading case is *National Breadwrapping Machine Co.,* 30 T.C. 550, decided June 10, 1958.

In that case a United States corporation granted to a related United Kingdom company certain rights by an informal exchange of correspondence to make and sell certain machines, but there was never a formal arrangement granting the United Kingdom company an exclusive right to manufacture, use and sell such machines with a specific territory. The Tax Court refused to grant the United States company capital gains treatment on the proceeds because it had not met the burden of proving this was an outright assignment or sale to the United Kingdom licensee.

In another more recent domestic case, *Heil Co.,* 38 T.C. 989, acq. 1963-1 Cum. Bull. 4, decided Sept. 28, 1962, the Heil Co. of Milwaukee sold its patents, together with engineering and manufacturing information, for the manufacture of certain earth-moving equipment for $1,000,000 to International Harvester in 1953 and reported the gain as long-term capital gain for income tax purposes. However, Heil was permitted to continue making a small number of these machines on a royalty-free basis.

The Tax Court held that the patents were long-term capital assets and that the engineering and manufacturing data was pertinent to the successful manufacture of products under the patents. It, therefore, decided that such information or know-how was an incident of the patents, took the nature of property, and constituted a long-term capital asset which was sold.

MR. PLANTE: This gets into what I find a very fascinating area. It seems to almost head-on hit the sort of antitrust problems you're told you'll run into in granting exclusive territorial licenses. But the possibilities from a tax standpoint—

MR. SLOWINSKI: The Common Market Commission has published two notices on this question of exclusive distributorships. They are dated November 9, 1962 and appear in the *Commerce Clearing House Common Market Reporter* at paragraph 7005.

There are also two communications appearing at the same citation on certain patent licensing agreements which you may also find interesting.

To return to Marc's point, there is serious concern being registered with regard to antitrust law by United States companies investing in Europe because of the confusion and complexity of considering:

1) the EEC antitrust provisions;

2) the restrictive practices provisions of the separate EEC member nations; and
3) the United States antitrust law.

MR. HOLLABAUGH: True. Of course, don't overlook this situation—and to me this has always been in the law: supposing you have a patent in the United States and one in Germany. If you grant a license under the German patent to X corporation and say, "I hereby grant you a license under my German patent and you hereby agree you will not export outside of Germany or to the United States," then this gets you caught in the antitrust laws.

However, if all you do is to license the German patent and then if he undertakes to sell in the American market, move against him under your American patent. That's perfectly all right because the restriction there arises from the patent, not by agreement. That is not a solution to all of your problems on that, but that is one of them.

On that same point, Walter and I were talking about this yesterday, and this is one reason why I think that it might be worthwhile for perhaps a group of business people to take Orrick up on his proposal to go and discuss problems with him. Back at the time when most of the so-called cartel cases were brought, around the time of the Second World War and afterwards, at that point American industry was very often in the driver's seat. Today that picture is altogether changed, and one of the things that I was complaining about this morning is that I think there is too much of an inflexibility in our antitrust enforcement policies.

It seems to me that someone should sit down and consider the question of: well, if the *National Lead* case was sound law 20 years ago, is it still sound law today or have circumstances changed?

You do have advocates going around telling everybody: Europeans are behaving themselves and are now really going to adopt all of our American antitrust concepts and all that sort of thing, and the "Therefore, we've got to be more vigorous over here" sort of approach.

You have people who go around and say that sort of thing. But as against that it seems to me that there are many factors in the international trade field today that differ from what the situation was 20 years ago and that, from the standpoint of what the policy ought to be in the United States, I think we'd be well advised to reconsider it. The people who have the function of enforcing it should reconsider it. I think we ought to have a different approach than what we have been having.

And along that same line, by the way, you recall the Webb-Pomerene Act that was passed in 1917. There were a flurry of associations formed.

Then we had some cases—there were two major cases—the *Minnesota Mining* case and the *Alkali* case. Then you had some restrictive rules from the Federal Trade Commission.

Many businessmen lost all interest in Webb-Pomerene Act associations and there was a decline in the number of them. Actually I think they took too pessimistic a view of what they could do under the Act.

Now there is a tendency to increase the number of these associations. Last year, I think there were seven or eight new associations formed. There are some nine associations that are being considered for formation now. There are some pretty good indications that the Administration's policy towards the international field and antitrust enforcement may be changing somewhat, and there certainly ought to be a reappraisal of the whole picture.

EXECUTIVE DIRECTOR HARRIS: Do any of you gentlemen have problems in the tax field that we haven't taken up? Do any tax problems relating to industrial property occur to you that we should discuss?

Yes?

MR. YATES: We have had one. Perhaps nothing can be done about the law. But one administration gives you an okay and then the second one won't honor it.

MR. HOLLABAUGH: That is a common disease in Washington right now and the businessmen are in the middle.

MR. SNOW: We have had it arise in the area of international patent licensing. This has to do with what is the fair valuation of properties that were transferred to a foreign sub. You get an advance approval, get the whole thing set up. Three or four years later, you get hit with deficiency requests.

MR. SLOWINSKI: Some years ago the Internal Revenue Service established the Office of International Operations to assist regular Revenue Agents with the audits of tax returns involving international operations. These OIO functions were to be in the nature of "advisory" and OIO assistance was to be available on request. A staff of agents was appointed for training in the areas of international transactions. The hardening of attitude toward bona fide international operations of American taxpayers has been discouraging.

Rather than burden you with an analysis of what has happened during the past four years in this area of retrospective judgment of business decisions on audit, I believe you would find interesting and helpful the document published in August, 1964 by the *Machinery and Allied Products Institute* of Washington, D. C. entitled "Office of International Operations—A MAPI Analysis and Study of Its

Functions." This was followed in November, 1964, by a supplement entitled "Administration of Foreign Earnings Taxation—A Critique of Government Attitudes, Policies and Procedures." Both are available at MAPI, Ring Building, Washington, D. C. 20006.

MR. SNOW: On the international side that attitude is also reflected in what we find we can get clearance to do because of this second-guessing—whether you can afford to transfer patents which today are relatively worthless or low value, I mean—but if you do enough work, enough development, enough backup, you can have a profitable business five or ten years from now and then have them re-evaluated in those terms and you can find that you have got a nice, fat capital gain deficiency tax.

And, in this general category also, I understand we have encountered difficulty in getting a tax-free exchange for stock.

MR. SLOWINSKI: The Section 367 ruling process mentioned earlier. Yes, it must be an exclusive license to manufacture, use and sell in exchange for stock of the new venture.

MR. SNOW: It has to be exclusive and even on technical information it has to be exclusive.

MR. SLOWINSKI: That is correct.

MR. SNOW: Which makes it a rather irrevocable procedure, you see.

MR. SLOWINSKI: Yes.

MR. ASHLEY: We have had a problem. Is there any way to protect yourself in the purchase of foreign subsidiaries or interest in foreign subsidiaries against possible claimed deficiencies for taxes in the company that you purchase?

Most of them over there, it seems, cheat outrageously on their taxes and if an American concern buys one of these companies as a subsidiary this alerts the local tax authorities to look into years of back taxes that are owed with interest, and the tax claim follows the property, and you find you have lost a substantial part if not all of what you invested in the foreign company.

MR. SLOWINSKI: Mr. Ashley, this has been a problem, but not a general one. What a United States company tries to do many times is purchase the foreign company's assets. This will allow the foreign corporate structure to remain where it is, in the hands of holders who are responsible for these prior tax deficiencies.

MR. ASHLEY: But the tax claims follow the property.

MR. SLOWINSKI: The property here is the cash you paid for the property and that remains, you see, in the foreign corporation.

EXECUTIVE DIRECTOR HARRIS: Is there any further discussion of questions?

(No response.)

I think, perhaps, we ought to revisit the litigation problem and then come back to taxes as questions may occur to us.

We agree that litigation is an important area for consideration to encourage further discussion by the specialists present here today. In terms of how you think the solution or partial solution to these questions might be found, I ask you, what can we do about it?

MR. MAYERS: Well, this is certainly something that could be put to the meeting.

My own reaction to the discussion this morning was that this is a wonderful area for some study and research, particularly in terms of trying to find out where the job is being done well and how it's being done well, with the objective of seeing if there are any recommendations that could be put together from such sources, on how to do it generally throughout the country. Not that we could automatically change the administration of the Federal Courts, but at least if you have an idea derived from such sources as to what you are seeking for, you might be able to make effective recommendations or at least effective publications on the subject. Now, whether this group is ready, at this time, to come forward with anything more explicit than was brought out in this morning's discussion, I don't know. You certainly may wish to explore that.

EXECUTIVE DIRECTOR HARRIS: Are there any further comments on the litigation question? There seemed to be a large degree of commonalty at the board for problems concerned with litigation.

Yes, Mr. Plante?

MR. PLANTE: Well, this comment I hesitate to make because I can't see any immediate practical application of it. But, looking at the problem in a rather philosophical way, it strikes me that the problem occurs because the people trying the case have no idea until they receive the decision what is important and what is not.

They spend fantastic amounts of time and expense on things which turn out to be completely meaningless, and yet they are afraid—and with good reason—to leave any of this out.

Of course, as an inside corporate attorney I have had to make these decisions. I remember, for example, when we were in certain litigation, the possibility came up that we might find some effective prior art in Russia, i.e., that some Russian inventor might have done something along the same line. So the trial attorney came to me and asked if I would authorize spending a lot of money for sending somebody over there to take depositions and so forth.

This was a tough problem, you know. I thought the idea sounded

pretty remote, and they assured me we had a good case anyway. So why do it? And yet, had we lost the case, I suppose that would have been the reason we lost it.

This ties somewhat to what Mr. Brown said. I would like to have the judge give advance indications as to the points he regards as critical.

I think what we need, at least in an intellectual sense, is a"zigzag" approach by the judge but this would require a great deal of objectivity on the judge's part and willingness to change his prior reactions, to shift when, in fact, a telling point has been made.

I just throw that in. It's not very useful.

EXECUTIVE DIRECTOR HARRIS: Yes, Mr. Brown.

MR. BROWN: I think there are several things that can be done. I think, in the first place, greater emphasis can be placed and greater effect given to motions for preliminary injunction and for summary judgment.

Now, both of these tools are available, but as things stand today you can never get a preliminary injunction unless your patent has already been adjudicated as a matter of practicality. That is life as it is. You can very seldom get a summary judgment. I think these tools should be used to a much greater extent than they now are.

I think, as I said, that the pretrial conference technique, which is what Mr. Plante has just been talking about, should be used to a much greater extent.

And I think that an off-the-cuff discussion of issues could cut the trial time very greatly.

For example, in every case that I've been involved in recently, it's a matter almost of automatic defenses; patent misuse, violation of the antitrust laws. And nine times out of ten there isn't any merit in either of these defenses.

Yet when these defenses are interposed, then the plaintiff is subjected to interminable examination on issues that are thrown out of the window as soon as you get into court, and the only purpose of the examination is to get information.

EXECUTIVE DIRECTOR HARRIS: Harry, let me ask you a question, if I may. Does the optimum patent system for the future, the first item on the agenda you presented, have a significant bearing on the present discussion of patent litigation?

MR. BOWES: Yes.

MR. MAYERS: Yes, it certainly has a relation, Lou. But I think our problem is of this kind. Some studies which we have made, and I think Federico made somewhat similar studies, show that where the best

prior art that was introduced in the trial of the case had previously been introduced in the Patent Office, something like 86 percent of the patents involved were held valid.

This shows that the serious defect of our system, or the most serious defect of our system, lies in the fact that patents are granted which have not been exposed to all the relevant prior art which comes out for the first time in the courts.

Now, anything that can be done to the examining system that would improve that part of the situation obviously has its bearing on what will happen in courts. If you could achieve anything like a hundred percent examination in the Patent Office, the percentage of patents held valid presumably would run near the 80 percent level. And the difference in judgment between the Patent Office and the courts would seem to drop to about 20 percent.

But with our present examination system, we are talking something that will never happen. Whether we could bring it any nearer to happening by the institution of something like an opposition proceeding, by which others than the Patent Office might have a chance to contribute their part of the prior art, is another question.

I am inclined to lean in favor of the opposition scheme. But I'm quick to add that I don't know all the answers to all the problems that such a scheme would introduce.

EXECUTIVE DIRECTOR HARRIS: Then one of the keys might be some way to obtain more prior art for the Patent Office, that is to close the gap somewhat with what the courts can achieve.

MR. MAYERS: My own view is there is no serious disagreement on this subject, that the problem is the factual one of—

EXECUTIVE DIRECTOR HARRIS: How do you do it?

MR. MAYERS: —availability of prior art.

MR. COOKE: Mr. Harris, an opposition system undoubtedly would improve the percentage of validity of patents issued but, of course, we must recognize an opposition system will throw an additional and seriously heavy burden on the Patent Office. It gets them into areas in which they really can't easily go. And when we're talking about the tremendous problem of conditions in the Patent Office, to propose a procedure which would automatically vastly increase the work of the Patent Office seems to me completely unrealistic.

EXECUTIVE DIRECTOR HARRIS: How would you approach it? What would you do?

MR. COOKE: Apart from other—I am simply talking about the opposition system as a means of getting more valid and less invalid patents out of the Patent Office.

MR. ASHLEY: There was another suggestion one time made by one of our District Judges, up in New England, and this goes to something that was mentioned here earlier about the expert witnesses who flatly contradicted one another and confused the judge who ordinarily has no technical background.

He suggested—and this would put some burden on the Patent Office—that the Patent Office itself could set up a small committee of experts and make them available to the courts, take the testimony on questions only of validity and infringement, and have them give an advisory opinion to the Court on just those two things: validity and infringement, in the light of any art or argument that the defense put up to the patent as a guide to the Court in dealing with those questions.

Now, of course, if there are antitrust or misuse questions and so on, the Court would have to deal with those.

That might be a way to do it.

Another thing that, of course, has been many times proposed is a single Court of Patent Appeals which would in time establish a set of rules and standards of invention which the District Courts would eventually follow.

The objection to that is that you would get a stereotyped law and that the Court would be really building the whole system of patents. But these are two suggestions of ways that might help.

MR. SLOWINSKI: Along the lines of that latter suggestion, in the tax field we have the direct analogy. If we have a tax deficiency we have a choice of three forums to which we can go.

One is the Tax Court of the United States. Without paying the tax we get a full hearing before a judge who has the equivalent status of a Federal District Judge. There are sixteen judges on the Tax Court of the United States and they ride the circuit. They hear all over the United States.

If we don't choose the Tax Court, which includes in many cases the people who are, as you say, the stereotype—we know just about where they are going to come out pending other judges we get—we have the choice of our local Federal District Court, to which we can go, and here again in order to get in or, here for the first time, in order to get in, we must pay the tax in advance. We must pay the tax and interest and then sue.

Or our third forum is the United States Court of Claims. Here, again, we must pay the tax and the interest before we get into the Court of Claims.

We have a choice of three. But the Tax Bar has recommended—certain members of the Tax Bar—over the years, that the decisions we

get out at this initial level, namely Tax Court and District Court, ultimately go up to the Court of Appeals and with the ten circuits we have the problems of whom did you draw on appeal, whereas in the Court of Claims you try it then, and there is then only appeal to the Supreme Court if they decide to take a petition for cert.

So there is a feeling we should have one certain Court of Tax Appeals. Dean Griswald has talked on the subject at length over the last ten years. In patents, however, it is not at the Circuit Court of Appeals level, but at the Federal District Court level.

One Court of Patents, really, not patent appeals.

MR. ASHLEY: If the Court of Customs and Patent Appeals could be given that jurisdiction then, of course, you would have the same decisions being made for the Patent Office as for litigants.

MR. SLOWINSKI: Yes, that is right.

EXECUTIVE DIRECTOR HARRIS: Did you want to say something, Jesse?

DR. MARKHAM: I am afraid not very much. I was always under the impression lawyers only confuse me and I am kind of glad to know you confuse each other.

But I don't quite understand this opposition procedure, unless you mean something like the following, and it's often occurred to me as someone who knows nothing about the law, but a little something about administration.

In granting patents why doesn't it operate like, oh, the awarding of television stations or of marriages?

You file it and you say, "Anyone who has any registrable objection, come in and make it known in a month."

In a wedding you give them only the time the minister needs to draw half a breath (laughter). But in a television station award, you can have an adversary proceeding. You know this is what you are going to do. You register for it. Why wouldn't this, in other words, kick up any prior art that would invalidate the patent and if it did not, you could assume it did not exist and get it all settled rather early in the game.

EXECUTIVE DIRECTOR HARRIS: I would hesitate to compare it with a wedding ceremony.

Yes?

MR. BROWN: You did have something like this in Germany. Anybody who thought he was going to be injured—I don't even think he had to think he could be injured—anybody could oppose a patent.

Some fellow publishes a patent. It's first opposed by Zeiss, then opposed by Agfa, then by Telefunken, then by Joe Doakes. And after 40 years, there are still seven oppositions on the list and the patent has

expired and nobody has gotten anything.

MR. ASHLEY: And you have paid a lot of taxes.

MR. SLOWINSKI: Is the professor saying we choose our wives by the interest, convenience and necessity?

(Laughter)

MR. HOLLABAUGH: Sounds about like it.

MR. CLARK: He said he wanted an adversary proceeding as in marriage. (Laughter)

MR. COOKE: One point about that that you should note. That is, in general, expiration of your foreign patent is measured from the date you file the application whereas in this country it is measured from the date the patent issues. Whether that would be changed under an opposition system, I'm not sure.

MR. ASHLEY: The Patent Office, I think two years ago, presented to the Bar Association Patent Section a plan that seemed to have some merit which would give the Commissioner the right to cancel a patent or any of its claims within one year.

Now, the Patent Office does have contingent jurisdiction for a year after a patent issues for the filing of interferences. You can copy a claim within a year after the issuance of a patent.

The idea there was that anyone during that year could send into the Patent Office any art or publication or prior patent he knew of that he thought should have been considered in the prosecution of the case, and it would go into the file of the patent.

The Examiner would study it and if he thought that he had granted too much he could recommend to the Commissioner that the patent either be cancelled or that some of the claims be cancelled, and so on, within a year.

I thought that had some merit and would contribute to better integrity for patents generally without delaying the issuance of the patent and without postponing the time when it might be subject to further Patent Office prosecution anyway, as in interference.

EXECUTIVE DIRECTOR HARRIS: Does industry generally favor opposition?

MR. ASHLEY: No.

MR. BROWN: No.

MR. ASHLEY: And the Bar Association turned this down but I think they made a mistake, as they often do.

MR. COOKE: I think there is a very practical difficulty in the minds of most patent lawyers that this is not the place to raise your defense.

If you bring in a reference in an opposition and the Commissioner or the Patent Office decides that that is not a good reference, you have

two strikes against you, at least, now, if you are sued on it in court. You want to preserve your real defense in the courts. And most opposition proceedings have a tendency to—they do—increase the strength of patents, but often at the expense of the opposer. That is not a very good forum.

As a matter of fact, most people who believe they have a defense against a patent would rather have that treated in court than run the risk of having it treated in the Patent Office.

They are not equipped to take testimony and to go around the country hearing witnesses. These are again matters, as I mentioned a moment ago, in which you cannot set the Patent Office up as a general court.

EXECUTIVE DIRECTOR HARRIS: This would be true in revocation as well.

MR. COOKE: Yes, same thing.

EXECUTIVE DIRECTOR HARRIS: That is as far as opposition and revocation is concerned, industry is not in favor—

MR. COOKE: This is just a variation of the opposition procedure.

MR. MAYERS: Mr. Moderator, I suspect what you will really find in any complete poll is that there is a great variance of viewpoint on this question.

MR. COOKE: Yes, there is.

MR. MAYERS: This is largely true because there are so many different kinds of opposition you can talk about.

I doubt if it is really profitable to spend a great deal of time here discussing it because this is a matter of great debate within the patent fraternity, with sides being chosen in varying ways.

DR. MARKHAM: May I raise one other question? It seems to me what you have said, Mr. Cooke, explains most of the difficulty and that is that all of the really good evidence doesn't get kicked in at the time it goes to the Patent Office.

MR. COOKE: That is true.

DR. MARKHAM: That all of you are really waiting to decide it in court if it has to be decided, and hence what you are doing is delaying bringing forth all of the facts and the evidence, which delays the settlement of the thing whether a patent issues or stands up as valid or not.

MR. COOKE: I don't go quite that far. And this is not a view of the Bar but a personal one.

Suppose a patent were to issue, about to issue, or had issued under this procedure and I am worried about that patent.

I think it's doubtful whether it is valid or not. I would very much hesitate to—I'm on the horns of a dilemma. Do I go in and oppose, risk

what will happen without adequate testimony, without really having a chance to present my case or if I don't do that then is the very fact that I have neglected to do so going to stand against me one way or another when the patent does come into court?

So there is a dilemma either way and the Bar is quite divided on it. It is a very controversial subject. I would say, I think, in general, the majority view of the Bar is against opposition proceedings. But, in other words, the majority view of the Bar is always against any change in anything anyway, as we all know. (Laughter)

EXECUTIVE DIRECTOR HARRIS: Harry, of the areas that you presented for discussion, which one of them would you suggest we now concentrate on in depth so that we might get some real, constructive assistance in—of the eight areas you previously mentioned?

MR. MAYERS: Well, I think an area of extreme importance to the American economy, at the moment, is this area of trade secrets.

I have no idea whether profitable viewpoints could be developed by discussion or not. But since we have this eminent panel here, I think it might be well to open the subject and see whether we can get any interesting insights as to how the problem affects those who are represented here.

If I could start the discussion in this way I think it might lead us to talk about something other than the most obvious aspects of it.

I think there is no problem with dealing with the trade secret question when it presents itself in its grossest form, perhaps as exemplified by the most recent decision in the *Sperry* v. *National* case, where, as I recall the reported facts, the defendants were a group of engineers employd by Sperry to conduct and engineer its semi-conductor business, who, while having responsibility for doing this, were hard at work organizing an external company, to which they expected to repair in due course, taking with them all their technology. The net result was that when these gentlemen did leave they took with them 28 out of 32 of the staff of the Sperry Engineering Deparment in Semi-Conductors, substantially collapsing the business of Sperry.

This kind of case gives no one any trouble. But since this is a Clinic, let me throw in two more difficult cases. I think they are progressively more difficult.

One case with which I am familiar involved an employee who came from another company and brought with him, unknown to his new employer, a great mass of data, specifications, and materials which he proceeded to use in his new assignment and use very effectively in meeting a close deadline of time with respect to the design of a critical piece of equipment. The other company brought suit with the result

that a settlement, I think favorable to the other company, was reached.

Now a case that is tougher: a man comes to the company with knowledge of a great deal of process technology of a competitor. He's assigned to a line of development which is unrelated to that in which he worked for the prior company, but in a department which carries on work paralleling that conducted by the prior company.

He understands the law of the case, and the people with whom he's working understand the law of the trade secret area and that he is under an obligation not to disclose any of the trade secrets of his prior employer, but he is put somewhat in this situation. He's asked from time to time, "Here is what we are doing now. How close is this to what your prior employer was doing?" (Laughter) It's "hot, getting hotter" sort of approach.

Now, this is where the law becomes quite subtle in its application. One can postulate even subtler cases. And I think it's fair to say that the engineering profession is, at the moment, somewhat in a state of confusion as to where the limits of this law really are.

In a sense, I think our society is in a state of confusion as to where the law ought to be on this subject because one can easily spell out a strong social policy in favor of high mobility of technical personnel in an era which is dedicated to technical progress and which in the nature of things is going to require a great deal of transfer of personnel from one company to another. On the other hand, one can spell out a social policy in favor of the fairly strong protection of the results of investment in innovation—in other words, a policy in favor of protection of bona fide trade secrets.

Now, I think it's going to be a most interesting problem for the next decade to decide where this balance point ought to lie. Should we be moving in the direction of stronger and stronger protection of the trade secret interests of the employer or in the direction of more and more accommodation to the interests of the moving employee? And I put that question before the meeting.

MR. BOWES: May I add another aspect of this?

EXECUTIVE DIRECTOR HARRIS: Yes.

MR. BOWES: While you are considering those, I think there is another area that might be tossed into the pot.

Harry has given you cases between first employer and second employer. But suppose that an employee leaves "A", goes to work for "B", and "B" contracts with "C" to do a job for "C", "C" being an innocent bystander here.

Then "A", to protect its information, brings suit against "B".

Where does this leave "C" who perhaps has not had his contract performed?

Of course, if his contract is performed he is in a position of a purchaser for value. But as an example, suppose that the contract is to build some apparatus for "C", and before the job gets well started suit is brought, and "B" naturally is somewhat on the spot whether to go ahead with this contract or not.

So third parties can be hurt here so you have to deal them in, I think, as well as the original employer.

MR. SLOWINSKI: "C" is called the holder of the bag, in due course. (Laughter)

MR. BOWES: He is the holder of the bag in due course, all right.

MR. COOKE: I want to assure Mr. Snow that we did not ask that ex-employee of yours any of these nasty questions he suggested. We had this problem come up. (Laughter)

I wanted to ask Harry Mayers, really, if you feel you need—and I think you suggested this in outlining this originally—some sort of statutory approach. I have the feeling that the courts are dealing with this pretty well now. There are a lot of these cases in the mill, and the decisions with one early exception, which was later corrected, seem to be going along quite well. They are going along a lot better than the confidentiality cases which I think is a related field of the law in which there is a great deal of confusion, a great deal of difficulty. I am talking about unsolicited disclosures.

I might point out at this time—some of you know about this and have heard it—we had an instance which involved a company which is now a subsidiary of ours. We did not really know much about it at the time we bought the company, but they had been approached by an outside group with the design of a ship to move LPG from Texas to New York. They came in with a sketch done by a naval architect, a very simple sketch showing horizontal tanks in a converted dry cargo ship to carry LPG.

Horizontal tanks, incidentally, for that purpose on a ship, were in an old expired Shell patent. They said, "Thank you, we don't need your help. Your economic report with it doesn't mean anything. We are not interested," and handed it back.

They went to a naval architect who came up with the same design. It was almost impossible to avoid it. The lower court was unable to find profits so it assessed damages on the basis of a reasonable royalty and I think the bill came to $60,000 for this company's work plus another $30,000 for some information they had given to another company, Shell, incidentally, the very people that had this old patent.

Both sides appealed. Our company was horrified. They didn't have the faintest idea that they had done anything wrong. The Court of Appeals, Judge Staley, said, "Well, I can show you how to find damages. Here's the theory." And the bill went to somewhere between six and nine million dollars on his theory. It was settled for a very large sum.

We tried to get it in the Supreme Court, but we settled before any action really took place. That illustrates the difference between the damages for violation of an unpatented thing and infringement of a patent.

But how can there be any congressional action on this? I can't see that.

MR. MAYERS: Well, I was not really suggesting—I was raising it as a question. I think the more interesting question for possible development around this table would be the degree of feeling that the evolution of the law ought to be in the direction of stronger enforcement of the employer's rights or greater accommodation to the employee's interests. I think that's the interesting question of social policy which one way or another is going to be resolved and I think it will be resolved by the courts. I do not think it is ever going to be resolved in a single statute because it is too complex a question.

EXECUTIVE DIRECTOR HARRIS: Yes?

MR. ASHLEY: I agree with Horace Cooke and also with the last statement by Harry Mayers that I think the courts are handling this pretty well and that one of these days they will have it worked down to the point where our present worries will not be valid any longer, but I think we ought to recognize if we're going to consider this that there is a historical and traditional inherent disagreement between the trade secrets business and the patent statutes.

Of course the patent systems were originally favored in great measure because they tended to break down the secrecy that existed in the craft guilds and the trade guilds. The trade secret can go on forever. The idea was to release the secrets so the public could eventually have them by giving an exclusive right for a limited time.

The apprentice system was, of course, a part of that and our patent term originally was two apprentice terms of seven years, making it fourteen.

They then wanted it longer and they proposed twenty and they compromised in Congress to make it seventeen but it was two apprentice terms, in order that the person disclosing his invention would have, by the statute, substantially the protection that he would have in his shop under the apprentice system.

So we have the two entirely different theories of how to get the benefit from your industrial property, trade secrets, on one hand, and patents on the other.

And I don't think that we, as industrial property people and patent people, can say that we think that the trade secret method of protecting innovations ought to be substantially enlarged.

I think that it does have to be defined, and these cases dealt with as they come along.

But I would not like to see us or any of the members of our profession take a position asking the Government or the courts to find greater protection for trade secrets. Know-how is bad enough.

MR. MAYERS: Mr. Ashley, would you be in favor of seeing a case go to the Supreme Court on the theory that the *Sears* and *Compco* cases hold, in effect, that the Constitution pre-empts this entire area in Article 8, Section 8, and requires that the doctrine of trade secrecy be done away with entirely insofar as it purports to provide any remedy to the private litigant against someone who has taken a trade secret and used it in some other unauthorized context?

MR. ASHLEY: Well, I don't know. I'm not ready yet to read the *Stiffel* and *Compco* cases as going that far. This was a slavishly copied product in the market. It was not a trade secret used in a factory and I think is a different class of thing, entirely.

And I don't feel that the decision in the *Stiffel* case could be used effectively even by the Supreme Court, itself, to bring about a result such as you have suggested might occur in that instance.

MR. MAYERS: I know several lawyers who have argued quite effectively that the logic of the case goes to this extreme.

MR. ASHLEY: I think we've got to do something about the *Stiffel* and *Compco* cases, all right enough if we can. But I think we are borrowing trouble if we try to relate it to trade secrets.

EXECUTIVE DIRECTOR HARRIS: Yes, Mr. Yates.

MR. YATES: I had the impression that we did need some Federal laws on it. We have been talking about civil matters here and civil remedies. But in the more flagrant cases you get into criminal actions.

Mr. Wolk, haven't you had some suggestions that the movement of genuinely stolen trade secrets in interstate commerce is not protected? Or is not criminal at the present time?

MR. WOLK: There are weaknesses in our Federal statute, the National Stolen Property Act, in the definition of stolen property, in terms of value and as an article of commerce.

It is questionable whether we could apply that statute where there was theft of an idea, or something at an early stage of development or

just documents containing data relating to a product which is not yet on the market. And in our experience—It's been clearly brought out that we would have difficulty in getting enforcement officers to invoke Federal statutes in such cases which points up to the need for amendment of the National Stolen Property Act.

I think, as Mr. Mayers pointed out, foreign statutes are much more definite and comprehensive with respect to the theft of trade secrets.

When we have been talking about the problems of the migratory employee and the employer, I assume that we haven't been referring to situations where there is an actual criminal act which requires the application of adequate sanctions.

In the area of criminal law there is need for strengthening of the statutes and there is a lot of work going on in that connection which may lead to the introduction of legislation in the next Congress.

I might mention that civil remedies are adequate, in general, because the courts do impose damages and injunctions in suitable cases.

Last week, in our *Aries* case, we got a judgment of $6,637,000 against the various defendants. Of course, we may never collect.

EXECUTIVE DIRECTOR HARRIS: Yes, Marc.

MR. HOLLABAUGH: I have before me the McDowell Bill which, I think, is the one you were referring to as introduced last year.

It would amend the National Stolen Property Act to have application to intangible stolen property carried across state lines. You said there was a lot of work being done on this.

Do you anticipate there will be a suitable bill offered in the next Congress?

MR. WOLK:The McDowell Bill is rather broad because it goes beyond technical data to the extent that it includes business information too, and maybe it will be more difficult to get unified support.

Also the definitions could be improved upon to make it clear that it's not intended to apply to nondeliberate disclosure of technical information by a migratory employee.

MR. HOLLABAUGH: I was always a little curious as to why industry did not back the McDowell Bill more than they seemed to.

The explanation, I suppose, is the failure to have a very definitive description or definition.

EXECUTIVE DIRECTOR HARRIS: Mr. Spencer?

MR. SPENCER: I would just like to raise one point and that is that in my experience the whole emphasis on what we call trade secrets, which covers a multitude of sins, from customer lists to technical information to what we used to call know-how, which really probably would not be dignified to the degree of what I consider trade secrets

or—The whole emphasis arises from the length of time it requires to obtain patent protection.

Coupled with that is the rapid obsolescence of technology. Well, perhaps I have led a sheltered life, but twenty years ago I don't recall negotiating any licenses on trade secrets at all, yet I hardly ever negotiate one today in which the so-called trade secret is not the nub of the exchange. Again this may be a very localized experience, but there's not very much conveyed in that type of communication of technology which would not ultimately be covered by patents.

Now this may be just limited, as far as our industry is concerned, but I think the dignity of the trade secrets comes from the fact that your competitors or your foreign entrepreneur want the information *now* and there aren't any patents covering it. Ultimately however, the technology will be revealed in issued patents.

EXECUTIVE DIRECTOR HARRIS: Yes, Mr. Brown?

MR. BROWN: I would like to make a comment as a sort of devil's disciple along the lines of Mr. Ashley and Mr. Spencer.

I think the danger here is that you will force industry into abandoning to a great extent the use of the patent system and substituting for that control of the proprietary rights through trade secret or know-how licensing.

Now we've got two aspects to this trade secret problem: one is the theft of the trade secret. This is bad and this we ought to prevent. The other is the use of the trade secret through licensing and retention of the right to publicize where this can be done—and frequently it can't be done because of the nature of the product—but where it can be done, you now have a technique for perpetual exclusivity of the proprietary right with reward to the owner which is far more valuable than anything he can ever get in a patent system. And we are very frankly considering the substitution of this type of control for patent disclosure.

The effect of this is what? The effect of this is to immediately eliminate the public dissemination of the knowledge that the patent gives and to substitute for this a restricted, controlled and limited technology in the hands of a few competitors or associates which may well control the industry and I think this is bad.

I think every effort should be made to strengthen the patent system and to make less desirable the retention and control of proprietary rights through trade secret licensing and control.

EXECUTIVE DIRECTOR HARRIS: This would be a retrogression to the era of the guild?

MR. ASHLEY: Middle Ages.

MR. BROWN: That's right. That is what Mr. Ashley had in mind, I am sure.

MR. PATTY: Many things are simply not capable of patent protection: the order in which you line up your machines to do a series of operations—which operation you do first; how you make your substrates—how you prepare a substrate before you put the film on it. All this is known in the art and is not patentable. The exact way in which you do these things really constitutes a valuable trade secret. As a matter of fact, which one of the prior art methods you are practicing can be a very, very vital and important piece of information. And it is that type of thing that I think needs protecting.

We had a case where an employee left us—I decided that it wasn't worthwhile following—and it was in the making of a piece of electronic equipment.

We had a patent application on file on that, along with a number of other patent applications, but I don't think anyone would know why this piece of ware was made the way it was even though it was on the market, even from an examination of our patent application.

And yet, this was a case where the competitor who hired this man would certainly in their operations, be brought up to a par with us, as a result of this man's leaving us.

EXECUTIVE DIRECTOR HARRIS: Would there be some other way of protecting unpatentable technology so that your problem could be met? I am not referring to the criminal. As to the migrant, would there be some way of proceeding so that unpatentable technology could be protected a little better?

MR. PATTY: You have a hard enough time defining what is patentable technology without trying to turn around—I certainly don't think we ought to give a greater measure of protection to unpatentable subject matter than to patentable.

EXECUTIVE DIRECTOR HARRIS: No, no greater measure of protection than patentable subject matter is getting today, but because of the migrant problems, can we develop better protection for unpatentable subject matter?

MR. ASHLEY: May I come in again? I feel like Methuselah. But I raise the question, too, as to how far you can go with this without running into Constitutional problems.

Now, monopolies are unlawful, they are odious and we have some antitrust people here to tell us so. An exception to that is our Constitutional provision for granting exclusive rights, but only to inventors and to authors for limited times.

And on that Constitutional authority Congress has passed the patent laws which are limited to certain statutory classes in which they will protect invention.

We are now talking about some kind of a legislation that will give us a monopoly, an exclusive right for something that is not an invention and is not within the patent statutes and I think we ought to abandon this. I don't think we are going to get anywhere because I do not think we deserve it.

Now, to the extent that there is a relationship between an employer and an employee and there is a breach of confidential relationship or there is an inducement of breach of confidential relationship, yes, I think the employer should have some recourse.

And if an employee walks out with valuable information that he has contracted to keep confidential and discloses it to a competitor, there should be relief. But I think we ought to abandon the idea of setting up parallel to the patent system any statutory means for protecting unpatentable inventions.

MR. PATTY: I would agree with that.

MR. ASHLEY: Good.

MR. WOLK: Of course we may not need any additional legislation to protect theft of copyrights. We also have common law rights here which are protected by law, so I don't think we are talking about statutory provisions which would supplement or amplify our existing rights. We are talking more about clarification of doubtful areas and also the punishment of criminal activities.

MR. HOLLABAUGH: Well, you know one interesting thing that might fit into what Mr. Ashley was saying—and I agree with what he has said here—there is some precedent in the antitrust laws, in my judgment, which means that you can have more restrictive provisions in a license agreement dealing with secret know-how than you can have in a patent.

MR. BROWN: That is true.

MR. HOLLABAUGH: That is an anomaly or paradoxical situation, it seems to me.

EXECUTIVE DIRECTOR HARRIS: Yes.

MR. COOKE: More restrictions and more damages?

MR. HOLLABAUGH: Yes.

EXECUTIVE DIRECTOR HARRIS: Yes.

MR. SNOW: On this employer-employee know-how, I will call it, I think in the term trade secret we get a little semantics problem. Trade secret in my mind is like a secret formula. It is a thing that can be identified. Know-how is the more general knowledge or the skills that

are referred to here. How do you put a plant together, how do you design it, and so forth, if I may make a distinction.

In the latter area where the know-how information was legitimately acquired by the employee or by the contractor who built the plant for them, and particularly with an employee, it's my experience that our engineers and scientists who are a substantial part of the community and are primarily interested in this freedom of movement are much concerned and even resent what they regard as restrictions on freedom of opportunity.

In response to Mr. Mayers' question I think the trend will be to respect that desire to the extent that the courts think it is reasonable. Outright theft I don't think is any problem.

EXECUTIVE DIRECTOR HARRIS: Harry, do you want to say anything further on trade secrets before we take a coffee break?

MR. MAYERS: Well, I don't think so. I agree with Mr. Snow's analysis that there is enormous pressure here on the side of those who make their livelihood in engineering and have a great desire for freedom to move from one company to another to resist the fairly strong pressures of these decisions which say you can only do this within fairly stringent limitations. Where we are going to come out, I have no idea. I suspect it will be a matter of gradual accommodation through the process of one decision after another until the optimum balance point is struck. I shall not be surprised, however, to see this issue presented to the Supreme Court within the next three years by some defendant invoking the logic of the *Sears* and *Compco* cases.

EXECUTIVE DIRECTOR HARRIS: Would you say that industry is generally not too concerned other than with the criminal situation? They do want more legislation, stronger laws, to protect against the criminal situation. Is industry, however, very concerned about the migratory worker?

MR. MAYERS: It might be well, if we reconvene, to poll around the table the depth of concern about this problem.

EXECUTIVE DIRECTOR HARRIS: Perhaps we ought to take a break for coffee right here.

(Whereupon, a short recess was taken.)

LATE AFTERNOON SESSION

MR. SLOWINSKI: A question came up as to what the Government does when it takes title to patent rights that it gets as a result of your research and development. The answer is nothing. It does not register these patent rights abroad. It has no inventory of the patent rights that it has taken as a result of its research and development expendi-

tures. It has no bookkeeping system for charging a royalty even if it wanted to license a patent right which the Government feels it holds. Except in atomic energy and the nuclear field there is no mechanism within the Government. If a potential licensee approached our Government for a license in this area, especially in Department of Defense Research and Development, it would probably be told there would be no charge even for infringement.

MR. WOLK: There is one exception to what you say. That is the *Tektronics* case in which the Government is counterclaiming for patent infringement.

MR. BOWES: I have heard NASA has granted some exclusive licenses.

MR. SLOWINSKI: They have granted some and will probably continue.

MR. ASHLEY: I would like to say, for this meeting or another one, there were two items, I think, that were not on the agenda that I am sure all of us here have had experiences with and we might like to do something about them.

One of them is compulsory licensing of patents by the courts and the other is the application of the misuse doctrine by the courts.

I know all the people here that are in the chemical field are bothered no end by the misuse doctrine. I am bothered by it, too, and I have had experience with compulsory licensing now for the last ten years, and I think they are both things that we might discuss to some purpose.

EXECUTIVE DIRECTOR HARRIS: Before we touch on those subjects, there were several of the members of the Clinic who had asked to be recognized for some remarks on the trade secret problem.

I believe that you were one of them, Mr. Wolk.

MR. WOLK: In answer to your last question as to industry's concern about the migratory employee, I think it is safe to say that it is greatly concerned about it, although in many cases there isn't much that can be done—partly for the reasons mentioned by Al Snow. I also want to mention that a survey was made by the Harvard Business School about two years ago, among a number of executives of leading companies, and the conclusion there was that they felt that the major cause of loss of trade secrets in industry was through the migratory employee rather than through outright theft. I don't have the citation.

MR. SIEGEL: Non-deliberate disclosure?

MR. WOLK: We don't know, but at least it is either an undetected or an unpreventable type of loss.

EXECUTIVE DIRECTOR HARRIS: Then you would say—

MR. WOLK: Through attrition that is, through disclosure of small trade secrets; things you don't know about.

EXECUTIVE DIRECTOR HARRIS: In other words, it is something you

can't put your hand on. You know it's a problem, but don't know what to do about it.

MR. WOLK: Unless you have a flagrant case like that in the *Sperry* case and others.

EXECUTIVE DIRECTOR HARRIS: Any other comments, Mr. Plante?

MR. PLANTE: It struck me, that in the process of agreeing that you could not have a particular form of legal protection for trade secrets, we, perhaps, did not adequately consider the original suggestion that there is a basic problem now being decided by the courts as to how far people who transfer from one corporation to another will be permitted to take along with them information of the company they previously worked for. And it does appear that this is an area where an Institute like this might be very useful. I would suppose that the time to move is before the position of the courts has become rigid on this sort of subject.

What I am saying is that if you want to influence the trend of the court decisions the time to do it is early, so that maybe it is a very appropriate field in which to be active.

I believe someone up front cited a situation where a statement put out by the Institute had been quite effective in the courts. I think that usually happens if the courts are searching for guidelines.

EXECUTIVE DIRECTOR HARRIS: Dr. Siegel, do you want to say anything now?

DR. SIEGEL: Nothing really that you could not say better than I.

Dr. Harris and I are working on a paper on this very subject for the very next issue of *IDEA* (Fall 1964). We hope to put it to bed tomorrow. We are very pleased, both of us, as we decided during the last intermission, that so many of the points that are coming up here today reinforce and underscore the lines of thought that he and I had pursued without your guidance. We feel reassured that our paper in the next issue of the Journal will contribute to the type of need Mr. Plante has mentioned.

EXECUTIVE DIRECTOR HARRIS: Mr. Kinney, did you want to say something?

MR. KINNEY: Well, there are some companies, and perhaps most of the people here are familiar with these kinds of agreements that attempt to anticipate this problem of an employee in a key spot moving to another company and of some agreement that if he leaves their employ he shall not work for another company in that defined sphere of activity for some reasonable period, say a year, during which, if that inhibits him from getting appropriate employment, his ex-employer

will pay him, say, 50 percent or more of his salary during the last year he was with them.

Now, I think some such agreement has sufficient mutuality in it that courts would probably enforce it.

EXECUTIVE DIRECTOR HARRIS: Mr. Waters?

MR. WATERS: If your article has not already looked at this particular aspect of the problem, I suggest that you might wish to consider it. That well known scientific magazine, *New Yorker,* (laughter) characterized this problem by saying that every dog was permitted one free bite.

Now that is not a happy way in which to leave the problem.

MR. SLOWINSKI: Have you seen the two-year-old volume called *Law of Trade Secrets* published by Sweet & Maxwell's in London? It is advertised to be a hundred-year study of the law of trade secrets in England and the United States.

MR. WOLK: All on civil. By Turner.

MR. SLOWINSKI: It seems to be unique in the field.

EXECUTIVE DIRECTOR HARRIS: Are there any other comments on this subject?

(No response.)

EXECUTIVE DIRECTOR HARRIS: If not—Marc, do you want to comment on compulsory licensing or misuse, the subjects Mr. Ashley suggested for consideration?

MR. HOLLABAUGH: I don't know quite what I could say on compulsory licensing other than what I said this morning. I don't know whether you all have ever seen it, but we had a staff study up at the Senate Committee on Patents one time on compulsory licensing and at that point there were a hundred and seven judgments outstanding in which some form of compulsory licensing was required.

This morning I was trying to make the point that very often a Government agency will get in a particular rut and then as a case comes along, they sort of automatically apply a particular kind of relief. In this instance it has been compulsory licensing, and personally, while I can recognize that there may be situations, after a violation has been proven, where compulsory licensing would still be appropriate, I can also conceive of situations where, it seems to me, compulsory licensing is inappropriate. I would think it would be a very fine thing if the Antitrust Division would sometime sit down and scratch its head and say, "Now, look, we have been doing this this way. Maybe we ought to think of some other form of relief, or maybe compulsory licensing isn't always the end-all form of relief that we ought to follow".

I think there ought to be more flexibility in the antitrust approach to these things rather than just doing the same thing all over again.

As to misuse, I quite agree with what Mr. Brown said this morning when he said that very often there is an almost automatic putting in of a misuse claim in a patent infringement suit, many of which are not justifiable claims.

I do not know what you do about that. It's kind of like the old minority stockholders suits, I suppose, that sometimes maybe there is a justifiable basis for minority stockholders' suits and more often there isn't. And you had everybody and his brother bringing those things at one time and they became—People began to be suspicious of these things.

And my own feeling is that in the field of misuse the defense is raised so often under circumstances where there is really no justifiable basis for raising it, that I suspect courts may begin to take a dim view of these kinds of defenses.

There are occasions where, in my judgment, a misuse defense is a very justifiable one but it is quite true that almost every patent infringement suit today has a misuse defense raised whether it is justified or not justified.

Only one other point I would make is not directed to either of these things. As a practical matter, what comes out of the courts, so far as Government cases are concerned in the antitrust field in the future will depend a little bit or somewhat, I think, upon what happens to the Expediting Act. At the present time you have this Act which provides that where the Government is a party to a suit, a civil suit, an antitrust case, the appeal is taken directly from the District Court to the Supreme Court.

Now this was on the theory, at the time the Act was passed many years ago, that these are very important questions and you ought to have the Supreme Court deciding these matters both from the standpoint of the Government and the businessman and so forth.

But in two or three cases lately the Supreme Court has been grumbling about this and saying that the Act ought to be changed or it's nonsense for the Supreme Court to be forever required to take these cases and they have invited amendment or modification of the Act.

Well, as a practical matter, what happens is that the Antitrust Division has been generally having pretty poor success in the District Courts, but they have been having almost complete success in the Supreme Court so that what happens is they plow through a case. They get their teeth knocked out at the District Court level, but they

take it to the Supreme Court and get a reversal and then you get, very often, a further extension of the antitrust laws.

Now, following the request by some of the Justices that the Expediing Act be changed, the American Bar Association prepared a bill and got it filed last year, or dropped in the hopper. The Justice Department came up with a bill. Then the Judicial Conference did not like either one of the bills too much and had kind of a third idea.

Now, I suppose, that where the Supreme Court is asking Congress to make a change in the law that affects the Supreme Court, that sooner or later the prospects are that some change will be made.

At the moment one of the practical difficulties in getting a change in that law is that Chairman Celler, of the House Judiciary Committee, seems to be firmly opposed to any kind of a change, under the theory that since the Supreme Court is the one that comes out with these vigorous opinions in favor of enforcement, that if there is any change that cuts down the number of cases the Supreme Court handles there is going to be less vigor in the antitrust enforcement. So he is an obstacle to the passage of this sort of law.

But I want to call this to your attention because for the long run this statute may have a great deal to do, as a practical matter, with what would happen. And I suspect that the Department of Justice would probably fare no better, or not much better, in the Circuit Courts of Appeals, than they have been faring in the District Courts. So this question of what happens to the Expediting Act, whether it is changed or amended, or what happens to it, may have an effect on all this.

EXECUTIVE DIRECTOR HARRIS: Before we adjourn I think we ought to have some discussion on the proposed copyright legislation.

Consideration of this by the Congress is imminent and, as Harry indicated, there aren't many companies that are aware of its implications for them. Harry, will you comment on this legislation, particularly on the subject of duration?

MR. MAYERS: Yes. It seems highly probable that there will be a new draft of a complete revision of the copyright law introduced early in the next Congress.

From the previous drafts one knows pretty well what its general scope is going to be and I think it is fair to say that the framework of the new copyright law has been influenced very largely by those companies who have an affirmative interest in the extension of copyright protection.

I do not say this in criticism. This is just a case of businessmen minding their own business very effectively. But there is little doubt

that if the law, as it has been proposed, goes forward, the protection accorded to copyright will be further extended beyond the relatively powerful protection which has existed before.

As two examples of the direction of increase in protection, one might note that the duration of copyright, which is now 28 years, renewable for 28 years, will be extended under one option, so to speak, to the life of the author, plus 50 years. This could obviously add up to a total in excess of 100 years.

As a second point there is going to be considerable liberalization with respect to the requirements for notice of copyright. Broadly, I think it is a fair paraphrase of the proposed law to say that a publication will be presumed to be copyrighted. Omission of copyright notice from a substantial number of copies will not affect the existence of copyright, although one who innocently copies in reliance on the absence of copyright notice, may be protected.

Now, the countervailing forces trying to strike a balance of interests in this matter have been relatively few.

The education associations have been forward and effective in protesting some aspects of the new law which it was felt by them would unduly restrict the ability of the teaching profession to use, in ways to which it has become accustomed, the publications relevant to teaching. I mean magazine articles in *Time, Life,* and I don't know what all would be included in this.

Industry, technical industry, I think has been curiously silent as to whether it has any interest in this matter or not. And it may be that its interest is somewhat minimum. Nevertheless, for the sake of giving you something to disagree with, I note that one company will shortly file a statement with the Register of Copyrights, making these points, among others:

First: Copyright duration of scientific and technological literary works should be limited to five years plus a renewal period of twenty years.

Second: The absence of an appropriate copyright notice from a substantial number of copies of a scientific and technological work should automatically constitute a dedication of such a work to the public domain.

And third: Copyright protection accorded to computer programs should be strictly delimited in recognition of the special problems and requirements of this art.

These are three areas in which the interests of the scientific and technical community may be adverse to those of the "copyright industry" as presently represented. There are other points of possible

conflict also, but I think these are enough to suggest areas in which there may be an opportunity for difference of opinion as to where public interest lies.

EXECUTIVE DIRECTOR HARRIS: Are there any comments on these points? Yes?

MR. SLOWINSKI: I would like to comment on a fourth point which is a holdover from the 19th Century and seems almost unbelievable today but is a portion of the law and is administered by the Bureau of Customs.

Assume you were to sit down today and write a book, whether it be a novel or a scientific work, and you, of course, registered it here in the United States and you had your copyright. If you were to have that book printed abroad, physically printed abroad, the only way you could import it into the United States would be to forfeit your copyright. This appears to be a holdover from a strong printing industry in the late 1800's which was instrumental in having the law state that a United States copyright would be forfeited if the book were physically printed outside the United States and imported into the United States.

EXECUTIVE DIRECTOR HARRIS: I was Commitee Counsel to the House Judiciary Committee when the first attempt was made to secure legislation that would modify Title 17 USC and enable the United States to join the Universal Copyright Convention. In 1951 in the first session of the 82nd Congress, Representative Celler introduced H.R. 4059 to modify the manufacturing clause.

The vigorous opposition of the International Typographical Union apparently had an overriding effect and the full Committee voted not to report the Bill.

Are there any other comments?

Harry, why did you choose the term of five years?

MR. MAYERS: Well, as a practical matter, most technical works are obsolete within less than five years.

EXECUTIVE DIRECTOR HARRIS: This is limited to technical works.

MR. MAYERS: Yes.

MR. BOWES: If it is important, that is why you had the 20 year renewal .

MR. HANIFIN: I would like to ask Mr. Mayers if he could amplify his statement of the particular environment of the computer programming industry which led you to say it should be strictly limited.

MR. MAYERS: Well, the computer program problem is a complex one, as you know.

MR. HANIFIN: Yes. (Laughter)

MR. MAYERS: I think the area of concern—at least it seems to us

at the moment that the area of concern—is not with the idea that a computer program should be copyrighted in such a sense as to prevent a literal reproduction of the format of the program, but our concern is that copyright clearly ought not to be interpretable in the context of computer programs to prevent alternative applications of the theoretical ideas or analytical ideas embodied in the program. If this be treason, make the most of it. (Laughter)

I would be glad to have your reaction.

MR. HANIFIN: You have that freedom now. Actually, you can only infringe by an actual copy.

MR. MAYERS: Well, no, this isn't the actual application of the copyright law in some contexts. An adaptation which varies in minor respects from the original can still be held an infringement.

The question is: How do you apply that existing doctrine in a field as complex and intangible as the area of computer programs?

MR. COOKE: I am sure you are all aware that many copyrights exist and if you try to find out what the man sent to the Library of Congress or the Copyright Office and to the Register, you cannot find that out, because they have destroyed the record or thrown it away. This is extraordinary.

What are they going to do with all these computer cards when they come in batches like this, I don't know. Where are they going to put them?

EXECUTIVE DIRECTOR HARRIS: What do you think about the copyrighting of computer programs, Mr. Hanifin? Is your company in favor of this sort of thing?

MR. HANIFIN: You can imagine it is open to a lot of discussion.

It is a problem because programming is a very expensive thing, and it's probably as expensive as developing the computers themselves. We are heavily invested in it.

The trend is for programs to be interchangeable, i.e., programs of a company can be used on competitive machines.

There are many pros and cons to be considered. It may be better to have free use of programs as the field develops.

There will be great use of computers in the future and many companies will be writing programs—and to abnormally restrict use of these programs conceivably could retard the development of the whole field.

EXECUTIVE DIRECTOR HARRIS: You don't think it will provide an incentive to write more and better programs?

MR. HANIFIN: Generally no, although there are some aspects to that, too.

MR. SPENCER: I have had an impression in our group that there is greater free interchange of information among user programmers than any other area.

MR. HANIFIN: I believe that is true. There are user groups of different companies using certain type machines.

I know that there is a (Share) group of companies that are using the IBM computers and other computer manufacturers have similar groups.

MR. SPENCER: This came about in an interesting way. I had a call from our group wanting to know, under the strict rules we have for receiving confidential disclosures from outsiders, whether they were free to discuss this programming.

MR. HANIFIN: It is a real problem, at the moment.

The other concern is the fact that the Copyright Office is going to copyright magnetic tapes or punch cards or any medium that can be put on a machine and the intelligence be reproduced. This seems to be an extension of copyright protection which seems to me better limited to the printed copy. Copyrighting a magnetic tape—it is rather hard to determine what is recorded and copyrighted.

EXECUTIVE DIRECTOR HARRIS: No case has come up yet. It will be interesting to get the judicial reaction to this kind of protection.

MR. HANIFIN: Yes.

MR. COOKE: I would add that within the last two or three months we have had an extraordinary influx of letters calling our attention to various patents on computer combinations and devices, and we haven't found one that seems to us to have any semblance of validity. (Laughter)

MR. YATES: What about the casual making of one or two copies? Is there anything said about that? For instance, the Patent Office Board of Appeals says: If you are going to argue a case before them it would be really handy if you would send them a copy of your citations so that somebody could make a Xerox or whatever it is of the U.S.P.Q., which is a copyrighted document, and send it to the Patent Office. Is this fair use under any amended statute or is it just going to be blinked at as under the present law? Are you proposing anything in particular?

MR. MAYERS: Well, yes, a supportable position on this would be that an exemption should be provided for certain common types of library services including photocopying. This opens quite a can of worms, however. (Laughter) And I'm not sure but what we either have to say more or less on this subject. (Laughter)

MR. COOKE: Harry, I think it might be worthwhile to note—I am

sure most of the people here have seen it—the current number of the United States Trademark Association journal has in it a reprint of a paper that was given at, I think, the Practicing Law Institute earlier this year that deals with Raggedy Ann and the Beatles' problem.

It is one of the most intelligent and well written articles in that field that I have seen, interrelation of copyrights and trademarks and so forth—personalities, radio personalities, and what-not. It is very good and I recommend it to all of you.

It is quite surprising to go down in your photocopy rooms and find the list of things that they are not supposed to do.

The funniest one, the one that startled me the most, was that we settled a patent matter with the Canadian Government and they sent us a check and we wanted to keep a record of the check. We asked them to photocopy it. They said no, that is an obligation of a foreign government.

EXECUTIVE DIRECTOR HARRIS: Are there any other comments?

DR. MARKHAM: I would like to ask Mr. Hanifin a question on this programming—just to make an observation and have you respond to it. These programs and particularly these package programs, it seems to me, fall in the somewhat special category supporting your view that they should have, if anything, limited copyright protection.

And also to address myself to the question that Lou raised about the matter of incentive. A program, after all, is not desired for either its own artistry or for its own use. It is indeed an economical way of extracting an output from the computer itself. Therefore, the better you can speak to the machine and the more orderly fashion in which you can deliver instructions to the computer, the better the computer will deliver. And that is essentially what the program is.

I mean, it is really not—No one would care to hang a program on the wall to view it for its beauty or read it for the sake of its elegance unless one were extremely esoteric about this kind of thing. (Laughter) And neither would you consider that this is something that is creative that you would file away for future reference, except and aside from the existence of computers.

So it seems to me that instructional material is somewhat different from this. It seems to me it is very much like, oh, the little brochure that might be sent out on how to use a book effectively rather than the book itself. And, therefore, I think that you still have the incentive to design better programs for the very simple reason that you are running into thousands of dollars per hour for the use of the machine, if it is a facility that is fully used, so that every improvement that you can make in the program to shorten the time or increase the accuracy

or avoid the reruns on a computer, you have that incentive because of the tremendous cost of the machine itself, provided again that you do not have excess capacity and can regard it as a free good, as a lot of people around universities may do.

MR. ASHLEY: What you have said, though, about the program, couldn't it also be said about a map which is copyrighted for years? It has no artistic value of its own.

DR. MARKHAM: Have you tried to buy any old ones recently?

MR. HANIFIN: Compare it with an interest table, or any type of table. Just numbers.

EXECUTIVE DIRECTOR HARRIS: Dr. Siegel?

DR. SIEGEL: In other words, there is the question here of economic opportunity arising from unequal access to the same corpus of proprietary information.

Some people spend money on developing certain types of highly processed and usable information, and they are naturally reluctant to part with that information without a fee. There are many service companies in the computer field that use such information to solve problems of importance to other firms.

A company based here in Washington that has offices around the world, C-E-I-R, owns a linear program system called LP90.* For a fee, this firm will solve large linear programming problems for you on the IBM 7090 in a very efficient manner devised by its employees.

This company hasn't wanted to part with the information freely because it has spent—say, several hundred thousand dollars developing its particular technique.

I think you have to look upon this technique, not in terms of the piece of paper or printed matter that embodies the instructions (as though the paper is the intrinsic product and has, perhaps, some incidental esthetic or literary value too) but rather as a potentially profitable property of an intangible kind. The paper contains a statement of art which, if made equally available without fee to all people, including those that did not pay for the development of the information,

*According to information obtained from Dr. H. W. Robinson, President of C-E-I-R, while this volume was being edited, the remarks that follow apply more strictly to the computer program designated "LP94" than to LP90. Each of these programs was developed by C-E-I-R at a cost of several hundred thousand dollars, and both were intended to be handled as trade secrets. An inadvertence, however, precluded exercise of full proprietary control over LP90, and, except for special features still guarded, LP90 has been freely available for some time. On the other hand, LP94, developed more recently for use with IBM 7094 equipment, is treated as fully proprietary.

would provide no opportunity for breakeven or profit to those who deliberately bore the cost of development.

MR. BOWES: Before you downgrade all your computer programs, some of them are rather imaginative. I witnessed a computerized teaching machine, a couple of days ago, teaching spelling.

The setup was such that you were told what to spell, then you typed it out on a keyboard. The fellow who was playing the machine at the time tried to purposely go way off in a ridiculous fashion and the message came back. "Quit fooling around." (Laughter)

MR. COOKE: Harry, as you know in our industry, and I assume in the mining industry and others, the problem of protecting our geological and production maps of various kinds, magnetic and otherwise, is a very serious one.

We have been in court quite a bit on some serious thefts from our own. And we find there is a great deal of thievery and transfer.

This may perhaps come under this Act that was mentioned a moment ago on stolen property. But it has been suggested that the copyright laws could some way or other provide a much more, shall we say, toothsome remedy for that sort of appropriation and use.

I don't know exactly how that would be done, but has any consideration been given to that type of copyright protection, which would have to be a very stringent and very ironclad protection if it were any good at all?

MR. MAYERS: Not to my knowledge. I have had no discussion of that particular problem. If I could just comment on Professor Siegel's remarks. Certainly one would recognize that there are property values involved in the creation of programs.

I think the question is whether copyright is the right approach to their protection or whether contract law or some other field of law is not what is really called for.

EXECUTIVE DIRECTOR HARRIS: Are there any— Yes?

MR. COOKE: I want to ask you one more question. When you said these computer programs should be strictly delimited, I wonder why, how or in what direction. Time or type or scope?

What, specifically, did you have in mind?

MR. MAYERS: Scope was what I had in mind and the most specific answer I am capable of at the moment is the one I gave to Mr. Hanifin when I said I thought it ought to be made clear that while the copyright may effectively prevent literal reproduction of the program, it should not be construed to prevent adaptation of its analytical content.

EXECUTIVE DIRECTOR HARRIS: Are there any other comments on this matter? Any suggestions? Will it hurt anyone?

Yes, Mr. Hanifin.

MR. HANIFIN: I was going to ask Mr. Mayers, again, what he had in mind about protecting by contracts.

Do you mean restrict them to use of particular machines or—

MR. MAYERS: Yes.

MR. HANIFIN: I wonder if Mr. Hollabaugh would care to comment on the tie-in.

MR. HOLLABAUGH: You fellows got me confused a while ago. It never occurred to me these things were subject to copyright in the first place, so I am still trying to get straightened out on that point. (Laughter)

What you're saying, in effect, is that "I hereby sell you a computer program and you agree that you will not resell it to somebody else or let anybody else use it."

MR. HANIFIN: Or let them use it on my machine.

MR. HOLLABAUGH: Well, I don't know the answer to that, offhand, to be perfectly honest about it. I can see some reasons how this might be done without running too great a danger on the antitrust laws, but I would have to think about it a little bit before I could give an intelligent answer.

MR. ASHLEY: How different would it be to say, "We will sell you these eyelets, but only for use in our eyelet machine"?

MR. HOLLABAUGH: This is different and perhaps this comes out of my comprehensive area of ignorance that Dr. Markham mentioned this morning.

In a sense, isn't a computer program instructional and by analogy it is somewhat like, in one sense, the card I got when I bought an automobile the other day, that tells me how to operate the automobile to get the most efficient use out of it.

I know there are some differences. But basically isn't this program a device whereby you utilize this piece of machinery over here, namely, a computer, to get the best results?

MR. ASHLEY: You cannot use the computer without such a tool.

MR. HOLLABAUGH: You will have some sort of instruction, true, but I gather from what you were saying that there may be variations in the instructions.

But going back to your point, to me, from an antitrust point of view where you're talking about two products, namely, an "eye" and whatever else you were talking about, a "shoe", offhand, I would not say the computer program—that an analogy is complete on that.

I think a pretty good argument could be made that this is somewhat as if I were to sell you a sewing machine and, at the same time, as a

part of the purchase price, I would give you the instructions on how to use it, how to reset the machine, and all that sort of business. Maybe I'm wrong as to what these computer programs really come to, but to the extent I know anything about them, I think of them in terms of instructions to the machine whereby you get the best result out of a piece of equipment.

MR. SNOW: It is not so different from a phonograph record or tape that makes the phonograph or the tape play. You just make the computer play.

MR. HOLLABAUGH: Now that is why you say it is more clearly analogous to what Merwin was talking about.

MR. ASHLEY: I think you could make a good argument. When the time comes I hope it is you making the argument. (Laughter)

MR. HOLLABAUGH: Give me time to think about it. I am a slow thinker. (Laughter)

MR. MAYERS: May I rise to a point of personal privilege? I am not recommending the kind of contract, the kind that was assumed by him or by Mr. Ashley.

My contract would merely say, "We sell you this computer program with the understanding you will not disclose it to others."

MR. FEREBEE: What's the difference?

MR. YATES: You are making a trade secret out of it?

MR. MAYERS: Sure.

DR. MARKHAM: While there is a lull in the conversation, may I ask you just a question to clarify something.

Could anyone take your Fortran instruction book and really instruct another machine, an RCA machine?

MR. HANIFIN: Oh, yes. In fact, I think it is fair to state that a number of manufacturers are coming out with machines program compatible to their competitor machines.

DR. MARKHAM: Has that been true all the time? I don't want you to divulge a trade secret.

MR. HANIFIN: Not really.

DR. MARKHAM: I did not think so.

MR. HANIFIN: Of course there have been some common features but now, as I understand the situation, some manufacturers are designing machines with identical instruction sets and programs furnished to a customer in the sale of a machine can be taken and run on competitive machines. Development of programs represents a sizable investment.

DR. MARKHAM: Oh, yes, yes, that is quite correct. But then, wouldn't that be an unfair trade practice, to take Singer Sewing Machine instruc-

tions and put them in the package of Vendetta—or what is the name of this machine— (Laughter)

MR. SLOWINSKI: Vendetta. That is nice. (Laughter)

MR. HANIFIN: I don't like the analogy of sewing machine instructions.

DR. MARKHAM: That is a very simplified version. I understand. It is almost a matter of difference of kind, as well. That is right. But wouldn't that still be an unfair trade practice?

MR. HOLLABAUGH: I suppose it might be, although I'm not at all willing to concede that it actually is. It seems to me that where something is fashioned for a use on something like a computer and you spend a great deal of time designing and tailormaking this thing for that use, I certainly would not think it would be, per se, illegal to say to the guy, "I hereby sell you this program"— Or, "You have one of my IBM machines and here is something that is useful with it and I will sell it, or lease it to you, or let you have it on some sort of condition that you don't disclose it to somebody else."

Right off the bat it is certainly not a per se type of a violation of the law, in my judgment, and I am not at all sure that—

MR. HANIFIN: That may not fully answer the question either, because one may get a program by a legitimate means, and proceed to use that program on the machine of another manufacturer.

MR. HOLLABAUGH: Yes.

DR. MARKHAM: These machines are very smart, you know. You could give them the instructions and if your instructions went to RCA, it could read back loud and clear "Technically incompatible". You could design it that way.

EXECUTIVE DIRECTOR HARRIS: Yes, Dr. Siegel.

DR. SIEGEL: I suggest that the sewing machine analogy makes the problem look too much different from other problems on which I think there would be much more agreement among you gentlemen.

Suppose you sold any piece of equipment to companies indifferently and suppose you gave each of the companies basic instructions on use of the requirement.

Suppose, however, that one of the purchasing companies, through doing some additional development work of its own, found a very special way of using the equipment that makes it much more productive.

Now, would you say that the specialized instructions developed by the company to make the device more productive ought to be diffusible or dispersible without compensation? Would you say that this extra contribution by limited know-how constitutes mere instructions of a

rudimentary kind? Should such information become part of the original package of equipment plus data?

I doubt you would think so. All sorts of equipment are sold to everybody equally, but only some buyers will invest additional effort and employee man hours in developing new information for "instructing" a machine to do something special in terms of process or better in terms of product.

Similarly, a program isn't something that anybody might be able to develop. In the beginning, it does not exist. Somebody has to develop it, and the task requires skill not possessed by all and expenditures of time and funds. Little companies, especially those engaged in the sale of computer services rather than computers, would properly be discouraged from making the investment required by a new salable methodology if they felt that the result were immediately diffusible without economic compensation.

I'm holding no brief for anybody. I'm just pointing out something to clarify why discussion of property rights in computer programs may well generate a lot of heat and concern. Not everyone will benefit in the first instance from putting private knowledge at the disposal of all, including his competitors. The situation is hardly like one involving instructions for making buttonholes in a more or less familiar way on a variety of makes of sewing machines. It is far more complex, involving specialized information and machine instructions for doing certain things somewhat better or somewhat differently. In this sense, computer programs are very much like know-how or trade secrets or the kinds of things people try to patent. Owners who seek benefits therefrom practice the "economics of information".

MR. ASHLEY: Let's look at the other side of the coin for just a moment, though.

Mr. Hanifin said that some of these programs are as costly as the machines themselves. If you try to tie the program to the machine it follows, doesn't it, that in order to get your machine the fellow has to buy the program? And isn't that a tie-in?

MR. HOLLABAUGH: The only way that it could be avoided as a tie-in is, I imagine, if you sold it that way. This is something of the old *IBM* case, I am thinking about, and I am not sure it has much application here.

You recall in the *IBM* tie-in case on the cards, the Court held it would be appropriate for a company to sell a machine, and require that whatever is used with it—in that instance cards—met certain standards. I don't know in specifications—I doubt if that would have much application to this particular situation, but I was trying to think of

why it would not be a tie-in. From the antitrust point of view, if the question ever came up, I should imagine their approach would simply be— And what they would regard as fundamental law is that once a person has bought something and owns it they may do whatever they wish with it after that, and whatever restrictions you undertake to put on that, whatever is done with this property in the hands of the buyer— I suppose at that point it becomes a question of reasonableness and things of that sort.

Today is the first time I have ever had occasion to even think about this particular matter.

DR. SIEGEL: May I make this one further point despite the risk of tediousness? There is a difference between IBM cards and IBM equipment, both of which are part of a complementary team. The user adds not only data but instructions for solving problems of interest to him in a particular manner. The program he employs may be proprietary, and its existence does not bar others from devising or using related or other methods of solving essentially the same problem on the same or on a different machine.

MR. HOLLABAUGH: I understand that.

DR. SIEGEL: The same problem can be solved by any number of machines, but a particular manner of speaking to the machine may be much more productive or much more economical than some other manner, and the development of that particular mode may be costly.

I don't think tie-in is involved in any literal sense. A particular computer is usually bought without reference to a program for a particular job. As a problem comes up, you identify pertinent programs and select or develop one that would be highly efficient for the solution of the problem.

And, as a rule, multiple programs are available or applicable. No one bars you from solving a problem through your own ingenuity, or that of your employee programers, in the event that there is no particular program in the public domain.

MR. HOLLABAUGH: Well, yes. I understand that, I think. There is no doubt about the fact that a particular program may be a valuable piece of property for which a quid pro quo can be legally charged to get it. That doesn't trouble me.

Basically, the problem seems to be—what could be the restrictions imposed upon this program in the hands of somebody who has bought it?

What kinds of restrictions would be permitted? What is apt to get you into difficulty?

That is basically the problem, I would say.

DR. SIEGEL: Mr. Mayers has properly raised the question as to whether copyright is a proper vehicle for protecting programs. Difficulties of the kind encountered in protecting know-how and trade secrets arise in computer usage too, and these will somehow be resolved. The scope of the economics of information is evidently expanding—as information about the processing of information acquires market value.

MR. ASHLEY: I am sorry to keep cutting in here on this, but I still am not persuaded. Suppose I have a battery of RCA computers and I learn that IBM is selling a program to its customers that I would like to have and I send in an order to IBM. I say, "I want to buy that program for the same price that you are selling it to your IBM computer customers." What are they going to do? Refuse to sell it to me?

MR. HOLLABAUGH: I don't think they could.

MR. ASHLEY: I don't, either.

MR. HOLLABAUGH: Perhaps I got us off on a wrong start when I was trying to pick up what Harry was talking about and stating it in terms of selling a machine and the program with it. At the time, I was attempting to draw an analogy or trying to find out whether or not this is identical in substance to the position you took or the example you gave a moment ago about the two products used in the making of a shoe.

It may well turn out that this has some of the attributes so the regular law of tie-in would be applicable here. But at this moment I am not ready to concede that.

It seems to me you have some additional factors involved here that make you reach a different result.

EXECUTIVE DIRECTOR HARRIS: Are there any other comments on this subject?

MR. COOKE: I think we are on dangerous ground. They asked one of these machines the other day, "Is there a God?" And it came back, "There is now." (Laughter)

EXECUTIVE DIRECTOR HARRIS: On this amusing cue we will turn back to Harry for a concluding summary of our discussions.

MR. MAYERS: Gentlemen, I don't have any better idea how to summarize than I did before we opened the meeting this morning. (Laughter) It seems to me that the most effective part of our discussion today was really that part in which we went around the table and asked each of you where it hurt, particularly with reference to the status of the patent system.

The one point that has been already brought out as being the

salient point in our concern, it seems to me, is that of the unsatisfactory condition of litigation of patents.

I would hope that that may furnish a useful lead to the Research Institute in some of its further work.

Beyond this, the only summarization I can make is to suggest that it does seem indicated to me that any planning of further clinics of this kind should try to make as much use as possible of the around the table, "Where does it hurt" type of inquiry, rather than attempt to develop ideological viewpoints on some of these questions. The latter can hardly be done in the time that is available in one single day's Clinic.

EXECUTIVE DIRECTOR HARRIS: Thank you, Harry.

I would like to express the appreciation of the Research Institute to Harry Mayers, to Jesse Markham, to Walter Slowinski, and to Marc Hollabaugh, to our researchers, and particularly to you gentlemen who have come from all over the country to attend this session. I want to tell you again that this is the first Clinic of its kind. We've learned a great deal. We will study the record thoroughly and then send you your individual contributions. As we told you at the beginning, this material is confidential. With your contributions we will include a note as to how we think we might utilize them, either in summary form, in toto, or as excerpts, and ask for your comments and suggestions.

We hope to get a concensus for suitable publication. As we said at the very beginning, we will take the route on which everybody is agreed.

The first Clinic of The PTC Research Institute stands adjourned. Thank you, gentlemen.

(Whereupon, at 4:32 p.m., the Clinic was adjourned.)

Recently Published or Reported Material Relating to the Research Institute's Work

BOOKS

Asimov, Isaac, *Asimov's Biographical Encyclopedia of Science and Technology,* Doubleday, Garden City, 1964, 672 pp.

Presents "living stories" of over 1000 scientists, in chronological order from ancient times to our own day.

Calvert, Robert, ed., *The Encyclopedia of Patent Practice and Invention Management,* Reinhold Publishing Corporation, New York, 1964, 860 pp.

Much useful information on patent law, practice, and invention management has been gathered together in this volume. More than 120 main subjects are presented. The book also contains case and author and subject indices. Numbered among the contributors are outstanding members of the Patent Bar, and their broad experience is clearly evident in the selected articles. The volume is well suited to the needs of the student, the research worker, the executive, and the practitioner. This alphabetically arranged collection of informative articles should be an invaluable ready reference tool.

Robert C. Watson, former Commissioner of Patents, states in a foreword to this encyclopedia, "The Editor is to be congratulated upon having secured the cooperation of so many leaders of the patent profession, providing a suitable forum for them and assembling in one volume so much experience and informative comment upon the different facets of patent practice and invention management."

Ginzberg, Eli, ed., *Technology and Social Change,* Columbia, New York, 1964, 155 pp.

Contains seven papers on the role of technology in contemporary society and discussions of these papers at the Columbia seminar for which they were prepared.

Hattery, Lowell H. and Bush, George P., eds., *Reprography and Copyright Law,* American Institute of Biological Sciences, Washington, D. C., 1964, 204 pp.

This is a collection of papers "derived from presentations at a symposium in 1963 sponsored by The American University, which explored the reprography-copy-

right problem, its varied interests, viewpoints, proposed solutions, and outlook. In addition to reporting the symposium the book includes . . . three appendices, and a selected bibliography of items." The term reprography is used to refer to "copying by photographic or other processes". The timeliness of the presentations is noted by the editors in an introductory abstract. They refer to the proposed revision of the Copyright Law and the rapid trend toward cheaper and faster copying, in connection with the interests they primarily affect. The presentations are interesting and meaty though brief, and the format lends itself to easy reading. This is an opportunity for the student and professional to get a rapid review of the subject.

Lothrop, W. C., *Management Uses of Research and Development,* Harper and Row, 148 pp.

Emphasizes some of the less glamorous aspects of R&D, such as the uncertainty of payoff and the increasing Federal share in financing.

Mueller, R. L., *Inventivity; How Man Creates in Arts and Science,* John Day, New York, 1963, 193 pp.

A simply written book of ten chapters addressed to young people.

Müller, Wolfgang, *Technical Dictionary of Automotive Engineering,* Pergamon, London, and Macmillan, New York, 1964, 1177 pp.

This dictionary is multilingual; English, French, German, and Russian.

Offner, Eric D., *International Trademark Protection,* Fieldston Press, New York, January 1965.

A one-volume work devoted to a study of trademark protection on a world-wide basis. The subject is clearly and concisely treated. The trademark owner, the attorney and the executive can obtain guidance on many issues involved in international trademark protection.

In his introduction to the book, Sidney A. Diamond writes, in part:

"Mr. Offner has divided the subject into its basic topics and then has proceeded to write a comparative law study of each topic. For example, one of the longest sections in the book deals with the extremely important question of licensing; Mr. Offner analyzes the requirements of different statutory systems and comments extensively on the jurisprudence of several specific countries. Thus, he focuses the reader's attention on the various categories of questions that may arise, and also is able to state some general conclusions about fundamental issues and probable future trends. This approach, which is charac-

teristic of the entire book, gives the practitioner the 'feel' of the subject in a way which no mere manual or check-list could do."

Oppenheim, S. Chesterfield, *Unfair Trade Practices (Cases and Comments),* West Publishing Company, 2nd Edition, 1965, 783 pp.

The second edition of Professor Oppenheim's casebook makes available an important tool for teaching and reference purposes. A classic in its field, *Cases on Trade Regulation* was first published in 1936. That edition also covered the antitrust field. The first edition of *Unfair Trade Practices* appeared in 1950 and reduced the coverage to the trade regulation area. This second edition, although it takes account of the interplay of antitrust and trade regulation law, continues to concentrate on the area of unfair competition and unfair trading.

The author's rich teaching experience and distinguished background are reflected in the selection of the material. An abundance of text notes serve as an invaluable guide through the subject matters presented in the court opinions. Moreover, the revised organization, sequence of materials, and format, considerably enhance the book for reference and teaching purposes.

Professor Oppenheim demonstrates how the narrow "passing off" concept of unfair competition was extended to many other competitive practices. This expansion is clearly reflected in the various chapters of the book. He cautions the student to "avoid the illusion that this judicial process has produced a coherent and consistent pattern of substantive doctrine and common law or statutory theories of liability.

"Ethical and economic value judgments are intermixed with political and social yardsticks. A multiplicity of factors may be weighed in balancing the interest of the claimant for relief against the interest of the opposing party and the countervailing public interest. The broad discretion vested in the adjudicatory tribunals breeds subjective judgments. Built-in rigid elements of liability at times defeat the desired flexibility in preserving allowable interferences that preserve rather than hobble competition. Earned differential advantages of individual competitors should be legally protected so long as the competitive process itself is not unduly impaired.

"Finally, the student should be aware of the interplay of the common law and statutory antitrust doctrines primarily related to the maintenance of competition and the doctrinal trends primarily aimed at curbing the excesses of abuses of competition in the unfair trade practice field."

Professor Oppenheim, now a member of the faculty of the Uni-

versity of Michigan Law School was for many years a Professor of Law at The George Washington University. He has been Adviser on Research of The PTC Research Institute since its inception.

Tuska, C. D., *An Introduction to Patents for Inventors and Engineers,* Dover reprint, 1964.

Unabridged republication of 7th edition (1956) of *Patent Notes for Engineers.*

PERIODICALS

Aguilo, R. R., "El Objecto de las Patentes di Invencion en el Derecho Latino-Americano," *Revista de Derecho Puertoriqueño,* (October-December 1963), p. 164.

Arnold, T., "Reply to 'Farewell to Grand Juries in Antitrust Litigation,' " *American Bar Association Journal,* Vol. 50 (1964), p. 925.

Baker, E. R., "Dissolution, Divestiture and Divorcement: Are They Remedies Under Section 5 of the Federal Trade Commission Act?" *Administrative Law Review,* Vol. 16 (Summer 1964), p. 222.

Baum, Daniel Jay, "Antitrust Functions of the Federal Trade Commission: Area Discrimination and Product Differentiation," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 579-608.

"How can statute directed toward behavior effectively deal with structure? That, in a large sense, is the concern of this article. On the one hand, practices may be viewed without any concern for total industry makeup; or on the other, a complete study may be made of an industry only to condemn a single deed. The result in the first instance is an inadequate view, and in the second, inadequate action. Illustration will make generality specific."

Beresford, Spencer M., "Lawyers, Science, and the Government," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 181-208.

" 'It would be foolhardy to let science and technology lead where they will.' But between the evolution of science and the exigencies of government is an 'understanding gap' which must be filled if the scientific revolution is to be harnessed. The lawyer is an expert in relevance, but has he the qualifications to be a mediator, interpreter, administrator, and long-range planner for public science policy?"

Boyle, Stanley E., "Economic Reports and the Federal Trade Commission: 50 Years' Experience," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 489-509.

". . . this paper will consist of: (1) a brief review of the origin of

the Commission's economic reports program (including brief mention of the report activities of the Bureau of Corporations); (2) a summary analysis of the reports prepared during the first 25 years of its operation (up to 1939) and the legislation which has resulted from those reports; (3) a comprehensive examination of the reports issued by the Commission since 1940; (4) the role of the Commission's economic reports in the passage of the Celler-Kefauver Act; (5) a review of the present organization and activities of the Division of Economic Reports; and (6) some suggestions regarding the need for a comprehensive and systematic corporate reporting program."

Chipman, R. A., "De Forest and the Triode Detector," *Scientific American* (March 1965), pp. 93-100.

A headnote provides this abstract: "He [De Forest] invented the three-electrode vacuum tube without understanding how it worked. His grid-triode was no great success as a detector, but it did eventually make modern radio and electronics possible."

Cohen, Jerry, "Location of a New Patent Office Building, Exile by Default," *Journal of the Patent Office Society,* Vol. 46, No. 12 (December 1964), pp. 842-854.

"With the advent of preparations for the fiscal '66 Federal budget requests, the problems involved in obtaining a new Patent Office building are once again in the forefront. Three questions are in point: What is the present status of the project? What are the chances of a new building? Where will it be located?"

"Compulsory Licensing of Patents by the Federal Trade Commission," *Northwestern University Law Review,* Vol. 59 (September-October 1964), p. 543.

Cowan, Thomas A., "Some Problems Common To Jurisprudence And Technology," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 3-16.

"To espouse an alliance between law and science is to advocate solution of a fundamental dilemma: Science cannot resolve the legal conflicts it engenders, and law cannot understand scientifically its own method. Indeed, 'The experience of the law has not been logic, but life.' Given the non-rationality of life and law, what are the prospects for a meaningful rapport between law and science?"

Crews, Floyd H., deceased, and Crews, Maurice A., "Introduction to Interference Law and Practice," *Journal of the Patent*

Office Society, Vol. 46, No. 11 (November 1964), pp. 756-825.

"Note by Surviving Co-Author. 'This paper was prepared through the second draft as a joint undertaking with my brother Floyd at the time of his death. The purpose was to provide a lecture for presentation at one of a group of seminar meetings on The Law of Chemical, Metallurgical and Pharmaceutical Patents, held under the joint auspices of the Patent Law Association and the Engineers Club of Philadelphia, Pennsylvania. The lectures of this series, which were given during the fall of 1964, will shortly be published by the Central Book Company.

'As noted in the chapter (III) on Procedure and Rules of Practice, a change in Patent Office policy in declaring interferences was made on July 1, 1964. Notices proposing to effect other important changes by amendment to the rules have also been issued recently (see 29 F.R. 9398 of July 9, 1964 and corresponding notice at 805 O. G. 5 of August 4, 1964), and still further proposed changes are being carefully studied. Regardless of any such changes in practice, however, the substantive law remains the same until or unless it is changed by Act of Congress or by judicial interpretation. Readers are placed on notice, however, that there is a strong possibility that substantial changes in practice may be put into effect by the time this paper is published or shortly thereafter.' Maurice A. Crews, August 17th, 1964."

Davison, J. Forrester, "Exports of Technical Data and the Export Control Act: Hearing Examiners and Consent Decrees," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 209-239.

"In some situations, lawyers may not be equipped to handle the complexities of technical subject matter. Adjudicatory hearings involving exports of technical data, for example, can become so technical that legally trained hearing officers need scientific assistance if the administrative process is to provide effective enforcement for laws and regulations."

Decker, Richard K., "Unfair Competition and the Federal Trade Commission," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 513-540.

"Consequently, it would not seem likely that the ultimate scope of the phrase 'unfair methods of competition' will ever be free from uncertainty. The concept was left flexible and undefined deliberately to permit application or interpretation to the changing business conditions. That the concept has limitations

is clear but the scope of the limitations cannot be precisely stated."

Dykman, H. T., "Patent Licensing within the Manufacturer's Aircraft Association (MAA)," *Journal of the Patent Office Society,* Vol. 46 (Summer 1964), p. 646; *JAG (USAF) Bulletin,* Vol. 6 (September-October 1964), p. 28.

Eaton, Dr. William W., "The Patent System and Economic Growth," *Journal of the Patent Office Society,* Vol. 46, No. 12 (December 1964), pp. 833-841.

". . . Therefore, I feel we should have no hesitancy in examining the system to see where it might require adaptation to modern conditions. We certainly go through this process continually with our other social institutions.

"The second point is the reverse of the first, namely, that we should consider very carefully before basic changes are made in an institution which has in fact changed less over the years than have such hallowed institutions as marriage and the public school system.

"In other words we do not want to kill the patent system goose who has laid the golden economic egg.

"I think it is clear that, underlying this symposium and its attention to many facets of the Patent System, is a general feeling that this system is the most important single stimulus to the creation of new technology in all fields, by using as it does the fundamental characteristic of human nature to respond to properly designed incentives, and at one and the same time providing an inducement to combine new ideas with the entrepreneurial talents and the money to bring the ideas to a useful stage. It is no accident that the strongest Patent System in the world is located in the strongest nation in the world."

Estep, Samuel D., "International Lawmakers in a Technological World: Space Communications and Nuclear Energy," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 162-180.

"In space communications and nuclear energy, two international technical agencies which began as coordinating bodies have assumed roles more legal than technological. In the International Telecommunications Union and the International Atomic Energy Agency, foreign and economic policy questions have become so important that the results of ITU and IAEA deliberations may now be international law."

Farmakides, John B. and Freudenberg, Maxwell C., "Copyright Matters Affecting the Government," *Federal Bar Journal,* Vol. 25, No. 1 (Winter 1965), pp. 86-105.

"It follows therefore that there should be an increased interest in copyright problems that may relate to the Government author, or to the use made by the Government employee of copyrighted material. Our effort here to clarify the subject of Government involvement in copyright matters is necessarily brief and limited in scope due to dictates of the space available and is, in certain cases, advocative in presenting some concepts. However, it is not the purpose of this paper to examine the cases and authorities in depth but rather to point out some of the recognized rules and new trends in this area."

Finkelstein, H., "Music and the Copyright Law," *New York Forum,* Vol. 10 (June-July 1964), p. 155.

Forman, Howard I., "President's Statement of Government Patent Policy: A Springboard for Legislative Action," *Federal Bar Journal,* Vol. 25, No. 1 (Winter 1965), pp. 4-23.

"Hopefully, if the statement ever is revised within the Executive Branch, or if Congress decides to act, the inconsistencies in the newly established policy will be removed. Consistent with the new thinking that utilization is paramount, and that it can best be done in private hands under the patent system, the next step is to eliminate the title-taking provisions of the President's statement altogether. When that step is taken the best way in which to assure active utilization will have to be decided upon. In that connection, the experience gained with NASA's pioneering Technology Utilization program should help in mapping out the optimum techniques to be employed.

"By substituting for title-taking the compulsory *working* provisions of the Toll bill, H.R. 4482 (88th Cong.), or the compulsory *licensing* provisions of the proposals currently being made in committees of the American Bar Association and the American Patent Law Association, and keeping in mind that our antitrust laws are always available to curb abuses or misuses of patents, a truly satisfactory Government patent policy can be developed. Such a policy, it is believed, will come closest to satisfying the ideas and demands of both Government and contractor personnel, and save both the Government and contractors more millions of dollars in administrative costs, than any proposal which has heretofore been made."

Fryer, D. R., "Antitrust Provisions of the Treaty of Rome," *Western Reserve Law Review,* Vol. 15 (Summer 1964), p. 641.

Gambrell, James B., "Interference Reform: The Problem and a

Proposal," *Federal Bar Journal,* Vol. 25, No. 1 (Winter 1965), pp. 41-61.

"This paper has discussed the major problems of interference practice as the author sees them and proposes an integrated interference practice for over-coming most of them. Understandably, it is a compromise between competing alternatives and practical limitations."

Gordon, Benjamin, "Government Patent Policy and the New Mercantilism," *Federal Bar Journal,* Vol. 25, No. 1 (Winter 1965), pp. 24-31.

"Research and development, the production of new scientific and technological knowledge, is the fastest-growing industry in the United States. It could be the largest single contributor to the increase in our national output. The introduction of new technology can mean construction of modern plants, the installation of more efficient equipment, and the employment of more workers. And yet, never has so much money been spent by the Government with so little consideration for its ultimate social and economic consequences."

Green, Harold P., "Nuclear Technology and the Fabric of Government," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 121-161.

" 'There may be a necessity for imposing stringent federal control and regulation over technology at the moment a new development comes into being.' The splitting of the atom imposed such a necessity on the American government, and 'expedience, rather than principle, has been the watchword' of the development of nuclear energy. Have public and private interests been accommodated adequately by this approach?"

Handler, M., "Seventeenth Annual Review of Antitrust Developments–1964," *Record,* Vol. 19 (October 1964), p. 379.

Handler, Milton and Robinson, Stanley D., "The Supreme Court vs. Corporate Mergers," *Fortune* (January 1965).

"Change is not to be equated with progress. Before we give up what we have, we are entitled to a better chart and compass than those yet offered by proponents of these far-reaching transformations of the business system. If there is ever to be deconcentration it should be brought about not by a footnote in a judicial opinion but by the democratic process of legislative enactment."

Howrey, Edward, "A Body of Experts," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 454-455.

"My concern is that the Commission may be drawn down the

primrose path cut through the competitive maze by some of the recent Supreme Court opinions; abdicate its statutory role as a body of experts; expand its presumptive and *per se* findings; fail fully to recognize the vast changes that have taken place in our economy since 1914 both in this country and abroad. . . ."

Huberman, D. S. M., "Industrial Foreign Licensing Agreements," *Canadian Bar Journal,* Vol. 7 (November 1964), p. 452.

Huttenbrauck, D., "Copyright Litigation," *New York Law Forum,* Vol. 10 (June-July 1964), p. 147.

Jacobs, Morton C., "Patent Protection of Computer Programs," *Journal of the Patent Office Society,* Vol. 47, No. 1 (January 1965), pp. 6-14.

"To summarize the foregoing, the basic test for determining the patentability of computer programs is whether an invention exists in the construction or method of operation of those industrial machines. If so, the invention relates to a 'useful art' and falls within the statutory classes of patentable subject matter consistent with the spirit and purposes of our patent system as set forth in the Constitution."

Kaminstein, A., "Symposium on Copyright. The McClellan-Celler Bill for General Revision of the United States Copyright Law," *New York Law Forum,* Vol. 10 (June-July 1964), p. 147.

Kayton, Irving, "Can Jurimetrics Be Of Value To Jurisprudence?" *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 287-317.

"Jurimetrics, the application of modern logic and computer techniques to legal problems, may be useful in the analysis of facts, in the identification of ambiguities in syntax, and perhaps in the prediction and formulation of judicial decisions. Some uses of—and limitations on—the 'irrepressible' science of jurimetrics are explored here."

King, Donald B., "Electronic Surveillance and Constitutional Rights: Some Recent Developments and Observations," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 240-269.

"The technique of eavesdropping has advanced so strikingly in recent years that virtually no individual effort can ensure privacy from a determined police force. Constitutional developments in the area have been grounded in precedent, and today such tests as 'physical trespass' and 'protected area' are artificial and inconsistent. The basic question is unanswered: Is there a right to privacy?"

Kirkpatrick, W. Wallace, "Antitrust in Orbit," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 89-120.

"'Bigness is not necessarily badness in the antitrust world, but bigness gives many opportunities for badness.' The congressional decision to establish Communications Satellite Corporation—as a privately owned monopoly, dominated by the largest business concern in the world but subject to governmental oversight—raises important challenges for the antitrust laws and for the public interest."

Knight, L. F. W., "British Patent Office Practice," *Journal of the Patent Office Society,* Vol. 47, No. 1 (January 1965), pp. 16-39.

". . . greatest effort goes into the examination of applications for patents and the specifications accompanying them prior to acceptance, although almost all of this work devolves upon the Principal Examiners and staff junior to them. On the other hand, the legal work at higher levels is predominantly on post-acceptance issues notably oppositions and revocations and, to a less extent, post-acceptance amendments and work on extension of term. Acceptance will normally take place on the word of a Principal or Senior Examiner, refusal only by a Hearing Officer acting for the Comptroller and almost always only after a hearing."

Kronstein, Heinrich and Volhard, Joachim, "Brandeis Before the FTC in 1915: Should Advisory Opinions be Given?" *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 609-621.

". . . It is only fitting, however, that after the first 50 years of the Commission's existence we undertake to review some of the advice it received, specifically in connection with questions of basic policy confronting the Commission all the time."

Kunin, L., "Lindsay Bill Before and After the Stiffel Case (*Sears, Roebuck & Co.* v. *Stiffel Co.* 84 Sup. Ct. 784)," *Trademark Reporter,* Vol. 54 (October 1964), p. 731.

Lamb, George P., "Counsel for the Defense," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 431-453.

". . . As risky as it is, the writer will endeavor to relate some of the more interesting events in which he participated.

"Although the Federal Trade Commission had been in existence for twenty years when the writer came to practice, it is safe to say that the past thirty years contain most of the events worth reporting in the Commission's fifty-year life. This period included the experiment with the National Industrial Recovery Act, the enactment of the Robinson-Patman Act, the Wheeler-Lea amendment, the delivered price

controversy, and the Celler-Kefauver merger amendment and its enforcement."

Lorenz, W., "General Principles of Law: The Elaboration in the Court of Justice of the European Communities," *American Journal of Comparative Law,* Vol. 13 (Winter 1964), p. 1.

MacIntyre, Everette, and Dixon, Paul Rand, "The Federal Trade Commission After 50 Years," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 377-424.

". . . The problem, then, has been to find a means of preserving the demonstrated benefits of the free market system—particularly the high productivity generated by the profit motive, private ownership of property, and the individual freedom to enter any business or occupation—while at the same time isolating and controlling those of its elements that threatened to destroy the system itself and thus plunge the nation unwittingly into industrial socialism on the left or plutocracy on the right. Out of the agony of its 'trust' experience the country forged its answer, antitrust law.

. . . . . .

"Recent developments at both the Federal Trade Commission and at the Antitrust Division of the United States Department of Justice indicate that businessmen may expect those agencies to devote progressively more effort to informal handling of complaints alleging violations of law."

McTiernan, C. E., "Employee-Inventor Compensation Plans," *Journal of the Patent Office Society,* Vol. 46 (July 1964), p. 475.

Matteoni, N. E., "Antitrust Ambiguity Under Section 5 (a) of the Clayton Act," *UCLA Law Review,* Vol. 11 (July 1964), p. 792.

Mayo, Louis H. and Jones, Ernest M., "Legal-Policy Decision Process: Alternative Thinking And The Predictive Function," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 318-456.

"Expanding science and technology have been partly responsible for the growing complexity of the public and legal policy decisions encountered today. Fortunately new concepts and techniques, such as model thinking, are now available for the analysis and resolution of problems in various decisional contexts, including legal process. A Basic Decisional Model for Analytical Purposes is set forth here, with particular emphasis given to the function of prediction."

Michael, Donald N., "Speculations on the Relation of the Computer to Individual Freedom and the Right to Privacy," *The George Washington Law Review,* Vol.

33, No. 1 (October 1964), pp. 270-286.

"Between now and 1984, business and government will use extraordinary advances in computer technology to file and collate 'personal' facts about private citizens and even to telemeter the populace. What are the implications for traditional ideas of freedom and privacy? Will such progress be met with constitutional objections or with public acquiescense?"

Miller, Arthur Selwyn, "Technology, Social Change, And The Constitution," *The George Washington Law Review,* Vol. 33, No. 1 (October 1964), pp. 17-46.

"Technology produces social change. Social change, in its turn, produces constitutional change. This article explores the effects—of technology, the Positive State, and the expansion and urbanization of the population—upon the political economy. The result is new kinds of federalism that coexist with the 'formal federalism' of fifty states: 'national' federalism, 'functional' federalism, and 'federalism by contract.' "

Modance, W. A., "Chemical Interference Practice *Rosen et al* v. *Hjerpe et al* Revisited," *Journal of the Patent Office Society,* Vol. 46 (August 1964), p. 577.

Mortimer, H. W., "Patents a Century Ago," *Journal of the Patent Office Society,* Vol. 46 (September 1964), p. 666.

"Ordering Production of Documents from Abroad in Violation of Foreign Law," *University of Chicago Law Review,* Vol. 31 (Summer 1964), p. 791.

Phillips, A., "Reciprocity Under the Antitrust Laws: A Comment. G. E. Hale, R. D. Hale; Observations on the Hales' Comment," *University of Pennsylvania Law Review,* Vol. 113 (November 1964), p. 69.

Reilly, John R., "Reflections of a Freshman Commissioner," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 425-428.

"In preparing an article after a brief eight months with the Commission, both modesty and prudence lead toward a report of subjective reflections rather than comment of a substantive and possibly more profound character."

Rockefeller, Edwin S., "The Federal Trade Commission's Potential For Making Purposeful Antitrust Policy," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 541-547.

". . . But if any such policy were to be developed, the Federal Trade Commission, with the plenary and flexible mandate originally given to it by the Con-

gress, would be the agency to accomplish it. After 50 years there are signs the Federal Trade Commission is developing an increasing awareness of the need for teleological thinking. This awareness has been a long time in coming; and there is no certainty yet that the Commission's newly articulated concern with ultimate objectives will find an outlet in effective performance. Its current efforts, however, deserve full recognition."

Roditi, Harold, in collaboration with Bossard, Jacques-Rene, "The Patentability of Synergistic Association," *Journal of the Patent Office Society,* Vol. 47, No. 1 (January 1965), pp. 40-53.

"As a comparison, let us consider the patentability of the method of preparing an explosive composition which comprises mixing in determined proportions some ingredients having no individual explosive effects, with a view to detonating them in use. There is no reaction at the time of mixing, and it is precisely the explosive reaction at the time of subsequent detonating that predicates patentability of the method before reaction. On the same grounds, we feel that the judicious association of properly selected ingredients known *per se* and which do not react with each other independently of ingestion or other administration to the patient, but which do then have a function different from the sum of their individual functions, is proper subject matter for patent protection."

Rosenblum, Jerald E., "Practice Before the Patent Office Under Section 152 of the Atomic Energy Act and Section 305 of the National Aeronautics and Space Act," *Federal Bar Journal,* Vol. 25, No. 1 (Winter 1965), pp. 74-85.

"The purpose of this paper is to outline some of the administrative practices which have been followed in this area and to indicate some of the associated problems which face the patent practitioner."

Schulman, J., "Patents, Trademarks and Copyright: an Informal Comparative Analysis," *New York Law Forum,* Vol. 10 (June-July 1964), p. 174.

Treece, J. M., "Patent Policy and Preemption: The Stiffel and Compco Cases (*Sears, Roebuck & Co.* v. *Stiffel Co.* 84 Sup. Ct. 784; *Compco Corp.* v. *Day-Brite Lighting, Inc.* 84 Sup. Ct. 779)," *University of Chicago Law Review,* Vol. 32 (Autumn 1964), p. 80.

Van Cise, Jerrold G., "The Challenging Future," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 622-625.

"There are many ways in which this cooperation by private coun-

sel may be extended to the Commission in order to facilitate its success in using the olive branch as an alternative to the customary club. A few thoughts on these procedures are listed below. Whatever the steps taken, however, their objective should be to demonstrate that—where the parties act in good faith—they can achieve effective antitrust compliance through informal negotiation at less cost in time, effort and money than by formal litigation. . . ."

Weser, M., "Litigation on the Common Market Level," *American Journal of Comparative Law,* Vol. 13 (Winter 1964), p. 44.

Weston, Glen E., "Deceptive Advertising and the Federal Trade Commission: Decline of Caveat Emptor," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 548-578.

"It therefore seems most appropriate in a Symposium celebrating the 50th Anniversary of the Federal Trade Commission Act to review and evaluate some of the accomplishments of the FTC in protecting consumers and business concerns against false advertising and deceptive practices. This article will also endeavor to analyze selected major current problems of the Commission in this field. Finally, it will offer some suggestions as to the role the Commission should play to meet the great challenge it faces in protection of consumers and business concerns."

Withrow, James R., Jr., "Investigatory Powers of the Federal Trade Commission—Constitutional and Statutory Limitations," *Federal Bar Journal,* Vol. 24, No. 4 (Fall 1964), pp. 456-488.

"The second twenty-five years of the Federal Trade Commission's existence has witnessed a substantial broadening by the courts of the meaning to be given to the investigatory powers expressly delegated to it by Congress. . . .

"It is not the province, however, of this review to advocate either a broadening or a curtailment of these powers, but rather to report their evolution and define their current scope in light of constitutional, statutory and other judicial limitations. This will be followed by consideration of the manner in which these powers are enforced by the courts and of the procedural and substantive rights which are accorded to those against whom these investigatory processes are directed."

Yeaton, Samuel C., "The Administrative Claim Procedure," *Federal Bar Journal,* Vol. 25, No. 1 (Winter 1965), pp. 106-112.

"Regardless of the Government agency involved, the issue

is always the same, namely, patent infringement. It would seem all Government agencies could use the same procedure. This conclusion is predicated on the fact that there is only one Court of Claims. This would simplify matters for both patent owners and Government and would enable persons to become expert in administrative claim negotiations. Therefore, we recommend statutory enaction of a *Uniform Administrative Claim Procedure.*"

REPORTS & HEARINGS

Baumes, C. G., *Patent Counsel in Industry,* National Industrial Conference Board, N. Y., 1964, 104 pp.

This report, Number 112 of the Board's Studies in Business Policy, indicates that over a third of 251 surveyed manufacturing companies had staff patent counsel and that these, as well as the remaining companies, engage outside patent counsel as required. A special section, by R. L. Heindel, Dow Chemical Company patent attorney, is also included: "The Corporation Patent Department," pp. 73-99.

Industrial R&D Funds in Relation to Other Economic Variables, NSF 64-25, National Science Foundation, 1964, 124 pp.

". . . Management and other analysts have shown considerable interest in the relation of the dollar performance of research and development to other economic characteristics of companies performing research and development. This report is a first effort at comparing and analyzing a number of these relationships.

"The presentation of relationships contained in this report depended on the availability of data for economic variables on a basis comparable to data on performance funds for industrial research and development. Such comparable data became available only recently, as a result of the release of company statistics collected in the 1958 Censuses of Business, Manufactures, and Mineral Industries. Therefore, the data in the present report are necessarily for earlier years than the most recent information released on industrial research and development. Nevertheless, they are the first available on a comparable company basis relating significant economic measures of industrial activities with data on industrial research and development."

Report of the Select Committee on Government Research, H. R., 88th Cong., 2nd Sess., 1964.

This "Elliott Committee" report on the nature and implications of Federal research policies, practices, and expenditures, includes 10 studies. The studies deal with administration of

grants, manpower, facilities, documentation and dissemination, student assistance, interagency coordination, statistics of R&D, and national goals.

The Role of Patents in the Transfer of Technology to Developing Countries, Report of the Secretary-General, Department of Economic and Social Affairs, United Nations, N. Y., 1964, 95 pp.

The six chapters deal with national patent legislation, international patent relations, Government regulation of patents, foreign patented products made and processes used in developing countries, imports of patented products and processes, and encouragement of indigenous technology.

Taylor, C. W., ed., *Widening Horizons in Creativity,* Wiley, New York, 1964, 466 pp.

A report on the fifth National Conference, held 1962, in the Utah Series on creativity research.

NOTES

Edwin H. Land to Receive Kettering Award

Edwin H. Land has been named recipient of the "Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education" for 1964.

The award is presented annually by The PTC Research Institute. Previous recipients of the Kettering Award have been (1957) S. Chesterfield Oppenheim, Professor of Law, The University of Michigan Law School; (1958) Robert C. Watson, former Commissioner of Patents; (1959) the late Frank A. Howard, Chairman, Sloan-Kettering Institute for Cancer Research; (1960) Jo. Baily Brown of Brown, Critchlow, Flick & Peckham; (1961) Vannevar Bush, Past President, Carnegie Institution; (1962) Joseph W. Barker, former Chairman of the Board, Research Corporation; and (1963) Giles S. Rich, Judge, United States Court of Customs and Patent Appeals.

Dr. Land will receive the award at The Ninth Annual Public Conference of the Research Institute which is being co-sponsored this year by the Commemorative Committee of the 175th anniversary of the United States Patent system. The Conference will be held in Washington in June.

President and Director of Research of the Polaroid Corporation, Dr. Land holds more than 250 United States patents on his inventions. He is a recipient of the Presidential Medal of Freedom and has received numerous other honors for his contributions to science, military defense, education, and industry.

Born in 1909, Dr. Land spent his boyhood in Norwich, Connecticut, and then went on to Harvard University. As a freshman, he began working on polarized light and in 1929, at the Harvard physics colloquium, he announced a new polarizer for light in the form of an extensive synthetic sheet. This announcement opened the field of modern polarizers, now applied in microscopes, astronomical and photographic filters, stereoscopic pictures, gunsights, sunglasses, and other devices for controlling the intensity, reflection, and color of light.

In 1937, Dr. Land organized the Polaroid Corporation and became its President, Chairman of the Board, and Director of Research.

Dr. Land is the inventor of the Land process and camera, announced in 1947, which delivers a finished picture immediately after exposure.

He has been a member of the President's Science Advisory committee for over ten years, and he has served as scientific consultant on missiles, aerial reconnaissance, and other defense projects.

Dr. Land has been a vigorous advocate of continuing education as a part of the life of everyone in industry as well as in the universities. Since 1956, he has been a Visiting Institute Professor of the School of Advanced Studies at the Massachusetts Institute of Technology. He is a member of the Harvard University Board of Overseers visiting committees for physics and astronomy.

Dr. Land is a Fellow of the National Academy of Sciences, has served as President of the American Academy of Arts and Sciences, and has received medals for scientific contributions from the Royal Photographic Society (of Great Britain), Franklin Institute (Philadlphia), and the Research Society of America.

New Advisory Council Members Appointed

Dr. Samuel Lenher, Vice President of E. I. duPont de Nemours & Company, Wilmington, Delaware, and Dr. Harold Potter Rodes, President of General Motors Institute, Flint, Michigan, have been appointed to serve on the Advisory Council of The Patent, Trademark, and Copyright Research Institute. The Council consists of representatives from the fields of commerce, education, science, manufacturing, finance, labor and the professions, for the purpose of insuring sound and effective advice based upon broad information and wide experience.

Chester F. Carlson, Inventor of the Year

Chester F. Carlson, the recipient of the Inventor of the Year Award for 1964, is the first winner of the Award established last spring by The PTC Research Institute of The George Washington University.

The Inventor of the Year Award honors a journeyman or professional inventor who has made a significant patented invention or inventions even though he may not have had wide public notice. The Award is not limited to an inventor's contribution in any one year, but is given for any or all of his patented inventions to date. It recognizes annually the outstanding accomplishments of a creative individual who has demonstrated his dedication to his inventive art. The Award affords an opportunity to recognize the dedicated inventor who overcomes obstacles and expends his resources to produce an inventive contribution.

The following high level scientists, engineers, and patent specialists

serve on the Board of Awards: The Honorable Edward J. Brenner, Commissioner of Patents; Dr. Leonard Carmichael, Vice President for Research and Exploration, The National Geographic Society; Former Secretary, The Smithsonian Institution; Dr. Michael Ference, Jr., Vice President, Research, Ford Motor Company; Dr. Earl T. McBee, Head, Department of Chemistry, Purdue University; Dr. Paul L. Salzberg, Director, Central Research Department, E. I. duPont de Nemours & Company.

Mr. Carlson received his first patent in 1937 on a process he called "electro-photography."

It was on October 22, 1938, in a tiny room in Astoria, Long Island, that Mr. Carlson finally succeeded in transferring an image to another piece of paper. This was the birth of electrostatic copying, later to be named Xerography.

Twelve years passed, however, before Mr. Carlson was to see the realization of his idea. The first commercial use of Xerography was in 1950, when a Xerox copying machine was put on the market.

After his discovery in 1938, Mr. Carlson began to think he had an invention that nobody wanted. From 1939 to 1944, his idea was rejected by more than 20 companies. It "was met with an enthusiastic lack of interest," he said.

Finally, in 1944, Battelle Memorial Institute, a non-profit industrial research organization in Columbus, Ohio, undertook development work on Mr. Carlson's process. And in 1947, Haloid Corporation (later to become Xerox Corporation) in Rochester, New York, took a limited license and began supporting the research at Battelle.

Xerox and other copying machines have now become familiar sights in the modern office. Chester Carlson continues to receive royalties from his outstanding invention.

Mr. Carlson received his award on April 8th at a Washington banquet sponsored by the Commemorative Committee of the 175th Anniversary of the United States Patent System.

Second Decade Challenge

An information sheet entitled *Second Decade Challenge,* issued in support of the Second Decade Fund Drive of The PTC Research Institute, is being sent out periodically. This title is intended to call attention to the challenge and opportunity to place the Research Institute on a financially independent basis so that it can enlarge and intensify the activities which have established its reputation.

The entry of The PTC Research Institute on its second decade has

fueled a campaign to place its program on a stronger financial basis. Increased funds will provide the Institute the means to develop a more permanent and larger research staff and enable it to engage resident scholars. Added financial support will permit the Institute to extend its educational efforts to additional schools and universities.

Ninth Annual Public Conference Scheduled

Our Ninth Annual Public Conference, to be held at the Washington Hilton on June 17 and 18, 1965, will be co-sponsored by the Commemorative Committee of the 175th Anniversary of the United States Patent System. The Conference will consider the general subject of *Evolving Needs for the Protection of Industrial and Intellectual Property,* and will consist of the following four sessions:

I. The Changing Setting
II. Administrative and Judicial Requirements for the Patent and Other Established Systems.
III. Legislative Objectives and Proposals
IV. International Challenges and Opportunities

Interested persons will, upon request, be supplied with the program and details of the arrangements as soon as the announcements are ready.

Digest Highlights Institute Conferences

An issue of the *Digest,* a publication presenting non-technical summaries of the results of its research, and news of its educational activities, directed to "Encouraging the Creation and Use of Technical Information" was distributed in March, 1965. This *Digest* highlighted the information developed at The Eighth Annual Public Conference held in Washington, D. C. Executives, Government officials, educators, and laymen generally, as well as those with a professional interest in the patent, trademark and related fields receive the *Digest.*

"Know-How" and Trade Secrets Guide Distributed

A *What do you know about . . .?* on " 'Know-How' and Trade Secrets" was mailed recently to members of The PTC Research Institute as well as to other busy executives and professional people. The "What do you know about. . . ?" series is intended as an easy reference guide to Institute research. Previous guides to our research have included issues on *Foreign Licensing, Commercial Use of Patented In-*

ventions, Taxation and Patents, Patent Policies in Government Contracts for Research and Development, and the *European Common Market.*

Errata

In the report on "Attitude Survey on Patent Office Relocation" published in Volume 8, Number 3 (Fall 1965), GSA or General Services Administration was inadvertently referred to as GAO or General Accounting Office. Please substitute GSA or General Services Administration for GAO or General Accounting Office, respectively, in the subject report. Small self-sealing errata slips are available at the office of The PTC Research Institute.

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EIGHTH ANNUAL PUBLIC CONFERENCE

The PTC Research Institute

The George Washington University
Washington 6, D. C.

TENTH ANNIVERSARY ISSUE

IDEA • *The Patent, Trademark, and Copyright Journal of Research and Education is:*

Devoted to the publication of scientific research regarding the principles, the facts, and the practical operations of the patent, trademark, copyright, and related systems of the United States and other countries;

Calculated efficiently to educate and inform across broad fields the general reader and those with special interests from business, industry, the sciences, and the professions with respect to the functioning of these systems; and

Dedicated to convey to these publics the relation of the systems to industrial and social progress.

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Individuals are invited to submit manuscripts to the *Journal*.

The Patent, Trademark, and Copyright Research Institute sponsors objective research in accordance with the Declaration of Trust establishing the Research Institute. This purpose is set forth in Article IV, Section 1 of the Declaration as follows: "The purposes and objects of the Research Institute shall be promoted and carried on without regard to, and independently of, the special interests of any group or body politic, whether political, legal, social, or economic."

The positions taken by authors of articles in the *Journal* which are not the product of the Research Institute's research program are not necessarily those of the Research Institute.

The Conference

The Eighth Annual Public Conference, broadcast nationally, was the occasion for the presentation and discussion of the research findings of the Research Institute and important current issues relating to CURRENT AND EMERGING PROBLEMS IN PROPERTY RIGHTS TO R&D AND RELATED INFORMATION from which the Research Institute itself may derive guidance on the planning of its future work. The Conference also provided an opportunity for people from different fields to meet and participate in the stimulating and productive exchanges and contacts of the Conference.

The research work of the Research Institute represents the first university attempt at a comprehensive study of the patent, trademark, copyright and related systems in the United States. This study is systematically planned and coordinated, inter-disciplinary in nature and utilizes a combination of specialties such as economics, statistics, psychology, sociology, and law; and empirical, that is, based on the facts gathered by the staff on the actual operation of the systems.

In attendance at this Conference devoted to CURRENT AND EMERGING PROBLEMS IN PROPERTY RIGHTS were key representatives from the different fields of activity throughout the nation: commerce, education, science, manufacturing, labor, finance, and the professions.

The proceedings of the Conference are published in this issue of IDEA • *The Patent, Trademark, and Copyright Journal of Research and Education.* It contains a summary, and edited transcript of the proceedings, which includes research by the staff of the Research Institute until the Conference, the presentation of current issues by qualified discussants, and questions from the floor and answers.

When discussants are invited to participate in the Conference, they are, of course, assured of freedom to say what they wish, either as individuals or members of their organizations. Their remarks pertain both to staff reports and various aspects on the patent and related systems.

Summary

Director O. S. Colclough opened the Eighth Annual Public Conference, and in his capacity as Provost of The George Washington University, welcomed the participants. He informed the Conference that the Research Institute was entering on its second decade of operations. He also pointed out that the Research Institute was originally called a Foundation and that the name had been changed to describe more precisely the work it actually does. After calling attention to the objectives of the Conference, Director Colclough introduced the Executive Director of the Research Institute, L. James Harris.

Executive Director Harris' presentation was devoted almost entirely to the achievements of the Research Institute during the past ten years. He opened his remarks with a statement of the purpose of the Research Institute and directed the statement particularly to persons associated with R&D programs. He pointed out that "the major function of the Research Institute . . . [is] to gather and disseminate information on the nature and value of industrial property and related systems. In short, we are primarily concerned with social, economic, and legal implications of new knowledge. We are seeking to understand and utilize, and help protect the flood of information that is pouring out of R&D programs. Great sums of money, both government and private, have inundated our laboratories to provide a phenomenal motive power for R&D. In contrast, how relatively little financial support has come to us—and, to others in the second order of investigation, so to speak—who are concerned with the discreet utilization of the products of that information explosion. Data processing has been discovered and much attention and finances are already being diverted in that direction. But much remains to be done for research organizations like ourselves. Although we are primarily concerned with intangible products of man's ingenuity, such as inventions, I am sure you are all acquainted with the difficulty other research organizations face which are devoting their energy to the investigation of the prudent utilization of the R&D output.

"We do not have the glamour of the R&D producer nor the mystique of the data processing machine. We are only engaged in determining what all this data means and what could be done with it. More attention will have to be given to interpretative groups geared to study, explain, and to recommend, if only for the purpose of including or excluding data, or the press of information will eventually burst the seams of even our most voracious data processing machines and our

most advanced data storage and retrieval systems. We are rapidly coming to the point where the emphasis in our concepts of handling vast quantities of information must be subjected to a thorough re-examination."

Referring to one of the major achievements of the Research Institute, the establishment of IDEA, this *Journal* of research and education, the Executive Director pointed out the importance of the broad mixture sought in the *Journal*. "We think that the success of our *Journal* rests on the fact that it accomplishes a broad cultural aggregate, appealing to many publics, and is calculated to inform the general reader as well as those with special interests of the nature and value of the industrial property systems, which are primarily legal systems. Although the work of the Research Institute is largely based on factual research, some of our most important papers have concerned themselves with planning, other papers with the interaction of law with the rest of society—the cultural implications—and others have been professional articles employing the factual information already gathered."

Following the Executive Director's presentation, Director Colclough introduced Mr. Earl P. Stevenson, Chairman of the Advisory Council of the Research Institute, who acted as chairman of the Conference.

Chairman Stevenson noted the reputation for soundness and impartiality established by the Research Institute in its first decade and stated that it was the object of the Institute to continue in the second decade to create "better public understanding of the United States patent, trademark and copyright system, and to focus attention on the role of intellectual creations in promoting economic growth and better living standards through technological change." He referred to the seven point program which has been undertaken by the Research Institute. These include:

"1) The expansion of current research programs into additional areas.

"2) An increase in the staff of the Research Institute with selected additional investigators, a business manager whose primary function will include the securing of grants, contributions, and promotion of membership and such additions to the supporting staff as will enable us to carry out more effectively our mission.

"3) We are going to enlist more consultants, special writers, outstanding government, industrial and academic specialists within the United States, and other areas of the world because the issues before us now become international.

"4) We expect to sponsor a wider range of publications, including materials for trade journals, the daily press, and other media of public communication.

"5) Increase communication to a wider audience through public seminars, television, radio releases; avail ourselves of every opportunity to bring our story before the public.

"6) To increase programs especially addressed to representatives of government, industry, and academic institutions intended to foster understanding and development of the law and regulations and practices applicable to patents, trademarks, and copyrights.

"Finally, to establish other special programs as appropriate to foster the development of intellectual property and to enhance its useful application in the economy of the United States and the world."

Chairman Stevenson then conveyed the following message from Commissioner Brenner to the Research Institute:

"The major challenge facing the United States patent system is to keep step with the rapid changes going on in the country today as well as throughout the world. This may require changes to be made in the United States patent system to cope with the information explosion, the proliferation of technology, and the rapid increase in international trade. Information on the significance of the problems that such developments may present, as well as information on the incentives for the various proposed changes in the system, would be particularly valuable in directing the future course of the United States patent system."

The Chairman concluded his remarks with the following message from Dr. J. Herbert Hollomon, Assistant Secretary for Science and Technology, Department of Commerce:

"Invention and innovations continue to be the basis for industrial growth of the economic progress of the United States. As the United States grows in technological leadership, the importance of invention and industrial property rights are necessary to the operation of a free enterprise system. To maintain the United States' position as a world technology leader it is essential that the business community support the necessary investigations and policy recommendations that might improve the patent, copyright, and trademark policies of the United States. The George Washington Institute could have a unique role by providing the basis for these improvements and by informing the American business community of its responsibilities for the system."

THURSDAY SESSIONS

The Thursday morning session of the Conference was devoted to EMPLOYER-EMPLOYEE STAKES IN INVENTION. The Moderator was R. E. Gibson, Director, Applied Physics Laboratories, The Johns Hopkins University. Invited Contributors participating in this session were: Max Tishler, President, Merck, Sharp and Dohme, Rahway, New Jersey; Vladimir K. Zworykin, Honorary Vice President, Radio Corporation of America, Princeton, New Jersey; Joseph McPherson, Manager, Psychology Department, The Dow Chemical Company, Midland, Michigan; James H. Williams, Assistant to the General Manager, Lederle Laboratories, A Division of American Cyanamid Company, Pearl River, New York; and J. Russell Wilson, Vice President, Monsanto Chemical Company, St. Louis, Missouri. The following members of the Research Institute staff contributed in this session: Robert B. Bangs, John C. Green, Joseph Rossman, Barkev S. Sanders and Irving H. Siegel. This was followed by a Panel Discussion and Question Period in which the panelists were the above named speakers.

The early afternoon session was organized around the theme of GOVERNMENT-PRIVATE ISSUES. Moderating the first division, "Accelerating the Use of Government-Financed R&D," was J. Hilary Kelley, Technical Assistant (in the area of scientific and technical information) to the Director, Office of Science and Technology in the Executive Office of the President. The speakers included: Hugh L. Dryden, Deputy Administrator, National Aeronautics and Space Administration; James W. Roach, Assistant Director, Engineering Management, Research and Engineering, Department of Defense; Herbert W. Robinson, President, C-E-I-R, Washington, D. C., and Ernest B. Tremmel, Director, Division of Industrial Participation, U. S. Atomic Energy Commission. Research Staff Contributors included: John C. Green, Mary A. Holman, Barkev S. Sanders, Donald S. Watson. A Panel Discussion and Question Period followed. Edwin L. Reynolds, Assistant Commissioner of Patents, moderated the second division entitled, "Interference Settlements: Patent-Antitrust Public Policy Implications." The speakers were: Donald C. Harrison, General Patent Counsel, Union Carbide Corporation, New York; Marcus Hollabaugh, Hollabaugh and Jacobs, Washington, D. C.; Arthur M. Smith, Judge, U. S. Court of Customs and Patent Appeals, Washington, D. C. (represented by Robert Harmon); Robert L. Wright, First Assistant, Antitrust Division, Department of Justice.

The late afternoon session's theme was INTERNATIONAL CHALLENGES TO UNITED STATES FIRMS OPERATING ABROAD. The Moderator was Jack

N. Behrman, Assistant Secretary of Commerce, Domestic and International Business, Department of Commerce. Invited Contributors were: Paul R. Porter, President, Porter International, Washington, D. C.; Leonard J. Robbins, Langner, Parry, Card and Langner, New York; P. Rand Dixon, Chairman, Federal Trade Commission; Wilbur L. Fugate, Chief, Foreign Commerce Section, Antitrust Division, Department of Justice; Grant W. Kelleher, Counsel, Law Department, Standard Oil of New Jersey, New York; Harold Levin, Chief, International Business Practices Division, Bureau of Economic Affairs, Department of State. Research Institute Staff Contributors were John F. Creed, P. J. Federico, S. Chesterfield Oppenheim, Gerard J. Weiser, and Jesse W. Markham. Panel Discussion and Question Period followed.

KETTERING AWARD

The Award Dinner held Thursday evening honored Giles S. Rich, Judge of the United States Court of Customs and Patent Appeals, the recipient of the 1963 "Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education." Judge Rich's acceptance address was entitled "The Vague Concept of 'Invention' as Replaced by Section 103 of the 1952 Patent Act." He pointed out that "What section 103 itself says is that what is patented must *not* have been *obvious* to one of *ordinary* skill *in the art involved,* at the *time* the invention was made. The parallel with what would be expected of the 'ordinary mechanic acquainted with the business' in the 'doorknob case' should be clear.

"This is not a 'standard of invention'; and it is not called a 'requirement of invention.' The presence or absence of 'invention' is not mentioned. The use of the term 'invention' was, in fact, carefully avoided with a view to making a fresh start, free of all the divergent court opinions and rhetorical pronouncements about 'invention.' And in doing that it was contemplated, as the House Report states, that 'This section should have a stabilizing effect and minimize great departures which have appeared in some cases.' "

In the course of his address, Judge Rich stated that ". . . the Court of Customs and Patent Appeals which has been turning out a consistent stream of opinions, for at least the eight consecutive years of which I have personal knowledge, strictly applying the obviousness formula of Section 103 to determine *patentability,* not the presence of invention, and slowly but surely warping the Patent Office into basing its actions on the statute. The results are beginning to show in the actions and board opinions we review. I believe we have invaded the

Patent Office Academy. The Solicitor's office writes its briefs in the language of the statute."

In referring to a suggestion "that a standard of *patentability* should be more definitely set forth," the Judge was of the opinion that "we should experiment with *using* the Section 103 standard before we try to create another one. I find it very workable. It was a harder job to get it than he may imagine and in twelve years no better one has been proposed. The 'criteria which may be worked out,' referred to in the Revision Note to Section 103, have never materialized. I doubt they ever will."

Judge Rich went on to make a suggestion. "This Institute or some other disinterested party or organization should prepare a lecture on the basic elements of patent law in up-to-date terminology as used in Title 35 U.S.C. and see to it that the Federal judges get it. Even a glossary would help, in which it would appear that the 'requirement for invention' became obsolete in 1953 by an act of Congress, along with many prior court opinions discussing it, being replaced by unobviousness as defined in 103 as the THIRD REQUIREMENT for patentability. By limiting the lecture to the terms of the statute and their clear meanings I do not see how the bar could object and many judges would be grateful."

The Judge concluded his address urging that we stop talking about "the standard of invention":

"Until we stop talking about a 'requirement for invention,' it will never be clear that THE THIRD REQUIREMENT is that stated in Section 103 *and no other*; that when 103 has been complied with, there is no further and different requirement called 'invention'; that compliance with 103 is the policy judgment of Congress on how to bring the invention within the Constitutional purpose.

FRIDAY SESSION

The Friday early morning session was entitled NEW DIMENSIONS AND DIRECTIONS. Abraham L. Kaminstein, Register of Copyrights, was the Moderator and Invited Contributors were: Harry G. Henn, Professor, School of Law, Cornell University; Benjamin Kaplan, Professor, School of Law, Harvard University; Philip Dalsimer, Kane, Dalsimer and Kane, New York; Alexander J. Etinne, Consulting Patent Attorney, Patent Department, International Business Machines Corporation, New York; Morton David Goldberg, Foster, Ginsberg, and Schwab, New York. Research Institute Staff Contributors were: Harold F. Bright, P. J. Federico, Joseph Rossman, Irving H. Siegel and

Edgar Weinberg. A Panel Discussion and Question Period followed the presentation.

The late morning session was devoted to a FOUNDER'S PANEL *on the theme "Looking Forward to the Second Decade." Represented on the panel were founders of the Research Institute.*

SYNOPSIS

The Eighth Annual Public Conference covered current and emerging problems in property rights to R&D and related information on a very wide information front. Many points of view were represented.

The variety of viewpoints are evident from the following summaries submitted by several participants when they returned their edited Conference remarks for publication. Although one can hardly substitute the summary for the actual presentation (no synopsis can do full justice to the real thing), it is our purpose to have them convey something of the scope, the variety and the excitement that were present —to mirror the life of the Conference. Happily, these summaries permit us to reflect on what some of the participants said, in their own language, and will encourage the reader to savor the discussions more extensively at his leisure.

In the first session, EMPLOYER-EMPLOYEE STAKES IN INVENTION, Max Tishler, President, Merck, Sharp and Dohme, Rahway, New Jersey, spoke on Energizing and Rewarding Inventors. His summary reads:

"Industry is stimulated by the economic incentives of the patent system to establish environments favorable for invention by individuals, and the inventors within industry gain its protection and encouragement. As a rule, only relatively simple or nontechnical inventions are within the scope of the facilities available to the individual inventor working alone. Unlike the lone inventor, the employee-inventor begins drawing immediately on the rewards of inventions he may make later or never. The word "never" is important since—to cite the example of the pharmaceutical industry—more than 2,500 compounds are studied and discarded for each that becomes a useful drug product.

"The personnel of the Merck Sharp & Dohme Research Laboratories say intellectual challenge is the most important element in their environment. Then come adequate facilities; the chance to carry work forward to the point of tangible benefit to mankind; a chance to gain scientific prestige; and, lastly, stable, long-term financial rewards.

"A system whereby scientists report only to scientists does much to assure a favorable research environment. Material needs are met in

a manner unequalled in universities or institutes. The satisfaction afforded by industry's unique ability to develop an idea to fruition is best understood by imagining the frustration of Fleming, who was 10 years in finding a chemist to purify penicillin. Broad freedom to publish fosters scientific prestige. Financial incentives to creativity include salary increases and promotion, as well as special awards."

The second invited contributor in the first session to talk on "ENERGIZING AND REWARDING INVENTORS" was Vladimir K. Zworykin, Honorary Vice President, Radio Corporation of America, Princeton, New Jersey. He summarized his presentation as follows:

"A climate conducive to invention may be created by freeing the inventor from financial worries and administrative duties, giving him adequate technical support for the realization of his ideas, surrounding him with a congenial team, putting his efforts to practical use, providing specific rewards for invention, and channeling effort into directions which are most likely to prove productive. Ideas are most likely to be fruitful if they answer a currently felt need and utilize an existing and, preferably, newly developed technology. Examples of the concurrence of these conditions are drawn from the fields of medical electronics, space technology, and electronic television; conversely, history offers many examples of failure, resulting from the absence of one or the other requirement."

James H. Williams, Assistant to the General Manager, Lederle Laboratories, Division of American Cyanamid Company, Pearl River, New York, discussed the "Loss of Trade Secrets Through Changes in Employment." An invited contributor in part II of the first session, he summarized his presentation as follows:

"There has been tremendous growth over the past two decades in the reliance of industry upon research and development. In recent years it has become apparent that the right of research minded companies to enjoy the fruits of their work is being challenged by the embezzlement of trade secrets by willful or unmindful employees. The problem of the unmindful employee may be handled in-plant by suitable instruction and increase in security precautions. The remedy against willful employees who steal trade secrets rests primarily in the civil courts. It is felt that the situation would be helped by clarification of existing statutory provisions in state laws governing theft so as to make it clear that trade secrets are included and by the passage of additional criminal statutes particularly aimed at this problem."

In the early Thursday afternoon session on GOVERNMENT-PRIVATE ISSUES, James W. Roach, Assistant Director, Engineering Management,

Research and Engineering, Department of Defense, an invited contributor, discussed "Accelerating the use of Government-Financed R&D." Mr. Roach summarized his presentation as follows:

"DOD is particularly concerned with the information dissemination problem in the research and exploratory development categories. These categories account for about 1.5 billion of the 7B RDT&E program which in turn is part of the 50 billion Defense program. Several things have impact on our information program—type of funding support, relevance of information, methodology of information storage and retrieval. DOD has a number of efforts under way to assist in the information problem solving; government-wide research status reporting system using ADP techniques; establishment of Information Analysis Centers by discipline to supplement DDC.

"Cost consciousness does not restrict free flow of technical information. Cost has been a major consideration in Engineering and Operational Systems Development but is secondary in Research and Exploratory Development.

"Security classification should be no problem in Research and Exploratory Development since there generally is little military orientation in these categories."

An invited contributor in the second division of the early afternoon session on GOVERNMENT-PRIVATE ISSUES, Donald C. Harrison, General Patent Counsel, Union Carbide Corporation, New York, directed his attention to "Interference Settlements: Patent-Antitrust Public Policy Implications." The summary of his remarks follows:

"Amicable settlement of interferences can shorten proceedings, sometimes by many years, not only saving expense but also shortening the period of uncertainty of outcome. The agreement must aim for priority to the true first inventor, and if priority is doubtful, it is prudent to submit all the evidence to the Patent Office for decision. Collusion among applicants to prevent prior art from coming to the attention of the Patent Office is fraud and may also run afoul of the Sherman Act. If licenses are involved in the settlement agreement, illegal license provisions and practices must be avoided."

Another invited contributor in the second division of the early afternoon session on GOVERNMENT-PRIVATE ISSUES was Arthur M. Smith, Judge, U. S. Court of Customs and Patent Appeals. His presentation also concerned "Interference Settlements: Patent-Antitrust Public Policy Implications." A summary of his paper follows:

"Determination of the legality of patent interference settlements may require consideration of issues which are normally encountered in ordinary inter partes interference proceedings. One of the most per-

tinent considerations may be whether the settlement resulted in the patent issuing to the 'true' first inventor. Recent decisions indicate that this question is becoming increasingly difficult to answer."

The Chairman of the Federal Trade Commission, P. Rand Dixon, discussed "Antitrust and Trade Practice Problems" in the late Thursday afternoon session devoted to INTERNATIONAL CHALLENGES TO UNITED STATES FIRMS OPERATING ABROAD. Mr. Dixon summarized his remarks as follows:

"In the field of industrial property the Federal Trade Commision had proceeded where there was a fraudulent procurement or ultimate misuse of the patent grant.

"In the so-styled 'antibiotic case' the Commission found that the respondents had knowingly made false and misleading statements of fact before the Patent Office and deliberately suppressed information, all of which was material to the Patent Office's consideration of the patent application. The Commission concluded that 'misrepresentations and the intentional withholding of material information to obtain a commercially valuable patent . . .' was a violation of the Federal Trade Commission Act.

"In the Commission's more recent Grand Caillou case, respondents were *leasing* indispensible patented shrimp processing machinery to the United States entrepreneurs on the West and Gulf coasts while *selling* the same machinery to competing foreign processors trading in the United States. The Commission found that the respondents, by this practice had misused their patent monopoly as a vehicle for destroying competition.

"International rules of trade should be interpreted, administered and enforced towards achieving a competitive climate of equality. Because of the variance in international laws unreasonable restraints as applied to foreign commerce may not necessarily have the same meaning as unreasonable restraints on domestic commerce.

"Anti-trust laws in the European Economic Community apply inside the Common Market but have no extra-territorial effect. American anti-trust laws do have extra-territorial application to our nationals operating in foreign markets. Those charged with administration of the anti-trust laws should therefore strive for interpretations in foreign commerce (to the extent legal responsibilities will permit) which will provide our nationals operating abroad with fair and equal rules for competition."

Another invited contributor to discuss "Antitrust and Trade Practice Problems" in the session on INTERNATIONAL CHALLENGES TO UNITED STATES FIRMS OPERATING ABROAD was Harold Levin, Chief,

International Business Practices Division, Bureau of Economic Affairs, of the Department of State. The summary of Mr. Levin's presentation follows:

"There is no dichotomy between our antitrust philosophy and our foreign policy. Our antitrust laws are dedicated to economic growth, expansion of international trade, economic and also political freedom. So is our foreign policy—we try to promote healthy competition policy around the world. We also try to promote good industrial property protection abroad. These efforts are entirely consistent with one another. It seems clear that foreign governments will be more willing to provide industrial property protection the better equipped they are to prevent abuses of industrial property rights. In our own country we have the world's most advanced and comprehensive systems both in antitrust and in industrial property protection. It serves our interests to encourage foreign progress on both those fronts."

The first speaker in the Friday morning session on NEW DIMENSIONS AND DIRECTIONS was Benjamin Kaplan, Professor, School of Law of Harvard University. The summary of Professor Kaplan's statement dealing with the "Impact of Proposed Copyright Legislation" follows:

"Professor Kaplan considered certain tentative proposals of the Copyright Office for revision of the Copyright Act. He questioned the advisability of any substantial enlargement of the present 56-year term of copyright protection, and pointed out that the issue of the proper period of protection should be related to the character of the entire revision bill—the works to be covered, the scope and strength of the rights to be vested in the copyright proprietor, and any qualifications of these rights, of which the privilege of 'fair use' is an example."

Philip Dalsimer of Kane, Dalsimer and Kane, New York was an invited contributor in the Friday morning session on NEW DIMENSIONS AND DIRECTIONS. He directed his remarks to "New Concepts of Design Protection." Mr. Dalsimer's summary follows:

"In essence, Mr. Dalsimer has contended that the design of industrial articles has become such an important part of industry that the protection of such designs is imperative.

"He believes that the copier should not have a 'free ride,' that proper incentives to design will benefit the public by increased employment, not only of designers, but also of manufacturers, and that society is well served by giving incentive to creators of new ideas and new designs.

"He takes the position that while it is true that most design is created by the desire to make something 'distinguished,' this does not

mean that all designs could become protectable by achieving secondary meaning, that is, becoming 'distinguishable' from competitive designs in the eyes of the public solely as a result of the design.

"He therefore believes that protection of designs solely on the basis of unfair competition would not be adequate even if there had never been a *Stiffel* case, which has substantially destroyed the right to protect against product simulation by unfair competition law. He then points out that while it is possible to find some protection of designs under the pending Lindsay Bill, The Federal Unfair Trade Practice Act, or under an extension of the copyright law, really the only substantial protection that seems feasible is the pending Design Registration Bill, S. 776, which has already passed the Senate, and H. R. 323, now pending in the House.

"It is Mr. Dalsimer's conclusion that the Design Registration Bill, which is based on the same Constitutional provision supporting the patent and copyright laws, will be a substantial step in the right direction because of the following factors:

"1) Protection would be instantaneous from the moment of the publication of the design.

"2) The Design Registration Bill would provide a certain route to protection. It would no longer be necessary to advise a client that the lawyer was unsure as to whether there was or was not protection.

"3) Minor errors in the notice would not destroy the rights of protection. Duration would be of a fair and reasonable extent—five years, with a renewable five year term—and the Bill would have adequate protection for the innocent handler of infringing merchandise.

"The Design Registration Bill thus merits the support of industry and the Bar."

Alexander J. Etienne, Consulting Patent Attorney, Patent Department, International Business Machines Corporation, New York, also participated as an invited contributor in the morning session on NEW DIMENSIONS AND DIRECTIONS. He submitted the following summary of his remarks on "Patent and Copyright Implications of Electronic Data Processing":

"We stand today on the threshold of a tremendous quickening of the inventive processes, brought about by the conjoint result of a veritable flood of scientific information and the almost unbelievable use to which electronic data processing quickens the transformation of this information into inventions.

"This quickening of the inventive processes, again, conjointly with the use of electronic data processing, in aiding in the actual prep-

aration of patent applications, produces a greater backlog in the United States Patent Office.

"Can electronic data processing aid the Patent Office in handling these applications? The answer is obviously, yes, but not necessarily in immediate time sequence. But it will take considerable time, labor and expenditure of money before a workable system of data retrieval can be made fully operative in actually processing patent applications.

"Looking to the future we can envisage the use of electronic data processing in helping the Patent Office determine priority in interferences and even aiding the courts in determining the question of infringement.

"Looking to the future we can even envisage the impact of a completely new process of thinking, of beings discovered on other planets whose, such dissimilar thought processes, merged with ours, will produce unheard of inventions!

"The great versatility of electronic data processing machines has inevitably brought forth statements as to the similarity of the operations of such machines and man's thought processes. Some even say, the 'Machine' will emulate 'Man.' In that statement, lies the seeds of a terrific controversy and well there should be. In the words of a great parliamentarian, the author states 'I am on the side of the angels'! Machines will never emulate Man, since Man and Man only, is capable of compassion!

"Using the same compassionate approach, it is believed that the replacement of men by machines can be ameliorated."

The final invited contribution in the morning session on NEW DIMENSIONS AND DIRECTIONS was made by Morton David Goldberg of Foster, Ginsberg and Schwab, New York. He discussed "Patent and Copyright Implications of Electronic Data Processing." Mr. Goldberg submitted the following summary:

"Three questions are discussed: 1) is patent or copyright protection available for computer programs? 2) Is patent or copyright protection available for computer outputs? 3) Does the use of copyrighted materials by computers infringe the copyrights on such materials?

"1) The Patent Office has so far refused to issue patents on programs. The Copyright Office has only recently granted its first registration of a copyright claim on a computer program, albeit as a 'doubtful case.' One seeking copyright protection for a computer program faces two problems: the constitutional requirement that the program be a 'writing' of an 'author' and the restrictions of the present

Copyright Act concerning 'copies' of the program. The Constitutional requirement can probably be met, but the provisions of the present Act present difficulties which should be eliminated in the pending revision of the Act.

"2) Computer output is protectable under the Patent and Copyright Acts to the same extent—no more and no less—as human output achieved without a computer.

"3) Whether the use copyrighted materials by a computer constitutes a copyright infringement depends on the type of use made by the computer. Some uses are clearly infringing, others are clearly not. At present, most uses are in the gray area between 'Fair use' is a flexible concept which will change as the technology and practices change.

"The Copyright Act is now being revised. There is great need for extensive discussion, by both the computer industry and copyright proprietors, of the revision proposals which relate to computers."

The Conference was concluded with a FOUNDERS' PANEL. *The proceedings of this Panel are published on pages 201 to 223 of this* JOURNAL.

The Proceedings of the Conference

THURSDAY MORNING SESSION

JUNE 18, 1964

CURRENT AND EMERGING PROBLEMS IN PROPERTY RIGHTS TO R&D AND RELATED INFORMATION

The Eighth Annual Public Conference was convened at 9:45 a.m., O. S. Colclough, Provost of The George Washington University and Director of the Research Institute, presiding.

WELCOME

DIRECTOR O. S. COLCLOUGH: Ladies and Gentlemen: It is a pleasure and a privilege to welcome you to the Eighth Annual Public Conference of The Patent, Trademark, and Copyright Research Institute of The George Washington University, both on behalf of the University and on behalf of the Institute.

As I think most of you know, this part of the University has just completed its first decade and is entering its second. It was originally named a foundation. But some of the realists on our Advisory Council pointed out that the word "foundation" means giver of funds, whereas our research organization is an asker of funds. Hence, we thought it would be more realistic to change its name to the Research Institute, which we did last year.

I will make my remarks very brief. I call your attention to the objectives of the Conference inside the front cover of our brochure. It is particularly gratifying to have this fine turnout of distinguished men and women from all over our country in the fields of commerce, education, science, manufacturing, labor, finance, and the professions, because all these careers are heavily involved in our research work and certainly in the agenda for today. As you will note, it is rather a large agenda. So, I express the hope on behalf of all of us that we can maintain the good record we have had in the past by keeping abreast of the time schedule. I am sure you hope we do that, also.

Therefore, without further ado, I will call upon the Executive Director of the Institute, Dr. L. James Harris.

EXECUTIVE DIRECTOR L. JAMES HARRIS: Admiral Colclough, members of the Conference:

With the advent of our tenth anniversary, I should like to refer very briefly to some of the achievements of the Research Institute during

the past ten years, and to tempt you with several hints of things to come.

First, however, I should like to recall the major function of the Research Institute—namely, to gather and disseminate information on the nature and value of the industrial property and related systems. In short, we are primarily concerned with the social, economic, and legal implications of new knowledge. We are seeking to understand and to utilize and to help protect the flood of information that is pouring out of R&D programs. Great sums of money, both government and private, have inundated our laboratories to provide a phenomenal motive power for R&D. In contrast, how relatively little financial support has come to us—and to others in the second order of investigations, so to speak—who are concerned with the discreet utilization of the products of that information explosion. Data processing has been discovered and much attention and finances are already being diverted in that direction. But much remains to be done for research organizations like ourselves. Although we are primarily concerned with the intangible products of man's ingenuity, such as inventions, I am sure you are acquainted with the difficulty other research organizations face which are devoting their energy to the investigation of the prudent utilization of the R&D output.

We do not have the glamour of the R&D producer, nor do we have the mystique of the data processing machine. We are only engaged in determining what all this data means and what could be done with it. More attention will have to be given to interpretive groups geared to study, to explain, and to recommend, if only for the purpose of including or excluding data, or the press of information will eventually burst the seams of even our most voracious data processing machines and our most advanced data storage and retrieval systems. We are rapidly coming to the point where the emphasis in our concepts of handling vast quantities of information must be subjected to a thorough reexamination.

Among our achievements during the past ten years is the organization and diversification of a research program. A large part of this Conference will be devoted to the research program and it will be discussed in more detail at that time. However, I do want to anticipate somewhat with an important—and sometimes overlooked—piece of information, namely, that the research we do here is looked upon by others as, and in fact has become, a mother of research. Researchers who have been engaged on studies for the Research Institute at other institutions have developed to a stage where they have become full-

fledged enough to fly without us and have undertaken studies on their own or under other auspices.

We take great pride in fellow researchers who grow up sufficiently to take their leave and to carry on on their own. Thus, we cannot measure the success of our accomplishments in terms of solvency alone. Nor can we count our return in terms of one or two very obvious payoffs. Moreover, our product is always being diluted by the very means we utilize to disseminate our information, by our publications. We may begin something and others may take up the pen and write on it, too. Indeed, this concept of wide and uninhibited dispersal of knowledge is inherent in the concept of a university, of which the Research Institute is a part.

Looking ahead, we must expand our research programs into additional areas and increase the timeliness and the policy orientation of our contributions. This Conference is one of the important instruments we use to derive guidance for our future work. In order to keep our industrial property systems in step with the rapid changes in technology, it is most important for us to understand the functioning of those systems. To the end that we might better appreciate and utilize the strong points and improve or eliminate the weaknesses in those systems, we will bring to bear the experience of our research staff and other representatives of the Research Institute on the various aspects of the systems from the standpoint of such factors as creativity, incentives, economic growth, R&D activity, diversification of firms, inter-company relations, executive decision-making, antitrust, legislation, administrative regulations and procedures, licensing, judicial actions, taxation, and international transactions.

Another achievement of the Research Institute is the establishment of a *Journal,* and putting it on a periodical basis. I should like to emphasize here the importance of recognizing the broad mix that we seek in the *Journal.* We think that the success of our *Journal* rests on the fact that it accomplishes a broad cultural aggregate, appealing to many publics, and is calculated to inform the general reader as well as those with special interests of the nature and value of the industrial property systems, which are primarily legal systems. Although the work of the Research Institute is largely based on factual research, some of our most important papers have concerned themselves with planning, other papers with the interaction of law with the rest of society—the cultural implications—and others have been professional articles employing the factual information already gathered. Moreover, we like the idea that we now have of using quantitative and non-quantitative

techniques as circumstances require to carry out the mission in our charter.

A third achievement of the Research Institute is the establishment of this Annual Public Conference and publication of its proceedings. As you know, the Annual Public Conference this year is devoted to "Current and Emerging Problems in Property Rights to R&D and Related Information." You will remember that the theme last year was "Fostering and Rewarding Invention in the Company, the Government, and the University." We are looking forward to increasing the number and varying the location of our public conferences for the exchange of ideas relating to important current issues.

Another achievement of the Research Institute is the establishment of a diversified educational program, with such media of communication as two booklet series for young people entitled "The Patent System All Around You" and "The Trademark—The Maker's Monogram". Young people during the years ahead will probably be making a larger proportion of our nation's scientific discoveries and inventions. This prospect is implicit in the population explosion of the post-World War II period. In any case, it is important for young people to become familiar with their institutional heritage for the protection of industrial property.

Our educational program also includes a motion picture in color, "Fuel to the Fire", on the nation's patent system, which has been shown, in addition to individual showings, on 144 TV stations to an approximate audience of six million people; the Thomas Alva Edison Fellowship granted annually in the amount of $3,000 for graduate studies on the patent and related systems; a Seminar and Lecture Series for students and qualified professional persons; a Patent Office Society Student Award; and an International Public Lecture Series, to provide between Annual Public Conferences of the Research Institute, an opportunity for people to exchange views with officials and other experts from abroad. We expect to continue and to expand these education activities in our second decade.

A further achievement of the Research Institute is the development of a library, and also a comprehensive publications program comprising, in addition to the *Journal, Guides to Research,* issued to executives and professional people as an easy reference to the Research Institute's published reports; the *Digest,* a non-technical summary of our educational activities and the results of our research, which is distributed widely; periodic *Reports to Members* providing a review of the Research Institute's activities; *PTC News Notes,* distributed occasionally between issues of the *Report to Members,* to keep the mem-

bership and other interested persons informed of Research Institute news and developments relating to our programs; and an annual *Bulletin* outlining the organization of the Research Institute, describing the current research and educational programs, and listing the membership. We also propose to increase and to expand our publication activities in the future.

Our Area Committees in the major metropolitan cities (made up of practicing patent attorneys, educators, businessmen and research workers), the growing liaison we have established with other organizations, and particularly our dedicated research staff of attorneys and social scientists will afford us the most important opportunities for advance in the future. The larger base of financial support we are seeking will permit us to enlarge our research and to augment the skills represented therein.

To inaugurate the second decade, the Research Institute has adopted a new mark, consisting of a man's head surrounded by a sunburst. A wave sign extends from the head suggesting a creative person and the sunburst has been modified for contemporary design. The word "IDEA" which forms an important part of the mark conveys not only the type of subject matter our studies in industrial and intellectual property deal with, but also communicates the knowledge that must be applied in our research and the knowledge resulting in our findings. A gold, black, and grey color scheme will be featured hereafter in our publications and on our stationery.

We have also changed the appearance of our *Journal* in like manner. You will notice that the "IDEA" is now featured on the *Journal* cover as the principal title, to convey the broad scope of our interests in intangible creations of the mind, including inventions, useful "know-how" and other products of man's ingenuity.

We have been pursuing the possibility of publishing selected major reports of the Research Institute, with extensions, in book form for more durable reference value and to communicate the work of the Research Institute to those groups that we have not as yet reached systematically. We expect to tap a new market with this program and thereby increase our sources of support.

The Research Institute is also planning a series of Clinic-Seminars as part of its educational activities on "Development, Management, and Uses of Patents and Related Property Rights." The first clinic will be held in the fall of 1964 and will be devoted to MANAGEMENT POLICIES AND PROBLEMS OF CORPORATE PATENT DEPARTMENTS. A limited number of topics will be chosen to be explored *in depth,* and the sessions will be confined to small groups to permit informal dis-

cussion and exchange among the participants. It is expected that *actual* company situations will be reviewed and opinions on appropriate action will be exchanged. The individuals attending will be experienced practitioners.

The Research Institute is inaugurating an "Inventor Of The Year Award" to honor a journeyman or professional inventor who has made a significant patented invention or inventions even though he may not have had wide public notice. The reward will not be limited to an inventor's contribution in any one year, but will be given for any or all of his patented inventions to date. The constitution of the Board of Awards reflects high level scientific, engineering, and patent interests and consists of the following: The Honorable Edward J. Brenner, Commissioner of Patents; Dr. Leonard Carmichael, Vice President for Research & Exploration, National Geographic Society and former Secretary of the Smithsonian Institution; Dr. Michael Ference, Jr., Vice President of Research, Ford Motor Company; Dr. Earl T. McBee, Head of the Department of Chemistry, Purdue University; Dr. Paul L. Salzberg, Director, Central Research Department, E. I. du Pont Company. Members of the Research Institute and all others interested are asked to submit the names of candidates for the Board's consideration. Submission should include information to clearly identify the candidate and contain sufficiently specific evidence of his contributions and character to enable the Board to make an evaluation.

In closing, I should like to bring to your attention that the work we have accomplished thus far has been based on a very modest budget, and I ask you, in view of your contacts and your prestigious positions, to assist us in strengthening our financial base so that we may carry on this important work more effectively.

Thank you.

(Applause)

DIRECTOR COLCLOUGH: Thank you, Jim.

It is now my privilege to present the Chairman of the Advisory Council. The Council is composed of distinguished and interested people in our field from all over the United States. This gentleman is former Chairman of the Board of Arthur D. Little, Inc., Cambridge, Massachusetts. He was elected to this position to succeed former Commissioner Watson. He will serve at least two years. He has had a very distinguished career in the areas of our interest. He joined Arthur D. Little, Inc. in 1919. That is sort of giving away the age factor. He was vice president from 1922 to 1935, and president for 21 years, from 1935 to 1956. And then Chairman of the Board from 1956 to 1961, and he now serves Arthur D. Little, Inc., as a consultant.

He has been president of the Board of Trustees of Wesleyan University, is a director of the Boston Capital Corporation, Liberty Mutual Insurance Company, John Hancock Mutual Life Insurance Company, and Massachusetts Business Development Corporation. He is a consultant to the National Aeronautics and Space Administration. In other words, Mr. Earl Stevenson has been around. I will now turn over the moderating of this program to him. Earl?

MR. EARL P. STEVENSON: Thank you, Admiral Colclough.

Ladies and Gentlemen: I stand before you in two capacities. As Chairman of the Advisory Council, and as Chairman of the Financial Planning Subcommittee, to which I was appointed a year ago. This year marks, as Dr. Harris has reported, the tenth anniversary of the Research Institute, and this is the Eighth Annual Public Conference.

All I can say is that I think the second decade will have to challenge the first decade in which we have established in this Institute high competence for objectivity in research, and have achieved some very enviable publications which are widely read and widely used, with the reputation for soundness and impartiality.

As you have been reminded, it has been the purpose of this activity, and this will continue into the second decade, to create better public understanding of the United States patent, trademark and copyright system, and to focus attention on the role of intellectual creations in promoting economic growth and better living standards through technological change.

For it is by research, education and publications that the Institute seeks to broaden an understanding of those forms of creative activities and their contributions to industry, the consumer, and the total economy.

In the decade ahead this unique mission—because it is a unique mission, as we are the only institution serving these ends in the United States—this unique mission takes on, I think, even greater responsibilities along the lines that Dr. Harris has so ably outlined. And numerous questions within the Institute's field call for early and effective study. The trustees have established a seven point program which I shall not review in detail with you as this will be presented to you through other publications.

Suffice it to note that very briefly these include:

1) The expansion of current research programs into additional areas.
2) An increase in the staff of the Research Institute with selected

additional investigators, a business manager whose primary function will include the securing of grants, contributions, and promotion of membership and such additions to the supporting staff as will enable us to carry out more effectively our mission.

3) We are going to enlist more consultants, special writers, outstanding government, industrial and academic specialists within the United States, and other areas of the world because the issues before us now become international.
4) We expect to sponsor a wider range of publications, including materials for trade journals, the daily press, and other media of public communication.
5) Increase communication to a wider audience through public seminars, television, radio releases; avail ourselves of every opportunity to bring our story before the public.
6) To increase programs especially addressed to representatives of government, industry, and academic institutions intended to foster understanding and development of the law and regulations and practices applicable to patents, trademarks, and copyrights.

Finally, to establish other special programs as appropriate to foster the development of intellectual property and to enhance its useful application in the economy of the United States and the world.

It is at this point, with such a program in mind, that I turn to a statement of Commissioner Brenner. For such a program as he has pointed out must reckon with the problems of those administering the activities of the United States Patent Office. Commissioner Brenner, who unfortunately will not be able to be with us in person today, focuses attention on those issues when he addresses this statement to the Institute, and I convey this message:

"The major challenge facing the United States patent system is to keep step with the rapid changes going on in the country today as well as throughout the world. This may require changes to be made in the United States patent system to cope with the information explosion, the proliferation of technology, and the rapid increase in international trade. Information on the significance of the problems that such developments may present, as well as information on the incentives for the various proposed changes in the system, would be particularly valuable in directing the future course of the United States patent system."

He asks for our cooperation to these ends.

Such efforts, ladies and gentlemen, call for an expanded industrial base. And to this end a promotional effort, which is my primary concern, is now in the planning stage. Briefly, the objective will be to

double the present income derived from annual dues and contributions, both individual and corporate, and to secure substantial grants, both public and private, for the study of critical issues now confronting the country in the domain of the Institute's interest.

In this decade ahead we will hope and plan and work to make this Institute self-supporting through the service that it can render the broad community that it serves. Through regional committees, which Dr. Harris has referred to, we will appeal to the executives of those industrial enterprises which have been the beneficiaries of a system which we now not only seek to support but to strengthen. And here I would quote President John T. Connor, of Merck, who is a member of our Advisory Committee, in a recent address on innovations and patents, which I am sure has been brought to the attention of many of you. I quote:

"I firmly and deeply believe that people in the top management of corporations which aim to grow and make progress through research and development activities must include patents among their more important responsibilities. For one thing, we now realize that a successful research project in industry is not complete until the appropriate patent protection both here and abroad has been applied for, obtained and enforced against potential industrial pirates, those fellows who are always looking for a free ride on somebody else's efforts and risks. In addition, top management people must have a full realization that the technical know-how and patents of a growth company constitute a most important form of industrial property and must be managed and safeguarded in the manner which properly reflects that importance. I am sure that the members of this association will understand if I make the observation that patents have become too important to remain in the exclusive domain of the research scientists and the patent lawyers."

And then he concludes later:

"The growing recognition by corporation management of the fundamental importance of patents and industrial growth is just one of the significant changes taking place in the field of patents."

Now I turn to the message that I have for you from Dr. J. Herbert Hollomon, Assistant Secretary for Science and Technology, United States Department of Commerce, in which he says:

"Invention and innovations continue to be the basis for industrial growth of the economic progress of the United States. As the United States grows in technological leadership, the importance of invention and industrial property also grow. It is too little recognized that industrial property rights are necessary to the operation of a free enter-

prise system. To maintain the United States' position as a world technology leader it is essential that the business community support the necessary investigations and policy recommendations that might improve the patent, copyright, and trademark policies of the United States. The George Washington Institute could have a unique role by providing the basis for these improvements and by informing the American business community of its responsibilities for the system."

And so today we will become increasingly concerned with the problems that we have so far touched upon. And now our opening session, having as its topic EMPLOYER-EMPLOYEE STAKES IN INVENTION, which will be moderated by Dr. R. E. Gibson, who it is my pleasure to introduce. And I might say in advance that he and I have had many common interests and many associations over the past forty years, emanating in part from the circumstances that we married sisters. Dr. Gibson, well-known to many of you, was born in England. He is a graduate of the University of Edinburgh. He received his Doctor's degree in 1924. He came to this country with a Carnegie Research Fellowship and was for a period of years associated with the staff of the Geophysical Laboratory of the Carnegie Institution of Washington.

With the advent of the war he became identified as the first Director of Research of the Allegheny Ballistics Laboratory of Cumberland, Maryland. After the war he became associated with The Johns Hopkins Laboratory of Applied Physics, of which he has now been the Director since 1948. His honors are numerous. And to these, Ned, you have today the privilege of serving as moderator of the morning session.

I give you Dr. Gibson.

(Applause)

EMPLOYER-EMPLOYEE STAKES IN INVENTION

DR. R. E. GIBSON: Thank you very much. It is a privilege which I appreciate very highly indeed.

Ladies and Gentlemen: You have heard the magnitude of the problem facing us all. When Earl and I first became acquainted, the line storm which is now pouring down refreshing rain of funds upon our whole technology and stimulating the effort going into research and development, was at that time a cloud somewhat bigger than a man's hand, largely in the area of the industries based on chemistry. It has now changed a lot. However, large as the magnitude of the problem is, it still comes back to the old question of the individual. And I think that the Conference has shown great wisdom in drawing our attention at the opening session to the employer-employee stakes in invention,

emphasizing again that it is individuals, the individual mind, not the collective mind, not the committee, that really produces the ideas which are now causing us considerable trouble in controlling and applying. It is the individual mind that is the important one, and we are considering problems involving individuals.

I would suggest that we consider them in three levels. One, there are legal problems. When we understand the problems, we can formulate them in a way in which they can be treated legally. Two, when the problems require judgment, particularly individual judgment, they become administrative. We have to have somebody who really knows his business, who knows human nature, and can be a good administrator. When the problems are so nebulous that they fall without the scope of both of these categories, they become ethical problems, and we hear a good deal of the problems of the ethics of the ownership of invention, ownership of knowledge.

I think it is worth our while just keeping these classes in mind as we listen this morning to men who, by their record, have shown that they are not only able to contribute individually, and in great quantity and quality to the advancement of science and technology, but who have also shown that they can encourage other individuals to do the same.

It is therefore with great pleasure that I call upon our first speaker, Dr. Max Tishler, a man himself a scientist and now the President of Merck, Sharp and Dohme Research Laboratories of Rahway, New Jersey, to speak to us on experience doubtless arrived at from an industry based on chemistry, one of the earlier ones. He is going to speak to us on this general topic of employer-employee stakes in invention.

PART I — ENERGIZING AND REWARDING INVENTORS

Invited Contributors

DR. MAX TISHLER: Ladies and Gentlemen: Man's natural instinct to create—to use new knowledge to increase his well-being and enlarge his horizons—is the source of civilization as we know it today.

In the long annals of man, only those civilizations with the capacity to create and invent have made significant impacts on history. The shifting scenes of advancing civilizations were, in large measure, due to the creation of new and improved technology. It is my belief that creative individuals invent under all conditions and against all handicaps. This has been demonstrated by creative geniuses throughout history. Only in recent centuries, however, has society systematically encouraged invention as a means of speeding progress and making its benefits widely available.

It was specifically to promote invention that the authors of the Constitution accorded inventors the incentive of exclusive rights to their discoveries for a specified period of time. In our time, this economic incentive has stimulated industry to be a patron of science, and the result has been the most productive era of discovery in man's long history.

In order to obtain the maximum public benefit from human creativity, it is necessary to provide an environment that stimulates discoveries, and more important, that encourages their development for the greatest common good.

The subject with which we are concerned today—ENERGIZING AND REWARDING INVENTORS—is one which every research director must constantly reappraise. On this subject, I do not feel that I can speak for the entire spectrum of research. The practices of my company and the industry of which we are a part are not necessarily applicable to other institutions and industries. But certainly the pharmaceutical industry has been one of the most productive of our time.

In those industries which function through highly scientific disciplines, the question of incentives and rewards must be evaluated in the context of our present-day scientific environment. As a rule, only relatively simple or non-technical inventions are within the scope of the facilities available to the individual inventor working alone. Obviously, such inventions are limited to those that can be discovered and developed without a great deal of assistance in the form of equipment or personnel—except perhaps in the area of marketing.

In our industry, however, no idea can be developed to the stage of invention or marketing without the interaction of many complex technical factors. These necessarily involve the evaluation and testing of new products to the satisfaction not only of the inventors and the company, but also of public regulatory agencies. This is impossible without the joint activities and contributions of many individuals and groups who are not themselves inventors in the patent sense.

For example, the synthesis of a new chemical compound may not itself involve invention or a discovery of importance unless and until its utility is demonstrated. The mere demonstration of utility in animals or even man may be insufficient basis for establishing the value of a new product without extensive data relating to its toxicity, safety, stability, and effectiveness.

The magnitude of these efforts is difficult to express in mere statistical terms, but as an example, I might mention a New Drug Application which we filed earlier this month. This was based upon four years of intensive effort and the expenditure of millions of dollars. The ap-

plication included the work of more than 200 independent clinical investigators with 4,500 patients, and filled 27 volumes with 14,000 pages of reports and data.

So far I have given you a little background about the nature of invention in my own industry. I am sure that a similar pattern exists in other industries which utilize the scientific skills of highly trained creative individuals.

The essense of industrial research is that industry is stimulated by the economic incentives of the patent system to create and foster the environment for inventions by individuals, and the inventors in its employ gain the protection and encouragement of industry.

Unlike the lone inventor, the employee-inventor acquires financial backing *before* as well as *after* he makes a discovery, and he begins drawing immediately on the rewards of inventions that he may make later in his work, or only after long years of effort, or possibly never.

Let me emphasize the significance of "never". Even in pharmaceutical research, fruitful as it has been, more than 2,500 compounds are studied and discarded for every one that becomes a useful drug product. This means that most of what we do and most of the money we spend on research in industry not only yields no profit, but is a drain on other profitable activities of the company.

This leads to the question of incentives and rewards to the individual.

I don't think that there are any shortcuts to scientific discovery. Nor do I believe that scientists can or should be manipulated into raising their productivity by artificial means. Scientists are dedicated people, creative by nature. Creativity itself retains something of the magical and mystical. It will not be forced, but it is fostered by a total environment designed to stimulate all the complex professional and personal motivations of the scientist.

The brilliant young minds we like in our laboratories do not embark on scientific careers primarily to make inventions. They are impelled by the desire to win new knowledge from the vast unknown. As students deciding upon a scientific career, they were not motivated by a desire to make money for the stockholders of a corporation or frequently even for themselves. Idealistic and earnest, they wanted to do something worthwhile with their lives, and their intellectual curiosity drew them to scientific research. Industry supplies such men and women with the scientific resources and the most efficient environment wherein they can devote all their time and energies to the quest for knowledge.

A few years ago we made an informal survey of the people in our

laboratories, asking what they felt were the most rewarding aspects of their environment. They ranked these factors, in this order: First, intellectual challenge; second, the facilities and resources which permit them to do their best work; third, the opportunity to carry their research forward to the point of tangible benefit to mankind; fourth, the opportunity to gain scientific prestige; and lastly, stable long-term financial rewards.

Let us examine each of these motivating factors.

The first is intellectual challenge, an ingredient of a productive research lab wherever it may be. We believe our research is based on the concept of true contributions to the health sciences. Basically, we search for drugs which are significantly better than existing ones or for agents which will control diseases that do not respond satisfactorily to any drug therapy.

Our programs involve difficult and important research that call forth full intellectual powers and encompass many of the most important questions in medicine, chemistry, and biology, and include such problems as cancer, coronary accidents, and the genetic diseases.

The directors of our programs are scientists whose own achievements command respect and who can contribute creatively to the work they supervise. Such men inspire everyone to do their best work, and no scientist in our laboratories—except myself—reports to anyone who is not himself a scientist.

The intellectual challenge is also engendered by a cross-fertilization of ideas and backgrounds which follows when people of many disciplines band together under a single roof for the purpose of solving intricate medical problems. In fact, there are in our laboratories scientists from some 35 different fields—chemists, physiologists, microbiologists, biochemists, pharmacologists, pharmacists, virologists, pathologists, chemical engineers, physicians and many more. No problem is studied very long before scientists of many disciplines have joined together toward a common objective.

And, just as no man is an island, so no community in the world of science can be self-contained. Thus our research people are encouraged to exchange ideas with consultants of their own choosing, generally outstanding specialists in various fields drawn from the faculties of leading universities and research institutions. This stimulation is reinforced constantly by bringing to our lecture halls over 50 scientists each year from all parts of the world to tell about the research in their laboratories.

This, then, is our formula for intellectual challenge.

Facilities and resources, the second motivating factor, constitute one

of our greatest strengths. They form the services which give our scientists effectiveness and capacity unequalled in the universities and research institutes. If one of our scientists needs for his research the extracts of 1,000 pounds of sheep pituitary glands, 15 kilograms of an unpurchasable chemical, or mass spectograph analyses of his compounds, he can, with dispatch, call on special service groups to supply them. We are organized to enable scientists to use their capacity to the utmost. In the competitive "industry of research," we can not afford to have it differently.

The opportunity to carry research forward to the point of tangible benefit to man—the third energizing factor in our industrial environment—has a special meaning in the pharmaceutical industry. The saving of lives, the relief of discomfort, and the rehabilitation of the chronically ill are not just words but hopes we all aspire to in our research careers. And the ability of the pharmaceutical industry to provide the essential disciplines and facilities for the transformation of a concept or an observation into a drug makes this possible.

Only a scientist can fully imagine the frustration of a Fleming trying in vain for ten years to get a chemist to purify his penicilin, or of an R. R. Williams, whose technical difficulties in trying to isolate and test vitamin B-1 led him to turn to Merck for help in 1934, after more than thirty years of trying to go it alone.

As Nobel Laureate Philip Hench said, without Merck's work on cortisone,

"I would be like a Columbus sitting on the seashore yelling futilely that the world was round, and nothing would happen."

There is yet another way in which the opportunity to see inventions developed into useful products acts as a powerful motivator. The enormous development activities that follow a promising discovery, as expressed in terms of people and facilities, become a grand monument to the inventive scientist. He sees the company committing vast sums of money into the furtherance of his brainchild, and he watches it grow into manhood. He soon finds that the knowledge of his invention has spread throughout the scientific and social community.

The fourth in our list of motivating factors is the opportunity for the scientist to gain recognition from his peers in the scientific community. This is won largely through publication of his research in professional journals and through his full participation in the activities of professional scientific societies. This motivation, the freedom to publish, was accepted by the pharmaceutical industry over thirty years ago and has been responsible for attracting top-flight people and for the high quality of our research. Our own research laboratory releases

close to 200 manuscripts each year. Where publications include patentable inventions, we file an application for the patent first. The patent system thereby supports our principle of freedom of publication, and thus performs as the system was intended to perform. We have never refused to release a manuscript because we felt that publishing would be detrimental to our economy.

Adequate financial compensation, while rated last by our staff, is nevertheless an essential factor in our environment. In addition to stable, high salaries, a company such as ours provides pensions, life and medical insurance, and other benefits which enable the scientist to live with dignity and security, whether or not he is successful in producing an invention of commercial value.

While we believe good managers must first be good scientists, many good scientists do not want to assume managerial responsibilities, and others may not be personally qualified to do so. Recognizing this, our salary structure is designed to give added weight to creativity and to good performance. Our "dual ladder" system of compensation is intended to encourage both scientific and management careers.

In rewarding inventors, we place greater emphasis on compensation increases for merit or through promotion to a position with greater responsibilities. The merit increases are continuing rewards which, all things considered, frequently surpass what any special award could reasonably amount to. For example, a small group of researchers who were prime movers in a major breakthrough were receiving a total annual compensation of $115,000 before this breakthrough. Three years later, their total compensation had increased 70 percent to $195,000.

Notwithstanding, we do recognize unusual creativity by cash awards which are independent of merit increases and which are sizable in terms of added compensation. In this instance, the award need not be tied into a successful commercial product. In fact, a discovery or observation of unusual scientific merit having no value on the marketplace is equally eligible for financial recognition.

In addition, outstanding achievements with special scientific significance are recognized by special awards designed to honor the scientist personally. These awards are known as the Merck Board of Directors' Scientific Award, and they provide a $25,000 fund for scholarships or fellowships in the name of the recipient at any school he chooses. It has great prestige within our company and is reserved to reward work of the highest distinction. Five scientists of our staff have been so honored.

In addition to all these tangible rewards, scientific endeavor in our

laboratories is energized by recognition of everyone who contributes to the discovery and development of a new drug. This does not mean that we neglect those individuals whose inspired insight and dogged determination led to some outstanding breakthrough; rather, we do not let individual recognition overshadow the contributions of others essential to the successful culmination of any project. In other words, we cheer the whole team and not just the apparent "heroes" who carry the ball across the line.

We feel this develops an *esprit de corps* which spurs each man to his best efforts. This team spirit also leads to a sense of rivalry with the scientific staffs of other research-oriented companies in the pharmaceutical industry, and is a potent factor in inspiring our scientists with the desire to be first and best on all fronts.

The thought I would like to leave with you today is that effective efforts by industry to energize and reward inventors are not only mutually beneficial to the companies and scientists concerned, but are in harmony with man's fundamental instinct to improve his lot by seeking greater mastery over the forces of nature.

The creative partnership between invention and industry—new in our time—actually multiplies the potential of each. It is one of the most powerful forces at work in our society, and, to a large measure, is responsible for the dynamic character of our free enterprise system.

Thank you.

(Applause)

DR. GIBSON: Thank you very much indeed, Dr. Tishler. One administrative point might be mentioned here, and that is, we shall reserve discussion for the end, after we have heard from some of the research associations. On the other hand, if there are any of you who would like to record points, questions you would like to ask, there are ladies on both sides of the room who will receive written questions from you now and pass them up here. These can be handed in at any time during the session.

We now turn to a speech from a man whose name is a household word in television, in electron microscopy, and who has been in the forefront of the application of physics and engineering, and who started a chain of revolutionary activities that have actually created new industries.

It is with great pleasure indeed that I call upon Dr. Vladimir Zworykin, the Honorary Vice-President of RCA, to continue the discussion of "Energizing and Rewarding Inventors."

DR. VLADIMIR ZWORYKIN: Mr. Chairman, Ladies and Gentlemen, and members of the Conference: It is quite a disadvantage for me to speak

after Dr. Tishler. Although we belong to different industries, you will see that my arguments about energizing and rewarding the inventor will follow very similar lines, and it is obvious why.

To start with, suppose I will agree with Dr. Tishler that the most successful atmosphere for successful invention is teamwork. I will omit the preliminaries, and will start directly by trying to outline some of the possible requirements for the successful encouragement of invention, which will be as follows:

In the first place, it is most important to have financial support of the inventive person adequate to free him from economic worries for his family and himself. Such support is likely to come only from rather large and stable organizations, such as industry, universities or government.

The inventor should be given a climate in which he realizes that invention is considered a normal part of his every-day function and that the normal housekeeping, record keeping, and administrative functions, which would otherwise occupy his time, are well taken care of.

Secondly, he will be provided with technical facilities required for the physical realization of inventive ideas. Most modern inventions represent fairly complex systems which no individual, even possessing a wide range of skills, could accomplish in his own lifetime unaided by a team of draftsmen, mechanics, engineers, plumbers, fabricators and others available in a modern industrial milieu.

In order to optimize an invention, it is frequently necessary to try painstakingly all of the possible solutions to a particular problem, for example, by comprehensively going through all of the elements in the periodic table looking for those with the unique properties which might make a new invention possible.

Thirdly, assembling a congenial team, furthering the inventiveness of its members through the exchange of ideas, knowledge and skills. Frequently, an individual inventor may be frustrated in the completion of an invention for the lack of some bit of knowledge which through sheer chance has eluded him but which might be found among the team's stored knowledge.

For this reason, modern industrial laboratories, more and more, begin to resemble universities of scholars. There is, however, a natural selection between the university of industry and the university of academic life.

The academician tends to be more theoretical in his conception while the industrial inventor tends to concentrate on physical realizations.

Fourth is the appreciation of the value of inventive ideas, most effectively expressed by their practical utilization.

Without such utilization, even generous financial rewards are unlikely to offset frustration which will in due time stop the flow of useful ideas. There is little doubt in my mind that an inventor derives the greatest satisfaction and the strongest stimulus for continued creativeness from seeing the fruit of his efforts put to practical use.

This is, after all, the final confirmation of his competence and of his usefulness as an inventor. For him, the "paper patent" will never have the same status as the patent which, in some form, finds expression in production.

Furthermore, the experience of seeing his invention developed into a useful product can stimulate the inventor to explore his ideas with greater persistence. In this manner he will increase the probability that his ideas will be accepted and will contribute to the advancement of the art.

Fifth, I will include specific rewards for inventions which probably have some incentive effect, but so far as I am aware no study in depth has been made to measure their effect. There are relatively few individuals who would invent solely for the chance of a payment.

There are other rewards for invention such as promotions, salary increases and special citations. Finally, one's name on a U.S. Letters Patent is an award made under a Constitutional provision and is of a great value to the inventor.

There are those who advocate:

1) Limiting the employer's interest in an employee's invention to a royalty-free license;
2) Giving an employee freedom to patent when his employer is not interested in patenting;
3) Granting the employer exclusive rights but sharing resulting royalties with the employee; and
4) Making substantial payments for outstanding patentable inventions to the employee-inventor.

Rewards such as these might have a complex effect by overemphasizing invention. The day-by-day tasks must be done and they will not be advanced by employees daydreaming about money-making inventions.

Too great an interest in an employee-owned patent might lead to a reduced interest in the assigned tasks or even to conflict of interests. Rewarding inventors is indeed a problem with many facets.

Finally and very important is the adequate direction of the inventive team, channeling effort into directions which are most likely to

prove productive. Ideas are most likely to prove productive if: (a) they answer a currently felt need; and, (b) they utilize an existing and preferably newly developed technology.

Some direction and some goals must be set lest we merely invent *in vacuo*. One way to give direction is to pose specific problems. The mere existence of a problem and its presentation to the inventor will stimulate the invention.

As an experience, a few years ago I was presented with the problem of making an endosonde, a device which could be swallowed and which could broadcast information about internal conditions. This was a novel problem to me and almost as soon as the problem was presented, the solution and the form of invention became obvious.

In this case the team consisted of a medical doctor and an engineer. Mere recognition of the fact that the problem existed was sufficient to stimulate the invention which resulted.

There are many other examples that could be given. I will cite only a few.

Some years ago, General Sarnoff asked our laboratory for some practical inventions. These included: 1) an electronic refrigerator; 2) "Hear-see" tape recorder; 3) an electronic light amplifier; 4) an electronic x-ray amplifier; and 5) an electronically air-conditioned room.

The presentation of the problems has helped to stimulate the invention of the required new technologies to make them possible.

Another example of a new problem of greater magnitude is that of the conquest of space. Had this not been decided upon as a national problem and a national goal, it is debatable whether the many diverse types of rocket motors, controls, communication systems and ion motors for space propulsion would have been invented.

The direction of our national inventive effort is, therefore, being channeled into the space activities. I do not raise the question of whether this is in fact the direction in which we should be going, but, that the establishment of this direction was sufficient to stimulate invention in this area.

In my own experience, electronic television provides an excellent example of the factors which go into successful invention. Several years after the conception of the initial idea, there was a rapid upsurge in inventions stimulated by the enthusiastic support tendered by the head of the organization which resulted in the assembling of a congenial team and the practical utilization of new ideas as rapidly as technical development would permit.

The addition of sight to sound in radio broadcasts, which already

existed at that time, fulfilled a keenly sensed need and vacuum tube technology as well as circuit design were sufficiently advanced at that time for the next steps required by television.

Thus from a certain point on, all factors favored the rapid inventive solution of the problems posed by an effective television service.

However, history provides many negative confirmations of the principle of "the right idea at the right time." We have even examples of "negative invention", i.e., where the loss of technologies occurs when the demand for the amenities of civilization declines during an extended period of time, as in the Dark Ages.

Thus, the wax process of reproducing bronzes, well known to the Greeks and Romans, became a lost art, to be re-invented over 1000 years later by Benvenuto Cellini when the Renaissance revived the appreciation of beauty.

Furthermore, the Renaissance itself provides examples of excellent ideas which came to nothing because there was inadequate demand to provide the needed financial support as well as inadequate technology to translate the ideas into practice; we need only mention Leonardo da Vinci's flying machine.

In more recent times, we find Babbage's advanced ideas on the design of computing machines unsuccessful both because the financial houses and industrial enterprises of his day did not have a great need for data processing machines and because computer components available to him were limited to mechanical devices.

Still more recently, we find in the patent literature of the first few decades of this century a number of proposals for the solid-state triode which led nowhere because of an insufficient knowledge of the properties of semiconductors, and, closely related to this, because the technology for the preparation of the needed high-purity single-crystal material had not been developed.

Although there is no unique approach which will guarantee success in the area of invention, the history of the past does suggest some promising approaches. One of these is the re-examination of ideas which, at earlier times, have been proposed and rejected.

New developments in technology may now make their realization feasible. As an example, the intense coherent light beams provided by the Laser and the extraordinary spectral sharpness in absorption and emission provided by the Mossbauer effect are examples of technological breakthrough which may render possible what had been presumed to be impossible before.

Similarly, the development of new needs warrants a study of past experience for observations which, at the time, may have seemed

casual or academic. Thus, the unwelcome accidental puncturing of electron microscope specimens by a focused electron beam is now put to good use in the electron beam machining of miniaturized solid-state devices.

To summarize, basically, invention is the creation of a new element of experience out of the association of two or more known ones.

With every such creative act, the range of such associations and thus the scope of further inventions is increased. This process is responsible for the exponential growth of our technology.

Invention is encouraged most effectively by giving inventive individuals, i.e., individuals who combine a widely ranging intellectual curiosity with the urge to produce something useful, the opportunity to acquire knowledge, to develop new ideas from this knowledge, and to translate these ideas into practical processes or devices.

Direction can be given to such efforts through the facilities that are assembled, through the qualifications of the team set up, and through encouragement and rewards, among which the practical utilization of the invention is perhaps the most effective one.

I thank you.

(Applause)

DR. GIBSON: Thank you, Dr. Zworykin.

I again remind you that if any of you have questions you would like to write down, you may pass them down.

We now turn to a second facet of the EMPLOYER-EMPLOYEE STAKES IN INVENTION, namely the "Loss of Trade Secrets Through Changes in Employment," the effects of migration.

To start this discussion I am going to ask Dr. Joseph McPherson, Manager of the Psychology Department, Dow Chemical Corporation, Midland, Michigan, to speak to us.

Dr. McPherson has been very much interested in this subject for a number of years and has special interest in creative talent and vocational guidance.

PART II — LOSS OF TRADE SECRETS THROUGH CHANGES IN EMPLOYMENT

Invited Contributors

DR. JOSEPH MCPHERSON: In my ten minutes, I have chosen to concentrate on why people steal, and consider what kinds of management behavior are conducive to a reduction of this behavior.

People steal for a variety of reasons:

1) Some steal for the excitement.
2) Some steal because they want what they steal.

3) Others steal because they *consciously* believe something has been taken from them and they wish to retaliate.

4) Others steal because of an *unconscious* motivation to retaliate against those who have wounded them; because of their attitude toward institutions and authority.

5) Others steal because they do not realize what they are doing.

6) Others seem to be stealing because of the ambiguity of ownership of an idea.

7) Others steal because the action seems sanctioned by members of their group. Others may see their supervisor as having gained his reputation by "stealing" from others.

8) At deeper levels, people steal hoping that they will be caught and punished for sins beyond the original stealing episode.

9) There may also be a history of entrepreneurs who have stolen from inventors which gives rise to the "let the inventor beware" concept which could promote certain of these kinds of stealing.

You have already come to the conclusion that there is overlap in this arm-chair categorization of stealing behavior, but this loose classification is useful since it points up a need to develop a many-faceted program for the protection of both the inventor and his employer from the sins of each of them.

Now let us consider the remedies for this set of conditions. When I consider these remedies, I prefer to hold in my mind a concept that is not flattering to our society, a concept that states that there is a wide range of individual dispositions to steal ranging from finding stealing necessary to do, difficult to resist, to being usually honest, to being almost always honest, to being completely honest. Once we believe that we have a person placed on this honesty disposition scale, we would then encounter many other factors that would affect the manifestation of his stealing disposition, but nevertheless, I do find the concept useful in considering remedies. In general, we need a program that will punish the offenders, give the persons teetering between honesty and dishonesty ample rewards for their honest behavior so it will be reinforced, and punishment for misbehavior, and also provide adequate reward for the continually honest so they will stay at this fortunate end of the scale.

My main recommendation has to do with the proper treatment of the currently honest and almost honest. I have listened to many scientists and engineers explain the kind of conditions that capture their loyalty, and I realize that the desire for certain kinds of recognition and achievement, increased responsibility and advancement are extremely important although the scientist is not very apt to ask for

these rewards if he does not receive them. Fundamental to my desire to have a proper kind of reward system operate is my belief that although the Golden Rule, "Do Unto Others As You Would Have Them Do Unto You" is an admirable, practical rule to follow, I prefer the Silver Rule, "Do Unto Others As They Would Be Done Unto," and this rule is a little more difficult to apply because to apply it, it is necessary to take the time to listen to another person long enough to understand what events he considers satisfactory. Applying the most popular formula gleaned from reading the current personnel journal is not nearly as effective as really getting to know an individual and what he wants. There are a variety of recognitions that can be given once there is a diagnosis of what a person perceives as rewarding. Some may prefer private trips to particular scientists, rather than attendance to conventions; another may need most desperately to know the results of the application of his ideas . . . he may wish very much to have a chance to defend his ideas. Another may need some real knowledgeable sharing of his dreams of what his research results could produce. Often an effective dreamer yearns for a partner to share his dreams. Often an inarticulate and bright person needs a selling partner or supervisor he can trust. Sometimes taking some political action on behalf of another man's idea, when he approves, is a most rewarding activity. So let me repeat my first recommendation then:

I—EFFECTIVE INTERACTION BETWEEN SUPERVISOR AND EMPLOYEE IS THE BEST WAY TO COMBAT STEALING—The first recommendation requires a boss to discover what an employee wants and give it to him. Often a supervisor can't give an employee what he wants and needs. So we should expect the employer to be close enough to a man to know the ratio of disappointments to failures. If the man sought a position and was denied it (and when there was little difference between the man's qualifications and those of the man who received the promotion), he has had financial reverses, his father died and left his mother alone in Carmel, California, he and his wife came from California, the winter has been bad in Michigan, he is invited to address a section of a scientific society in San Francisco, and the invitation was extended by a scientist employed by a competitor, then if I was his supervisor, I would begin to worry about this employee leaving. So my second recommendation calls for a diagnosis and sensitivity to his failures as well as his successes for their possible impact on his morale.

II—BE SENSITIVE TO THE FACTORS THAT DIMINISH AN EMPLOYEE'S LOYALTY—Any reasonable practical set of recommendations for combating the kind of stealing mentioned at the beginning must include a recommendation to discover the psychopath and once discovered, take effective action against him. The psychopath steals for excitement, for gain, and as a substitute for an inability to establish better relationships with society. It is unlikely that simple psychopaths will be your problem in stealing trade secrets, but the smart psychopath who has gotten through school on his charm, who has discovered what kind of entries in an application blank get brownie points, who knows how to take data from others and call it his own, needs to be caught. The psychopath crumbles under close scrutiny, both at the time of hiring and afterwards. The need for this kind of scrutiny is another factor that promotes the idea of effective knowledgeable interaction between boss and employee. Once discovered I favor drastic forceful measures. So my third recommendation is:

III—DIAGNOSE PSYCHOPATHIC BEHAVIOR AND PROTECT YOURSELF AND YOUR PEOPLE FROM THE ACTIONS OF SUCH PERSONS—I believe that many of our people who really fall close to the positive end of the honesty scale often commit errors of giving away information out of ignorance. The case studies that I have read and heard about suggest that many young and perhaps not so young men are not aware of the tactics of the unscrupulous. I would like to make required reading for each young researcher the *Merck Review* article, "Industrial Espionage . . . Another Risk of Research," the J. Edgar Hoover article from the *Harvard Business Review* entitled, "The U. S. Businessman Faces the Soviet Spy" and the 1963 *New Yorker* article on the "Annals of Business, One Free Bite." These articles are not dull reading—just as exciting as a murder mystery. I hope we won't permit our middle-class standards of not talking about bad things to prevent us from pursuing our educational responsibilities.

Included in this training program, in addition to reading the articles cited above, should be information about: the gullibility of many inventors who are so glad to get their idea worked on that they will give it away, information about the lack of protective patent laws in other nations, insight into the projected amount of wasted time in court action, understanding of how much money and other nodules of creative endeavor are required to make an idea profitable so the inventor can

understand how much he is really giving away, and he also needs to see his invention from a world point of view (what it means politically).

I would also hope that the exit interview for scientists would include in the preparation for the interview an assessment of the nature of the secrets the employee carries away with him and include in the interview a discussion of the issues involved in avoiding giving trade secrets away. If the person has not had the suggested training, then some written materials could be given to him at this time.

I also hope that every research organization will have within it those who do see the implication of an idea and can see to it that both management and the inventor see what they really have, so adequate protective measures will be employed. I am sure a few inventors have failed to see the implications of their own inventions. So, my fourth recommendation is:

IV—EDUCATE SCIENTISTS ABOUT THE TRADE SECRETS ISSUE—For those persons whose stealing behavior is a result of deep-seated personality problems and when these same people are bright, well-trained and capable of considerable contribution, and a valuable national resource, I hope we will not only protect ourselves from them but also help them receive the kind of psychiatric assistance they need.

Finally, I conceive of a management position on this issue—a position that requires simultaneously a keen desire to attend to the real needs of all personnel including the scientists and a sophistication that prevents this honest motivation from becoming asinine.

(Applause)

DR. GIBSON: Thank you very much, Dr. McPherson, for a very stimulating and incisive talk.

Our next speaker is Dr. James H. Williams, Assistant to the General Manager of Lederle Laboratories, a Division of American Cyanamid Company, who has come up to this position through the career of a research chemist, also adviser to the patent department, and director of research of the Laboratory. I think he can see this problem from various angles.

Dr. Williams.

DR. JAMES H. WILLIAMS: Thank you, Dr. Gibson.

Ladies and Gentlemen: I appreciate the opportunity of participat-

ing in this discussion. The subject is current and relates to the welfare of our free enterprise system.

Over the past few years there has developed a growing concern, on the part of many of us, at an apparently alarming increase in the loss to industry, of the fruits of its research and development. This concern has manifested itself in articles published in the lay press, feature stories in the magazines, public utterances by officials of affected companies and conferences such as this. It has been stimulated by an increasing number of Federal and State Criminal Prosecutions and Civil Actions brought by the affected companies in an attempt to stem the tide.

Speculation as to why there should be such an increase causes us to focus attention on the phenomenal growth of American industry over the past two decades. Research expenditures in the United States according to figures published by the National Industrial Conference Board have risen from $5.1 billion in 1953 to $13 billion in 1960. Currently, the country is spending at the rate of $16 billion per year and it is estimated that by 1970 the figure will be as high as $25 billion. Industrial firms account for about 76% of the total performance.

This upward thrust of American technology which has facilitated the burgeoning of the pharmaceutical industry, the electronics industry and the aerospace industry among others has led to a tremendous increase in the number of scientists and engineers engaged in the search for new knowledge and concomitantly in an information explosion, the handling of which has itself brought problems. Again referring to the report of the National Industrial Conference Board, in 1960 some 400,000 scientists and engineers were engaged in such work supported by over 700,000 additional workers such as technicians, craftsmen, clerical and maintenance personnel.

Thus, in view of the increased amount of information being collected, much of it being in the nature of trade secrets, the increase in personnel involved and the unchangeability of human nature one would expect unfortunately to see an increase in the theft of trade secrets, on behalf of those who are unable to keep up with the rapid rate of progress. This, indeed, appears to be the case, and there is no doubt that industries, which are most dependent for their competitive position, upon the quality and quantity of research and development are those most prone to the depradations of the trade secrets thief. These would include the chemical, pharmaceutical, electronics and aerospace industries as prime examples.

In the electronics industry, according to David Allison in *International Science and Technology,* December 1963:

"There is a natural transfer of ideas, even trade secrets, that happens because these industries live on ideas and because of the easy flow of talent from one company to another."

Not all industry executives are alert, as yet, to what is going on, perhaps in part because they have not been directly involved and in part because of the difficulty in many instances of distinguishing between trade secrets and personal skills in a rapidly moving technological area.

Surveys such as that published by Furash in the *Harvard Business Review* in 1959 point up this situation. Of 200 company executives questioned, 27% reported that spying and other types of undercover activities had recently been discovered in their own industries.

However, practically all felt that little or no information about competitors is obtained from their hiring of employees. These same executives, nevertheless, felt sure that their competitors were guilty of practicing this activity to a considerable degree.

It is difficult to know whether this indicates confusion on the part of the executives or whether they simply did not care to admit the possibility of involvement by their companies. Be that as it may, there can be no doubt that despite published accounts of most ingenious and sophisticated espionage devices, the most expeditious way of obtaining the trade secrets of a competitor is to hire informed employees who are willing to disclose the secrets of a former employer or else to purchase them from individuals or rings which are in the "business." These individuals or rings, in turn, get their information primarily from unfaithful employees.

Recent cases of industrial espionage within the pharmaceutical industry point this up in rather spectacular fashion. I refer in particular to the case of *American Cyanamid Company* vs. *Fox et al.,* recently concluded with the finding that Fox stole from Lederle Laboratories, a Division of American Cyanamid Company, hundreds of secret documents, trade secrets and antibiotic micro-organisms valued at millions of dollars. Testimony relates that the secrets were sold by Fox and an international ring of espionage agents to companies operating in foreign countries, notably Italy, which do not have effective patent protection for pharmaceuticals.

Fox, a trusted employee of Lederle, flagrantly violated his employment agreement by stealing during his period of employment, and subsequently inducing other employees to steal cultures, trade secrets and know-how from Lederle relating to the manufacture of the

broad spectrum antibiotics including chlortetracycline, tetracycline and demethylchlortetracyclines as well as the anti-arthritic steroid triamcinolone. Subsequent to the original tip that Fox was engaged in wrong doing, Cyanamid was forced to spend several hundred thousand dollars digging out the facts both in the United States and abroad in order to bring action in the civil courts. The successful conclusion of the civil suit, however, does not conclude the matter. A Federal grand jury has handed down a criminal indictment against nine persons who have been involved in this sordid business. We are hopeful that this will put a stop to the operations of the international ring which has been involved, but, it should be noted, to paraphrase a well-known maxim of the Law of Torts, that these "dogs had quite a bite" before it could be proved that they were vicious and needed to be restrained.

With havens available abroad and the down-grading of the patent system in a number of countries, it becomes almost impossible for an injured party to close the barn door and recover its commercial position once the "horse is stolen." Other companies can recount similar stories.

It should be emphasized here that not all loss of trade secrets is due to individuals deliberately leaving a company with full intent to seek financial or other gain by purveying confidential information to those not entitled to it.

A great deal of information classified as trade secrets or confidential know-how is undoubtedly passed along by employees who are basically honest but who have not been made adequately aware, either by the new employer or the old, of the responsibility they have to protect the rights of a former employer. They transfer, feeling that all the information they have accumulated is theirs to pass along or utilize as they see fit. Both situations present problems.

Two questions face us, namely: 1) how can industry protect itself, before the fact, without unduly circumscribing the freedom of the scientists or engineers, and 2) are present laws adequate to deal with the situation after the fact.

With respect to the first item there are two ways available to a company to protect its proprietary interest in the results of research and development, namely: 1) to file patents thereon if possible, or 2) to keep secrets really secret.

Most companies active in research file for patents as a standard practice in the hope that, when issued, they will form a bulwark against misappropriation of the results of their research effort. However, there exist many loopholes for the unscrupulous which cause us

great concern. Nevertheless in most industrialized countries, the patent system provides for remedies against infringement. During pendency, they fall into the classification of trade secrets.

With respect to the second approach, research minded organizations face a choice, internally, between the benefits which are felt to flow from free exchange of ideas and information as a means of stimulating research effort, and the imposition of more and more restrictions.

The better choice would appear to be to retain freedom but to undertake methods of making employees more cognizant of what is expected of them in the way of preserving confidentiality and being aware of the need to be conscious of security measures.

There is no way available to enable us to determine, ahead of time, which employees are disloyal during employment or which employees are most likely to divulge to others either wittingly or unwittingly the trade secrets of a former employer. Therefore, means used to dissuade employees from the practices which we have deplored must be applied generally to all employees. Such means may be useful not only in guiding an employee but also in establishing a background of security which is essential as proof of the existence of trade secrets if a company is later forced to seek remedy in the courts.

The steps I have in mind start when the employee signs an employment agreement. The employer should emphasize the need for confidentiality with respect to the company's business. It is not necessary for the employer to particularize at this point; it is sufficient that the employee be made fully aware that he will have trade secrets in his possession as a normal result of his employment, and that these trade secrets belong to the employer.

While there is no consensus as to the extent to which an employer should go in the matter of security procedures, there are a number of possible steps which serve to make the employee more aware that he is dealing with confidential matters and which serve to increase security. They include:

1) Security checks on all employees.
2) Careful control of visitors.
3) Clearance of speeches and papers.
4) Placing of confidentiality legends on documents distributed internally.
5) Limitation of access to highly important documents.
6) Marking of all blueprints, operating procedures and specifications.

7) Control of notebooks. These should be turned in when no longer in use and certainly when the employee leaves.

When an employee leaves a company he should be reminded of his contractual obligation not to disclose confidential information to anyone and should be expressly requested to turn in any company records or papers which may be in his possession.

It is important, of course, that the employee's contract with the company contain a specific statement of confidentiality and preferably a statement of agreement by the employee not to work for another in the same field as the one he is leaving for a limited stipulated period of time. This last has long been held by the courts as one of the stronger safeguards against loss of trade secrets.

Thus far our concern has been primarily for the employee's last employer, but we must also concern ourselves with the other side of the coin, namely that restrictions on an employee cannot be made so rigorous as to inhibit his freedom to earn a living and the right of the new employer to gain maximum benefit from the general knowledge and experience the new employee brings with him.

During a period of employment a reputable scientist or engineer accumulates technical skills and general know-how which constitute part of his stock in trade. Herein lies part of the problem. That is, how to distinguish between the know-how which belongs to him and that which belongs to the former employer. The courts take a dim view of restrictions on an individual's rights which they consider to be overreaching. However, in general, good will on the part of the employers involved and the employees can easily obviate any difficulty in most instances. Untenable situations do arise, however, when an employee accepts a position with a competitor involving work identical or very closely related to his former job.

After the facts indicate that trade secrets have been stolen, the only recourse open to the injured party is, of course, the courts.

Currently the trade secrets of industry have no specific Federal statutory basis for their protection. The United States courts, of course, may apply the Criminal Code in situations which involve injury to the national welfare or where the act involves the theft and transport across state lines of tangible property valued at more than $5,000.

The present trend is to obtain a clarification of the larceny laws of the various states to make it clear that it is the intent to include under the term property as usually stated therein, intangible property. Such a clarification has been included in the New York Penal Code effective July 1, 1964. Section 1296 now includes the theft of "property of any value consisting of a sample, culture, micro-organism,

specimen, record, recording, document, drawing or any other article, material, device or substance which constitutes, represents, evidences, reflects or records a secret scientific or technical process, invention, or formula or any phase or part thereof. A process, invention or formula is 'secret' when it is not, and is not intended to be available to anyone other than the owner thereof or selected persons having access thereto for limited purposes with his consent and when it accords or may accord the owner an advantage over competitors or other persons who do not have knowledge or the benefit thereof."

There is no help here in situations where secret information is committed to memory and transported in the mind to a locale where the information may be used or transcribed and sold. We must still turn to common law remedies in such instances.

Pending further development of the statutory approach, the remedy will still be in the civil courts where successful prosecution leads to injunctive relief and recovery of damages, if possible. Since recovery of damages, particularly if the damage occurs abroad is often well nigh hopeless, all that results is a slap on the wrist of the defendant and an admonition not to do it again. This, we submit, is not nearly enough to dissuade the type of individuals who deliberately engage in the practice of stealing trade secrets.

Thank you.

(Applause)

DR. GIBSON: Time is passing very rapidly. Our last expert on the subject of loss of trade secrets through changes in employment brings a new background to the discussion. He is a patent attorney, Director of the Patent Department of Monsanto, and is now a Vice-President of Monsanto Chemical Company.

It is a pleasure to introduce Mr. J. Russell Wilson, who will continue the discussion on this subject.

MR. J. RUSSELL WILSON: Mr. Chairman, Ladies and Gentlemen: Since we are losing time I will eliminate the story I was going to tell.

(CHORUS OF VOICES: No.)

Loss of trade secrets through changes in employment do occur. One thing is sure in my mind, that unless a company really works at the problem of preserving its trade secrets and confidential technology, the loss will be significant.

These losses in my experience, and also as the previous experts have pointed out, result from individuals in two broad categories.

The first involves the individual, whether he be employer or employee, who has little or no regard for professional ethics. They are individuals who make or solicit others to make unauthorized disclo-

sures, knowing full well that trust and confidence is being violated. Their loyalty and ethics have a price. These are usually the situations that get into the courts, and we hear about them.

The second category, and this is the one I would like to dwell upon mostly, involves the individual whose professional ethics are good and cannot be bought, but who is uninformed or ignorant on the subject of industrial property rights or trade secrets and the damage that will be done by an unauthorized disclosure.

Put another way, the second category relates to those individuals who have not been taught the difference between trade secrets or confidential information, on the one hand, and the right to use their professional skills and experiences with any employer.

The lack of proper education goes to the heart of this type of unauthorized disclosure. And I believe that the losses in this area from this type of individual are far greater than we generally recognize.

I would like to illustrate this by one of my most recent experiences. A few months ago we received a letter in Monsanto for the purchase of a few pounds of a rather complicated chemical compound.

The identity of this compound was spelled out in great detail. We were making laboratory quantities of this product and using it as the key intermediate in the preparation of a series of new compounds and products that were in the middle of our herbicidal and insecticidal program.

The identity of the key intermediate would not be apparent by inspection of the final product because of the chemical reactions that take place in the processes. The key intermediate was indeed a trade secret, and very important to the success of this whole program.

Obviously a leak had occurred, and an investigation revealed the following:

About a year prior to this letter we had hired a chemist who was formerly employed by the would-be purchaser and at Christmas time he had returned for the holidays and met up with some of his former associates who were working for the purchaser. And apparently they went out for a short beer somewhere.

The Monsanto new employee was told by his former associates that they were attempting to synthesize a certain line of new insecticides and herbicides, but were having trouble.

This turned out to be the identical new line of products that we were working on. So the new Monsanto employee indicated that he had seen a few representative samples of these products made by an associate in an adjoining laboratory, and that we had been able to overcome the chemical problem in the synthesis by using this partic-

ular key intermediate in connection, and he suggested that they might write Monsanto and get a sample. (Laughter) Of course there were mistakes on both sides of this picture, but I am personally convinced that there was no desire to be unethical, or to make an unauthorized disclosure.

When the Monsanto man was confronted with this situation he appeared to be proud of the fact he was now working for a group that was so far ahead of his former associates. And he just couldn't resist the opportunity to brag a little bit.

He had no apparent understanding of the damage that had been caused.

This is not an uncommon experience. These gentlemen were excellent chemists, were trustworthy in all respects, but had received improper training on the meaning of ethical ethics and the value of professional ethics and the value of trade secrets.

What can be done to minimize this?

I am sure that every company has its own approach to the problem. I don't know that our approach is perfect. But at least we have made the effort.

We have prepared what we call a security guide. Our employment contract specifies that an employee acknowledge receipt of this document and read it.

Some of the things included in this eighteen-page document might be summarized as follows:

It has a definition of trade secret, illustrative examples of trade secrets, the importance of trade secrets to Monsanto, and the damage that results from leaks or unauthorized disclosures.

It attempts to distinguish between the right of the individual to use his professional skills and accumulated knowledge with any subsequent employer and the desire of our company to safeguard its trade secrets.

It also includes the type of release that the employee will be asked to sign on termination with respect to the surrender of documents and reports.

And it also outlines the practice followed at the plant locations with respect to outside designers, fabricators, salesmen, and insurance inspectors.

We believe that this type of information is very helpful in making the young scientist and engineer security conscious. Usually it is his first introduction to the concept of professional ethics.

If litigation should arise concerning an unauthorized disclosure, I think this guide should be a useful aid in showing that we do have

trade secrets and that we have exercised reasonable diligence to protect them.

In conclusion I would like to make one suggestion. I am not the sole inventor of this idea. And I see the co-inventor out there in the audience, a distinguished member of the patent bar.

I believe that the Research Institute of The George Washington University could make a real contribution by encouraging a few of our universities to add a course for engineers and scientists on the subject of professional ethics.

This is important to lawyers and doctors, and I don't know why the scientist or the engineer should be excused.

If this could be started in a few universities, I believe that the idea would grow.

I thank you.

(Applause)

DR. GIBSON: Thanks very much, Mr. Wilson. This is a subject that is getting us into quite deep waters, and I am reminded of a discussion we had in a committee of the American Association For The Advancement Of Science not very long ago in which we came to the same conclusion, namely, that it was time that in the schools of science and engineering in our universities we at least have introductory courses on the manners of technical communication and relations with employers or employees.

We try to keep away from the term ethics for the moment. We felt if people observed decent manners in this it would be something.

At any rate it does look like a subject for really much deeper study in the future.

I think at this time we will turn to the third part of this morning's program and ask for comments from members of the Research Staff of the Institute who are sitting here on my left.

I have a volunteer already.

PART III — PANEL DISCUSSION AND QUESTION PERIOD

Research Staff Contributors

DR. ROBERT B. BANGS: I should like to compliment Dr. Tishler on a very good talk and add a small footnote to it. As many of you know, Congress gave inventors a limited tax incentive in 1954 by allowing them capital gains treatment on proceeds from exclusive licenses to their inventions.

A study we made in the Research Institute several years ago found that only one inventor in seven derived any benefit from this tax

incentive. A majority of inventors are salaried and receive no special or extra compensation for assignment of their patent rights to their employers.

Salary of course is taxable as ordinary income.

Independent inventors, although willing to enter into exclusive licensing arrangements, because of the tax advantage, often lack opportunity to make such arrangements on favorable terms.

Productive companies that are anxious to reward inventors and to see that they get the tax break Congress has provided for them, can do two things: One, pay patent assignment bonuses to their employees who invent. These will be taxable at the bargain capital gains rates.

Second, enter into more exclusive licensing arrangements with outside inventors so these outsiders can realize the tax concession.

Thank you.

DR. GIBSON: Mr. Green?

MR. JOHN C. GREEN: In common with the audience I have been impressed with the presentations by Dr. Tishler and Dr. Zworykin. I think we should put their comments in perspective, though.

They are speaking for large, capable, financially sound, institutions with national and international markets. They are pioneers in science and in the application of science.

But we really have at least three scientifically stratified groups in American industry. We have the giants; perhaps there are a thousand of these. Examples are General Motors, RCA, GE and the rest. And they are capable of attracting the inventor, of coddling him, and these strategies have proven successful.

But then you have a second category, one I would like to slip over, because it weakens my argument.

This is the category of the inventor who is scientifically trained, who goes out and creates his own firm. There are many of these; they are usually small, and often they have one customer, the government.

Then there is the third category of firms, and numerically this is much the largest. There are several hundred thousand small and medium-sized firms in the United States, manufacturing firms, which are doing prosaic work. They are not saving lives, they are not conquering space, they are not creating great new industries. And they often are not capable of attracting highly trained people and retaining them.

They don't have the challenges, they don't have the incentives. Further, they don't have the financial stability that these giants have.

While I think it is important to put on the record this intelligent forward-looking philosophy of big industry, I seriously question whether much of it is transferable to many, many small and medium-sized firms.

DR. GIBSON: Would any other member of the staff care to comment? Dr. Rossman?

DR. JOSEPH ROSSMAN: There is one facet of trade secret disclosure which hasn't been mentioned which I should like to call your attention to, that is based on the old saying "when the wine is in, the secret is out."

I have noticed during meetings of technical and scientific societies that research people often get together in a huddle and discuss problems of mutual interest.

It frequently happens that many companies set up new research projects after intensive market surveys and other studies pointing up certain areas of research which haven't been adequately explored and which may offer commercial markets.

During such meetings these scientists and research people frequently will innocently disclose that their company is going into such identified new areas without actually disclosing any specific technical information, but merely indicating the new path on which the company may travel. This in itself gives away trade secrets.

Dr. McPherson's comments were very interesting regarding, shall I say, the psychology of stealing. He also points up the necessity of understanding the creative worker and his psychological needs.

I believe it is very urgent today to understand the inventor working in industry so as to provide him with a favorable environment to produce the maximum on his job.

Rewarding these creative people by ample salaries or other rewards is frequently not enough. There are many other psychological problems.

For example, a problem rarely mentioned of creative workers is their home situation. For example, an author dedicated his book to "my wife, in spite of whom I have written this book." (Laughter)

Many research workers, and I have spoken to many of them, do have problems at home. The wife may be ambitious and demanding, she would like to keep up with the Joneses and she thinks that her husband, who is a genius, is not being rewarded enough, therefore he should do what he can to get increases and so forth.

There are many influences outside of the job which I think are critical to a creative worker. Creativity has to be almost uninhibited. Any slight frustration may reduce his productivity.

The only other comment I would like to make is to call attention to the recent Industrial Conference Board report entitled "Patent Counsel In Industry." They have made a survey of about 250 companies in regard to their practices in handling patents and also how they reward their employees. The results appear to confirm similar findings that we have found in our own study, which has been published in Volume 7, Number 4, of the Institute *Journal.*

DR. GIBSON: Any further discussions from the Research Staff? Dr. Siegel?

DR. IRVING H. SIEGEL: I wish briefly to call to your attention some material which I have developed and which is pertinent to various comments already made by Drs. Gibson, Tishler, and Zworykin.

My research discloses the unequivocal persistence of the sole patentee. The individual remains outstanding despite the increase in team effort and despite the widely advertised shift from self-employed inventors to employee-inventors.

I do not deny that the number and proportion of joint patents have increased in recent decades. What impresses me more is that single inventors still dominate patent records strikingly in virtually every field of endeavor.

I should like here to mention two of several articles I have written on the subject in the Institute's *Journal.* One, in the Spring 1964 issue, is called "Dominance of Sole Patentees and Computer-Related Technology." About this paper I shall also say something tomorrow. The second relevant paper, on "Individual and Joint Patent Production," appeared in the Summer 1962 issue. I shall now indicate something of the nature of my findings.

First I comment on atomic energy patents. I have studied 1,870 of them, and I find that more than half—almost 55 percent—are credited to single inventors.

I have studied IBM's experience still more extensively. I have analyzed 2,100 patents recorded in the *IBM Journal of Research Development* and of this total, 68.9 percent are credited to individuals.

Curiously, a similar proportion holds for the Applied Physics Laboratory of Dr. Gibson. I have been able to look only at several issues of the young *APL Technical Digest,* which reports patent information. I find that 71.1 percent of the patents listed in the issues I have been able to peruse are attributed to individuals.

Additional examples could be given to underscore the continuing prominence of individuals in a world of teamwork. The statistics seem to say that individual contributions to a joint achievement are

not only unequal but are also recognized as unequal. I doubt that the figures reflect simply a bias on the part of corporate research management toward arbitrary overcrediting of selected individuals in joint undertakings. On the contrary, I suspect that any bias would work in the opposite direction—dispersion of credit as widely as possible.

The prevalence of team research evidently confronts administrators with both pitfalls and opportunities. Management should utilize such discretion as it is afforded in the group context to enlarge incentives for inventive activity. In unambiguous instances of unequal individual contributions to a joint research product, credits should be apportioned unequally. Where circumstances allow wide latitude to management in the crediting of patentable inventions, the rules adopted should not only be considered fair by affected team members but also encourage the future uninhibited disclosure of creative ideas.

Thank you.

DR. GIBSON: Dr. Sanders?

DR. BARKEV S. SANDERS: I think I would prefer that the floor discussion be given the time.

DR. GIBSON: We have a number of questions which have been submitted. One, unsigned, which however I think is very provocative, might be thrown to the whole panel in a moment, and that is this:

"May we have some discussion of the extent of resort to trade secrets versus patenting. Is reliance on secrecy increasing?"

Would anybody care to make a short remark on that?

DR. TISHLER: I will give our industry point of view. I would like to say we rely very heavily on patents to protect our position—and on trade secrets on the know-how where patents are not applicable.

Let me say this, that to attract really first rate scientists, we must give them the opportunity to publish. They have to receive new knowledge from the scientific journals; in turn they have to contribute to them. This has been a policy of the pharmaceutical industry.

Without the enormous amount of basic research going on outside its laboratories, the pharmaceutical industry would be helpless today. We feel it is a two-way street. But on something directed toward a product, we have to have patents in order to give the scientist the opportunity to publish.

DR. GIBSON: Dr. Bangs?

DR. BANGS: I have no idea whether reliance on trade secrets is increasing, but several years ago we got reports from a number of corporations that had substantial patent portfolios.

One of the questions we asked them was the extent to which they

patented all possible subject matter, or kept it as trade secrets. The results were very interesting because they showed that the custom was quite different as between one industry and another.

And in some industries it was customary to keep a substantial volume of the technical material as trade secrets. In others much more of it was patented.

So I would suggest this does vary a good degree from one industry to another.

DR. GIBSON: Is there any further discussion?

Invited Contributors

DR. GIBSON: Dr. McPherson seems to have come in for the bulk of the questions here. One of them is a request that he repeat the articles he cited on trade secrets, including the *Harvard Business Review.*

Would you like to do that?

DR. MCPHERSON: Surely.

The *Merck Review* article, "Industrial Espionage and Other Risks of Research"; the J. Edgar Hoover article, *Harvard Business Review,* "The U. S. Businessman Faces the Soviet Spy"; 1963 *New Yorker* article, "Annals of Business, One Free Bite."

DR. GIBSON: Other questions have been posed to you. This question is by Mr. Jackson, who asks:

"You seem to ignore what may be the most prevalent problem, namely, the professional agent planted in the company. You seem to talk only about amateur activities."

DR. MCPHERSON: I am not smart enough—yet—to know much about the professional agent. So I think that some of my colleagues can talk more about that.

I think this Conference will make me more alert to the presence of such a person, but someone else needs to answer that.

DR. GIBSON: Any experts on professional agents here?

DR. WILLIAMS: I don't claim to be an expert, however from our own experience in connection with the Fox case, and Merck's experience in connection with some of theirs, there are people, reputable scientists at one time, who have now taken up the status of being professional agents, working primarily through currently employed individuals, rather than working their own way into the organization.

In connection with the Fox case, we have at least located a group of people who, while operating under the guise of running a small company, have gone to the extent of placing an advertisement in *Industrial and Engineering Chemistry,* for example, encouraging em-

ployees of companies to provide them with information which is in the nature of trade secrets, with the promise that they will be carrying it only into countries where the patent system doesn't apply. You can figure it out for yourself.

Of course we also have the case of a school being established in Japan to train individuals in the techniques of espionage.

DR. GIBSON: Would anybody else like to comment on this subject? Dr. Siegel?

DR. SIEGEL: I have had occasion to review for the Research Institute the annual reports of many corporations over a period of years. I have been surprised at the failure of organizations to take advantage of the unique opportunity to tell stockholders the significance of patents and similar types of intellectual property to the companies involved.

In this connection I wish to point to two examples that may be of some interest to you. *Better Living,* the house organ of duPont, carried in the March-April 1964 issue a very good little article on patents, designed for the company employees. The 1964 Annual Report of Sperry Rand Corporation, which contains 33 pages, devotes 6 lines to the ENIAC patent, "considered to be of basic importance in the computer field" and issued in February 1964 after 17 years of pendency.

DR. GIBSON: Is there any further response?

DR. ROSSMAN: May I ask a question?

DR. GIBSON: Yes.

DR. ROSSMAN: Apropos of Dr. Tishler's comments, his company permits free publication of their research results. I should like to ask this question if I may. As I understand it the scientific journals give priority credit to scientists only on the basis of the date of submission of a manuscript to any particular journal.

But they will not recognize the filing date of a patent application as establishing scientific priority. Of course it is well known that companies do not permit publication of research results until the entire patent situation is taken care of by suitable filing.

That means that there is delay in publishing by a scientist in scientific journals. I wonder whether Dr. Tishler could give us some comments on his experience on this point.

DR. TISHLER: I think we have to weigh the magnitude of the patent—that is, the material that is being patented versus its scientific importance.

We do have a system of clearing publications which involves our patent department, production people, marketing people. They all have something to say about it.

If there is an objection to publication, there is a place for appeal.

It can be taken to the president of the company himself, in which case the matter will be weighed and decision made at the highest level.

In my talk I mentioned that we never turned down a publication because of the possible effect on our economy. But I should amplify that statement to say we have in a few cases held manuscripts up for a short period of time. I am not sure that I have answered the question completely. Mr. Wolk, the head of our patent department, is here and he could add to this.

MR. I. LOUIS WOLK: Some of the manuscripts do encounter a certain amount of delay, and that depends upon performance of our own patent department.

Our objective is to be reasonably current so that delay is as short as possible.

However, as there are important developments which are related to commercial products, some delay may occur. As Dr. Tishler pointed out, the objective is to obtain publication at as early a date as possible in order that the scientists may achieve the desired recognition.

Dr. Rossman is correct in his point that the filing of an application does not confer scientific priority, and that is to be regretted.

But I think it is an understandable policy.

DR. GIBSON: There are two more questions here to Dr. McPherson. They relate to the same topic:

"Has the key researcher the right to take a better job from a competitor and still remain high on the honest end of your honesty scale?"

The second: "Do you suggest that all research workers be required to take psychology tests?"

And a correlated question:

"Have any people with sensitive positions refused to undergo such examinations? If so, what is done about it?"

Rather direct questions. Answer them if you like.

DR. MCPHERSON: I think after the researcher has had Mr. Wilson's course in tutoring him, then I think I would be comfortable with him taking a better job from a competitor, and then I think he would remain high on the honesty scale.

That fellow that you talked about, the industrial espionage agent, I have been thinking about it since you asked the question. I don't know what I am going to do with these remarks. But how am I going to find out which one is the industrial espionage agent?

If he seems to have a considerable amount of money to entertain beyond his base salary, I would think this might be a clue. (Laughter)

If he maintains an extensive file of materials beyond that which

he would need for his own research endeavor, I think that would be a clue.

So I do think that you are all smart enough to develop your own lists of diagnostic categories.

Do you suggest the research worker should be required to submit to psychological examination from time to time to determine what is currently bothering him? No. I want to get people to looking at each other openly and decently so they can do their own diagnosis.

Have any people in sensitive positions refused to undergo such examination? If so, what is then done? I find them amusing. Some do resist. One person collected a laboratory of people who were all resisters. (Laughter)

He has since changed his opinion. (Laughter)

DR. GIBSON: Apropos of your remarks, Mr. Joe Genevese of Rabinow Electronics, would like to have a copy of the security guide, if it is not confidential. (Laughter)

I suggest that that might be done by personal contact at the end of the session. As we are past 12:00 o'clock but haven't had any discussion from the floor except these few questions, which were selected, I would like to ask if anybody in the meeting has any questions that they would like to ask.

Would you use the microphone, please and give your name.

MR. HOLST: I am Mr. Holst. I understand that the codes of a number of civil law countries have statutory provisions which we do not have in common law, that would afford some kind of protection to confidential data.

I believe that these statutes normally address themselves to unfair competition.

Have any of the drug companies had any experience trying to use that kind of law, for example, the German law? I understand you are more interested in Italy. A law which attempts to prevent the sale on the one hand, or the use of trade secrets by unauthorized people. Have they proved useful?

DR. WILLIAMS: I can't answer that. I suspect that we will make use of such possibilities if these cases continue. I hope we have concluded our civil case against Fox. As I indicated there is very likely to be a criminal action against him and others who have been involved.

How we are going to get at the real trouble, which is the companies, which have been using these secrets in countries where we can't get at them through patents, providing a terrific amount of unfair

competition, including the sale of material so produced to vendors in this country, I don't know.

DR. GIBSON: Any other?

MR. WOLK: I can amplify on that point. We have made a collection of the statutes of a number of foreign countries which provide for criminal sanctions in the case of theft of trade secrets.

True, many of these statutes are much more effective than our own Federal statute, and are broader in scope.

As far as actual application of these statutes, we have only had one experience and that was in Great Britain, in which a man who stole some plans for a process was convicted of theft.

In England the statute has one defect in that it applies only to theft of tangible property.

There is a book just out by Mr. Eckstrom, in this field of foreign licensing, which has a compilation of many of these statutes.

DR. GIBSON: Any other questions? (No response) I would like to bring up one which I left to the last, because it opens up a big subject. Perhaps somebody would like to make a quick reply:

"Would the Panel care to comment on the new Brown bill before Congress"—Brown is a question mark—"which in effect will do away with present day employer-employee contracts as we now know them."

MR. WILSON: Briefly summarized, I would burn it up. (Laughter)

I don't know Mr. Brown. I don't know the background. I have read the bill. I have heard several organizations discuss it, groups made up primarily of patent attorneys and industrialists.

But I think it is a very impractical thing. I believe the bill provides that all employment contracts in existence that would now require the employee to assign inventions to the employer, be declared null and void on this point, and that you must work out a new arrangement and buy from the employee his inventions.

I think you hire people for the purpose of making inventions. You place them in an environment with the necessary facilities so they can work on these problems. You present them with the problem. They would have never made the invention if they hadn't been employed.

I think this goes right to the heart of our free enterprise in our industry. It would, in my opinion, cause private industry to curtail research. I would be completely against the bill. I don't know of any individuals who support it.

DR. GIBSON: Would you give your name, please?

MRS. DE JONG: I am Helen de Jong. I would like to make two

remarks. One has to do with the fact that you were speaking a moment ago of psychology tests.

Dr. McPherson is naturally completely conversant with the necessity of these. But it seems obvious to me that in order to encourage and nurture creativity in a worker, the creative need, we should do the least of those things that a person would feel would infringe on his feeling of "don't fence me in", his privacy, and his creative initiative.

Therefore, I do not know of course how frequently psychology tests would be needed, but certainly they should be kept at a minimum in this regard.

Another thing I would like to indicate is that I have here a reprint with which many of you are perhaps familiar, and maybe some are not. I would like to insert this in the record.

This is a reprint from *The Washington Post* and *The New York Times* of May 5, 1964. It is called "Killing the Goose," and it is written by Mr. A. N. Spanel, Founder-Chairman, International Latex Corporation.

It has essentially to do with plans before the Congress. May I quote:

". . . The Congress is right now in the process of planning to hike Patent Office fees which will shut out most of the independent inventors from even applying for patents."

Then it has to do with the term of seven years which, it says here, is the average length of time it takes an inventor to put his patent to work. Which means that of his original seventeen years, he has only ten years in which to reap any reward. For the independent inventor it is no bed of roses."

There is too much, I can't quote it all. He also mentions, and this I think is something—

DR. GIBSON: Could we have that inserted in the record? Time is going by.

MRS. DE JONG: I would like to have it inserted.

(The statement by Mr. A. N. Spanel is as follows).

KILLING THE GOOSE

A. N. Spanel, Founder-Chairman
International Latex Corporation

Growing unemployment on a continuous basis is as much an economic cancer for a nation as it is for its victims. Our country is plagued with 5½ million unemployed. This number is bound to swell as automation really takes over.

President Johnson deserves our gratitude for directing himself with such zeal to this grave problem. We applaud the Presidents' plea to American Business to assume some measure of responsibility toward these unemployed.

This Nation can't afford to ease its conscience by giving handouts to people who

need work; nor do we want to see the rebirth of an updated version of Depressions' W.P.A. For such "remedies" are certain to destroy morale, self-respect and human dignity of the workless.

If ever there was a need for new enterprises, for inventors and their inventions, if ever there was time for encouraging inventors and the venture capital needed to manufacture new products, that time is now, if we are to put the unemployed to work.

Inventions Create Work

Consider the millions of people working today because of inventors like Edison and his electric light; Morse of telegraph fame; Bell and his invention of the telephone; Howe who dreamed up what became the Singer Sewing Machine; Goodyear, so famous in the rubber world; the Wright Brothers and their flying machine; Zworykin and his television inventions; Marconi, DeForest, and hundreds of thousands of other inventors who gave birth to new ideas, resulting in new factories and the enormous employment needed to man them.

Are we today encouraging independent inventors in the United States? Judge for yourself! In 1962 the number of patent applications filed by U.S. citizens and foreigners in the U.S. Patent Office numbered 90,373. In Japan, having one-half the population of the United States, the number was 214,253 in the same year!! And about 90 percent of these came from Japanese. Worse still, in our own Country we are about to kill the goose that lays the golden eggs.

What does an invention mean and who benefits from inventors? It's as intriguing a story as you'll find anywhere, for our forefathers really understood and appreciated the enormous value of inventors and their brain-children. So much so that when they framed the Constitution, they boldly put into Article I (section 8) "The Congress shall have the power . . . to promote the progress of science and useful arts by securing for *limited* times to authors and inventors the exclusive rights to their respective writings and discoveries." What a wise provision that was. It helped make America great.

The Public Benefits

As early as 1832 Chief Justice Marshall stated: "It (the patent) is the reward stipulated for the advantages derived by the public for the exertions of the individual (inventor), and is intended as a stimulus to those exertions...."

In short, the public benefits and therefore the inventor is rewarded with a patent the life of which is no more than seventeen years, assuming the courts don't knock it out before that time; and more often than not our courts have done just that in recent years!

If the inventor is lucky enough to enjoy the use of his patent for seventeen years, anyone who wants to after that, can use it without paying a cent for royalties to anybody. Whether he wins or loses, the public is enabled to enjoy anything from a washing machine to a computer with enormous savings in time and energy.

The Supreme Court has repeatedly made it clear that the public is the real beneficiary from the United States Patent System, yet there are many in the Congress who have been led to believe that it is the inventor who is the beneficiary, (if not the sole beneficiary) of patents!

Thus, instead of encouraging the independent inventor, the imaginative fellow with the ideas that could result in more jobs for more people, the Congress in Washington is right now in the process of planning to hike Patent Office fees which will shut out most of the independent inventors from even applying for patents!

This is being done under the guise of "economy" because the Patent Office is operating on a deficit of about 20 million dollars a year, which is nominal compared to the billions of dollars pumped into relief for the unemployed!

How the Goose Walks

Today, if a man has an idea that he thinks is patentable and his income is that of an average wage earner, this is what he has to do to have his idea patented:

1) He finds a patent lawyer to whom he shows his invention.

2) The patent lawyer orders a patent search from another patent lawyer or searcher in Washington, D.C. This also costs money.

3) If no one else anywhere in the world had that idea or a very similar one in all of recorded history, then the patent lawyer advises him that he has a fair chance if he applies for a patent, barring unforeseen obstacles in our Patent Office.

4) The patent application is then prepared by the lawyer but if there are drawings, these have to be ordered from a patent draftsman, which costs the inventor that much more.

5) The patent lawyer then files this application in the U.S. Patent Office in Washington and the inventor has to attach his check for $30 as the filing fee.

6) Then comes the bill from the lawyer, for all this. The cost? Several hundred dollars or more, depending on how simple or complicated the invention may be. When his patent application issues as a patent, he has to pay the Patent Office another $30. And he may have to pawn his wifes' engagement ring or sell his car to build his first working model.

Now begins the real struggle, for usually after his patent issues he has to interest people in either financing him to start manufacturing his patented product or process; or try to sell or license it to others.

That's how so many new businesses are born, giving work to so many. The average length of time it takes an inventor to put his patent to work is seven years. This means that of his original seventeen year Patent Office grant, he has only ten years left in which to reap any reward.

For the independent inventor, it's no bed of roses; and any benefits he derives he pays for in sweat, work, frustration and persistence.

Yet at this very moment the Congress in Washington is planning to hike the filing fee to the inventor from $30 to $50 and the issuance fee to $75. In addition, they propose to hit him with a brand new class of fees so that five years after his patent issues, he will be obliged to pay $50 more and on the ninth year $100 more and on the thirteenth year $150 more, all of these payments referred to as "maintenance" fees.

These new fees add up to 300 dollars! In sum, this means that the Patent Office will make the inventor pay $50 filing fee instead of $30 and $75 issuance fee in place of the present $30, plus the $300 in brand new fees, so that he will either have to have enough money to pay his patent lawyers, plus Patent Office fees of $425 or be forced to forget about his invention.

We Can't Afford This Loss

What a way to kill initiative! What a way to kill a great national asset!! What a way to discriminate against the creative little fellow, the independent inventor!!!

Obviously, the rich corporations can afford these fees thus enabling them with their hired inventors to garner new inventions and harvest their patents, while the independent inventor and the small company will be forced to give up because they will be unable to jump the high fee-fence of the Patent Office which Washington is planning to erect against them.

If we permit this to happen our Patent System and its dedicated handmaiden, the Patent Office, will exist for the benefit of those who can afford it: only well-to-do inventors and rich corporations. Thus, what our Constitution wisely gave to all the people, the fee hikers will destroy for the independent inventor and for those who want jobs.

Remember that Japan racked up 214,253 patent applications in 1962 compared to our 90,373. What a revealing story!

Does this comparison worry you? It worries us, too. We are endangering our country's future, we are failing to provide for our growing need for jobs when we permit the pinching off of new ideas, new inventions that flow from the fertile minds of independent inventors by erecting cost-walls that deny them the chance for reward that patents *may* bring them.

Frankly, the implications alarm us.

DR. GIBSON: I think we have come to the end of a very interesting session. We started off by emphasizing information explosions, which means that we are getting to know more and more all the time.

We also find that there is a little connection between that and the business of producing incentives for inventors to provide us with more and more to increase the explosion. And then we find out that we stand a chance of losing secrets by migration of inventors.

All of these questions pose to my mind a rather important problem, and it is a problem, I think, of phasing. In other words, this is a dynamic world. We cannot sit on secrets nowadays at all.

If they are not given away they will be rediscovered. Therefore, I think it means that as soon as a bright idea comes, we have to work like anything to put it into practice and reap the benefits of it. I suggest that this is a subject for research.

With thanks to all who have contributed to this session, I declare this session in recess until 1:30 p.m.

(Whereupon, the session was recessed until 1:30 p.m.)

EARLY AFTERNOON SESSION

GOVERNMENT-PRIVATE ISSUES

MR. STEVENSON: May I call our afternoon session to order.

Our afternoon session is concerned with the question of GOVERNMENT VERSUS PRIVATE ISSUES. We had hoped to have the Commissioner of Patents, Mr. Edward J. Brenner, with us. Unfortunately, high authorities have decreed that he shall be in Woods Hole, and we have not yet achieved control of a person being in two places at the same time. We are fortunate in his having provided those who will take his place. There will be two this afternoon. In the first session, which is identified on your program as Part IV, we are going to have as our moderator Dr. J. Hilary Kelley, an engineer with degrees in electrical engineering and mining, with varied industrial experience —Westinghouse, Joy Manufacturing Company, and now he is associated with the staff of the Office of Science and Technology in the

Executive Offices of the President as a technical specialist in the area of scientific and technical information.

We have asked Dr. Kelley if he would preside this afternoon as the moderator for the first part of our program, which is identified as Part IV. May I introduce, then, Dr. Kelley.

PART IV — ACCELERATING THE USE OF GOVERNMENT-FINANCED R&D

Invited Contributors

DR. J. HILARY KELLEY: Thank you very much.

As our chairman indicated, the topic for this part of the session is ACCELERATING THE USE OF GOVERNMENT-FINANCED R&D. I would like to set the stage for this topic by indicating how extensive is government-financed R&D. We are actually speaking of over two-thirds of the total R&D in the country. We are very fortunate this afternoon to have the people who are most able to address themselves to this topic.

We have with us Dr. Hugh L. Dryden, Deputy Administrator, National Aeronautics and Space Administration. We have James W. Roach, Assistant Director, Engineering Management, Research and Engineering, Department of Defense. We have Herbert W. Robinson, President C-E-I-R. We have also with us Ernest B. Tremmel, Director, Division of Industrial Participation, U. S. Atomic Energy Commission.

I want also to say that these three government agencies and departments—the DOD, AEC, and NASA—constitute a respectable portion of the government support of R&D. For example, well over three-fourths of the total government-supported R&D is the amount represented by those three agencies. So I think the people who speak to you this afternoon and who will answer your questions are eminently qualified.

In a sense this part of the session goes beyond patent considerations, and even beyond copyright considerations, because the mechanisms for passing on information from the government to the public include not only the U. S. patent system and the copyrighted journals and monographs, but uncopyrighted material, government publications, technical journals, and person to person communications. And also we must not forget the Department of Agriculture's highly successful Extension Service which has been employed over the years very effectively.

I came early enough in the last session this morning to hear the phrase "information explosion." But I was also late enough not to

detect which side you people are on, whether there *is* a problem in information explosion, or whether there *is not.* So I am going to play it safe and pass this on to the people who are on the panel.

I am going now to introduce our first speaker. Before I introduce him I want to ask you people who have questions that you pass them to the center of the aisle, where they will be picked up and brought up to the speaker's podium. After we have these presentations we will ask our questions from the floor.

I am first going to introduce Mr. Tremmel, of the Atomic Energy Commission. Ernest B. Tremmel was born in Wisconsin in 1916 and received his B.S. in engineering from the University of Wisconsin. He spent his professional career with the Curtiss-Wright Corporation and then moved to the Los Angeles office of the AEC. Then he went to the Chicago office, and finally the Hartford office of the AEC.

From 1955 to 1958 Mr. Tremmel was assistant to the AEC Commissioners. In 1958 he was appointed to his present position as Director of the Division of Industrial Participation. Mr. Tremmel.

MR. ERNEST B. TREMMEL: Gentlemen, I am very pleased to be here today. In looking at the subjects of patents and copyrights I am reminded of the story of the young minister who was assigned to a relatively new congregation. After he had been there several years, he looked at the record and saw that previous ministers had lasted only about three to six months. So in talking to his superior one day he said, "I never hear how well I am doing, but I gather I am doing all right, I have been here two years and none of my predecessors lasted more than six months." And his superior said,

"Well I wouldn't take too much confidence in that. You know, the people here really never wanted a church or a minister. You are the closest thing to nothing they ever had. So it is a compromise." (Laughter) I am real glad the subject is turning out to be on how do you get technology from government R&D into our industry.

I want to briefly say that the particular Division I head in AEC was formed about three years ago by the Commission as a result of requests from American industry which felt there was nobody in the Atomic Energy Commission that they could bring their problems to, who was sympathetic to American industry. So the Commission established the Division of Industrial Participation which I head. We have five functions. We started out being the official focal point for American industry so that any company that wanted to learn about atomic energy would start with our group, and we in turn could help them meet the right people and go to the right sources.

Our second assignment was to review the activities that the Com-

mission had built up over the years in its laboratories to see how we could transfer these to our private enterprise system.

Our third function was to report to the Commission and the Congress about how well the Atomic Energy Agency is doing in getting its business out into the mainstream of our economy.

Since then we have been assigned the contact function for state interest in the Atomic Energy programs. Also we have a dual assignment with our Division of Technical Information to carry out our spin-off or technology utilization program.

I think we in the Commission are in a little different position than some of the other agencies in that the Atomic Energy Act gave us two assignments. The first assignment was to use atomic energy for our national defense and security. The second assignment in the Act made it very clear that we should use it to benefit the welfare of mankind and to encourage our free enterprise system in the United States.

Strengthening the national defense of course has been our major effort through the years. I would say since the Manhattan Project days and the first Atomic Energy Act of 1946 at least two-thirds of our budget has been spent each year on meeting military requirements for weapons. But civilian uses were not ignored. All along there has been a parallel program of civilian uses which started when the 1946 Act was passed. The 1954 amendment to the Act was a major step towards private use, for it marked the first time a private company could own a facility that could utilize source or fissionable material.[1] Today we have before the Congress a very far-reaching piece of legislation to amend the Act to permit private ownership of fissionable nuclear materials which are still owned by the government today. This amendment would permit American industry to own the nuclear fuel for power plants.

As a result of the way the 1954 Act was written, one of our goals has been to actually create a new technology and create a nuclear industry. We have done this in a number of ways. And I think it is very interesting that in a few more than the 20 years since we first achieved a fission chain reaction we can say today that we do have a competitive nuclear industry, an industry that can produce nuclear power that is competitive in certain parts of the country with other conventional sources of energy.

I was just at a coal association meeting this week in which the New Jersey Central Power Company gave a complete rundown of

[1] Source material refers to uranium as it exists in nature, and to thorium. Fissionable materials include the isotopes of uranium and plutonium that can be caused to fission by neutrons.

their comparison between nuclear power and conventional power, and their decision to build a nuclear plant. I think this is a good illustration of how nuclear technology was moved out of a government monopoly into our free enterprise system. Today every material, product and service that is required to build a nuclear power plant is available competitively from American industry with one exception. This is the enriching of uranium in our big diffusion plants. We are hoping that in the next five years or so we will find some way to transfer one of these plants into private hands.

I will touch only briefly on what we think were the programs that achieved this because we are not talking so much about a spin-off here as we are about a direct AEC mission to foster civilian uses, of nuclear energy. This is a major AEC objective. It differs from DOD or NASA which have a major program with relatively little direct civilian application and are trying to obtain spin-off from it.

We have done this through the years in a number of ways. One goes back to 1946 when we set out upon a declassification program to take all the military information and declassify as much as we could to make it available to the public. We established a system of depository libraries around the country so that the American public could have access to this technology.

In 1954 we established our "Access Permit" program, which is a mechanism by which industry can get access to classified information, which still has to be kept classified because of national security. We can give companies clearances for their staffs and let them have access to this information if they can demonstrate this is information that could be used in their normal type of business. This program has been quite successful.

As a result the only information that you really cannot get access to is weapons information. We think this has been helpful.

A program that we think has been the most useful of all is the development of experimental and demonstration reactors. First the government built a series of experimental reactors. Industry participated in the design and construction. Then the AEC embarked upon what we called the "power demonstration program" whereby the government funds costs of nuclear research and development for a specific reactor and the utilities or industry pick up the capital costs to build a demonstration nuclear power plant and subsequently operate it.

Another principle we followed is to have big companies from American industry operate our government plants. Unlike some of the other agencies, we do not operate Commission facilities with gov-

ernment employees. We have large industrial concerns operate all of our major factories and some of our large laboratories.

I think this is important because looking back over how this has worked, I have always been impressed with how technology is transferred, more than any other way by the movement of people. The AEC has had a number of companies, and I will name some of them —General Electric, Westinghouse, duPont, Union Carbide, Phillips Petroleum—to operate some of our major facilities—General Electric and Westinghouse chose to take technology they learned under our operating contracts and exploit it in the commercial market. In many cases they transferred the nuclear technology to their commercial department, the people, and with them the technology came out of the government operations.

We have had a recent example of how this did not work. In the case of chemical reprocessing, the three companies, that had the most knowledge, of this important service for the nuclear industry were duPont, Union Carbide and Phillips Petroleum, who all operate our chemical reprocessing facilities. Not one of these companies elected to show any interest in the commercial side of atomic energy. We finally got our first chemical reprocessing plant built by the W. R. Grace Company, through their Nuclear Fuel Services division. Their plant will cost $30 million. I recall clearly what we went through during negotiations on how to start a first plant with technology the government had developed. There were many arguments against it. There wasn't enough market for two plants and one would be a monopoly. We had enough load to get one company started. Then we had to proceed to set up controls and restrictions to be sure this company did not create a monopoly until such time as the market can support competition so that we can relax our controls and let the free system operate.

This was a very challenging project. In fact I gave a speech on it, telling about helpful lawyers and unhelpful, or obstructive lawyers, to show how well a lawyer can find reasons why one can do something, or find rules that one can't do it.

The power demonstration program I think was one of the most important things we did, for we brought industry and government into partnership to take technology developed by the government and exploit it through our free enterprise system for the public benefit. We are now going through what our chairman, Dr. Seaborg, likes to refer to as a vigorous transition period in which nuclear technology is moving from the government into our private free enterprise system. The screams, aches and groans we are experiencing result

from this transition and assure us that we are moving the technology out of our laboratories into the private system of our country.

I have been impressed in studying how we transfer technology by some of these methods. Our isotope development program may be ready for a demonstration program. Dr. Seaborg recently mentioned in a major talk to American industry that he thinks the time is coming when industry must bear a greater part of the national research and development effort in partnership with government.[2] Recently we have had several examples of this when two large companies came in and said they would raise half a million dollars to explore fissiochemistry—that is, making chemicals by nuclear reactions—if the government would put up another half million dollars. This is an attractive proposal. I am convinced if one can have research done partly in industry where businessmen have a stake with its own money, they will try to exploit it much faster.

It is interesting to me in looking at the subject of today's meeting and in thinking about it while coming here, that our patent policy has been one where we have taken title to all patents and inventions of AEC personnel and we have required our contractors to give the government title to the patents resulting from AEC work. It is interesting to see how a private nuclear industry has developed, let me say, in spite of this because I know there have been strong feelings that we shouldn't take title. I want to make clear I am not defending this patent policy. In fact, many times I have wondered whether it is the right policy for today.

I don't know the answer to that. We are certainly studying our patent policy again. I know in talking to some of the British people that they argue very strongly for government sale or exclusive licensing of government-owned patents.

We are very much interested in the current phase of our history

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[2] In dedicating the Nuclear Development Center of the Babcock & Wilcox Company at Lynchburg, Virginia, on April 11, 1964, Chairman Seaborg said:

"I have referred in my remarks to the tremendous expansion in scientific research and development over the past decade or two. So far, the burden of this effort has been borne in large part by the Federal government. However, the time is rapidly approaching when a larger share of this effort also must be borne by the business community. Even though I am pleased at the investment private companies such as yours have made, it seems to me that a still larger share must be undertaken by industry as nuclear energy more and more enters the mainstream of American business. The Federal government cannot be expected to continue to ask Congress for support of research and development without the indication that industry also recognizes the harvest to be reaped in this field by accepting for itself an increasing share of the burden."

in which big AEC laboratories, such as the Argonne National Laboratory, spends $60 million a year on research.

This type of research should be divided into two types, basic research, which I feel that the government probably has to do, and applied research and development. I have been working hard with other people in the Commission, to look at how we can transfer this technology out of these laboratories into industrial use because we are in a period of time, as Chairman Seaborg points out, when the time gap between development of something in a government laboratory, and its commercial use commercially, is being continually narrowed. What we all are really striving to do is to still further shorten the time from laboratory development to commercial production of new products that increase employment, and help raise our standard of living. And I think that is what we as a nation are trying to do in competing with the rest of the world.

So we are looking at all kinds of schemes and are watching closely the work that NASA and the Department of Commerce are doing. We have set up as an experiment an Office of Industrial Cooperation at our Oak Ridge National Laboratory. This office has held, from time to time symposiums for industry to show businessmen the technology of Oak Ridge and to solicit their ideas. We are planning to set up other such offices at other installations shortly. We haven't found any particular method that we think is the best. We feel this is an area where we have a lot more to learn. We think we have to bring more of American industry to look at some of this technology. I have been amazed in going around the country and talking to companies, even large companies like Standard Oil of California, to find out that most of them don't even visit our laboratories like Argonne, or Berkeley. I can't help but think that we need closer cooperation and communication between the government research and our industry.

I personally also am a great believer that we need to get the government out of some of these areas. I have always leaned a little toward trying to put more applied research and development into private companies and giving them some incentive to exploit the results as a way of getting it into use faster. I think all of these are ways that they can do it.

And lastly, I would like to say that I wonder sometimes if the government should be doing so much research. When we look at the amount of information we are generating today just in the AEC, its volume is getting so great that it becomes a challenge for industry to read and follow it. Again many of us feel that if we could encour-

age the private system to do more research, the country as a whole might be ahead.

I want to leave some of these thoughts with you. This is about all I have to say now. I thank you.*

(Applause)

DR. KELLEY: Thank you, Mr. Tremmel. Our next panelist who will speak to you has a long career in government service, both in the United Kingdom and in this country, and also has had experience with international organizations.

Dr. Herbert W. Robinson was born in England, received his PhD at the London School of Economics. He is a naturalized citizen, having achieved that status in 1948.

He is now president of C-E-I-R, a firm which is devoted to the use of automatic data processing equipment. I would like now to present to you, Dr. Robinson.

**Editor's Note:* The following statement was submitted by Mr. Tremmel when he returned his edited conference remarks for publication:

You will recall that I received several questions which time did not permit me to answer at the Conference. Since then I have been thinking about answers, but the pressure of business, particularly the hearings on private ownership of nuclear materials, has kept me from writing until now. These questions and answers should appear as part of the proceedings.

Question 1 inquired what kind of license or other incentives does the Commission offer to industry, or to anyone with risk capital, to develop and exploit on a commercial scale the inventions that result from government-financed research and development.

The Commission issues non-exclusive licenses to anyone in the United States who wishes to use a U. S. patented invention owned by the AEC. From July 1, 1963, to June 30, 1964, the Commission granted 67 non-exclusive licenses on these government-owned patents. Through June 30, 1964, a total of 1,034 non-exclusive licenses have been issued on 520 of the 3,281 government-owned patents administered by the Commission.

In some instances the Commission does permit a contractor to retain an exclusive license, in fields other than atomic energy. Through 1963, 295 exclusive licenses were retained by contractors and in another 372 instances the contractors retained all rights subject to a non-exclusive license for the government. Furthermore, the Commission's policy is to grant non-exclusive or exclusive licenses for reasonable royalties on Commission-owned foreign patents.

As for other incentives, the Commission makes freely available to the public the results of its unclassified research and development. Persons wishing to use a patented invention resulting from AEC work can obtain additional information about the device or process.

Question 2 related to the wisdom of the AEC's patent policy and inquired about specific examples where its policy has not been in the "public interest."

As I indicated in my remarks, the AEC patent policy has been very successful in preventing any one company from gaining an undue competitive advantage through exclusive use of a patented invention resulting from government-sponsored work. However, one could question whether our policy in accomplishing this desirable goal diminishes the value of patented inventions from AEC

research and development. The Commission policy is to issue non-exclusive licenses to persons who wish to use AEC-owned U. S. patents. Many businessmen believe this policy does not provide them with the exclusivity that they need to justify their risk of time, money and manpower to bring an invention into commercial use. Without the protection of an exclusive right to use such an invention, they can argue that their competitors can move quickly to copy their work without the expense of developing the invention or the market for it.

One area worth studying might be the feasibility of a two-pronged approach that would prevent unfair domination of a vital sector of industry through use of government patents but would also give users of AEC patents some limited exclusive use to make commercial exploitation more attractive. The recent issuing of an *exclusive* license by NASA to the Steatite Corporation to use a NASA patent suggests one possible approach. Under the President's Policy memorandum of October 10, 1963, consideration is being given to granting exclusive licenses on U. S. patents in special circumstances.

Question 3 asked my opinion on the effect of the proposed amendments to remove the special restrictions on patents in the atomic energy field.

There are two principal restrictions. Section 151 of the Atomic Energy Act of 1954 states that "no patent shall hereafter be granted for any invention or discovery which is useful solely in the utilization of special nuclear materials or atomic energy in an atomic weapon." Section 153 of the Act authorized the Commission to declare *any* patent to be affected with the "public interest" if the invention is of primary importance to the production or utilization of special nuclear material or atomic energy; and the licensing of such invention is of primary importance to effectuate the policies and purposes of the Act. If the Commission exercises this authority, it can use it, to the extent that the Commission "finds that the use of the invention or discovery is of primary importance to the conduct of an activity by such a person authorized under this Act." Detailed procedures are set out in Section 153 and royalties are provided for. This authority applies only to patents which are filed before September 1, of this year.

There has been no proposal to change the first restriction for reasons that are self evident. As for the second, Commissioner Ramey appeared before the Joint Committee on May 19, 1964, to support proposed legislation to extend the compulsory licensing authority for five more years. I would suggest that a copy of these hearings be obtained, for his statement is quite detailed. The citation is: *AEC Omnibus Bills for 1963 and 1964,* Hearings Before the Joint Committee on Atomic Energy, July 17, 1963, and May 19, 1964, 88th Congress, 1st and 2nd sessions, 1964.

It is interesting to note that the AEC has yet to use this power and, as far as I can see, it has not perceptibly decreased private incentive efforts.

Question 4 asked for my thoughts on the working of the incentive awards system.

The Commission, in negotiating with operating contractors and other major contractors, naturally reviews their personnel administration policies and procedures. In so doing, we recognize the value of incentive awards and usually accept the costs of a well-organized and administered incentive awards system. The Commission also has an incentive awards system for its own employees. Awards for contractor and AEC personnel may vary from individual cash payments to significant salary increases, depending upon the significance and importance of the idea or performance being recognized. I consider incentive awards to be an established part of the pattern of our industrial life and believe that with effective administration they can stimulate people to be more imaginative and creative in their work. One should keep in mind, however, that even more im-

portant than incentive awards is good supervision. A supervisor through his personal contact can do much more than any awards system to encourage, or to discourage, the initiative and interest of his staff.

DR. HERBERT W. ROBINSON: This is a very interesting subject to me because, in a way, we have a miniature of the same problem in our own Company. About a year ago we took stock of where we were and we made a remarkable discovery. We found that in ten years of history we had performed literally hundreds of contracts, we had made probably at least three times as many proposals; and yet we found that when a request for proposal came in we started from scratch. Moreover, when we received a contract, people tended to start from scratch. This made us think that there was a wealth of know-how and information, lying buried in the files that we were not exploiting. For instance, even though it may be a little repugnant to some, why shouldn't we sell the same thing twice if we had already done the work—especially if, as sometimes happens, we had incurred a loss the first time. Likewise, why couldn't we on another occasion at least include some of the thinking that had gone into the first. Now we have a system to see that we *do* exploit what has already been accomplished in our long experience.

I think in the field of government research and development we have a similar problem. If we look back over the last 25 years or 30 years, and look at the great contributions that have come from research and development in government, the airlines of today from World War I and the airplane; Atomic Energy; the whole electronics area with color TV; and so on, they owe a great deal obviously to government-financed research and development. These are simply the obvious results. I am sure that if we dig deeply enough into the situation there are even more important tangential benefits that have been achieved.

Yet at the same time when we stand back from the amount of money that is being spent, about $60 billion a year on defense and space a tremendous percentage of which is in R&D, and we ask, say, in the last ten years, just what has industry got out of all this expenditure, I am afraid the conclusion must be that it is rather disappointing.

It is rather disappointing for two reasons. Not just that this wealth of information has not permeated through to industry, but that we are living in an age of tremendously fast technological advance where, in effect, to be up to date in technology is the key to industrial success.

In a way, this country has a secret weapon in the Cold War which

is its tremendous expenditure on research and development, financed by the government. To my mind this is just not being adequately transmitted to industry.

I believe the basic problem is very simple. It is simply a problem of communication, as is so often the case.

It is a problem really of knowing what is going on, of knowing what is going on that is important to *my* problem or to *my* application. I think in many cases industry itself is to blame. It cannot expect the fruits of this to be handed to it on a platter. It is not a case of the government saying here is something ready-made, take it away and use it. The government has made an investment. But the missing link here, I think, is how is industry going to identify the complementary investment to make on top of what has already been done to really exploit the tremendous advances that are taking place.

I would like to go over some of the problems. I cannot suggest too many solutions. I think it is such an important area it deserves quite an allocation of money by the government to solve it.

But let's start with the input into the communications system.

I am afraid that our system of bidding for contracts and of performing contracts does not really encourage the free flow of information. Sure, if there is a patent, the government gets the patent and it is available to everybody. But where is the incentive for the contractor to identify what is patentable and put it through?

In the case of many contracts, the emphasis is on the lowest cost. What incentive then is there to really take the time to document adequately the advance in technology that is identified in the course of the project?

Under competitive bidding success may be a question of cost. So that the incentive actually is to minimize these types of expense. In fact I know, as a contractor, I have sometimes been told by a government client, "Dr. Robinson, we are not interested in a lot of reports or papers. We want the results. That is all."

I think in many cases in the Defense Department the emphasis on the lowest possible cost means that people are interested in producing just the results called for and the whole of the fall-out of technological discovery is somehow not put into the system, into the information net.

There is an encouragement, in a sense, to the attitude that if I as a contractor have evolved a high state of the art, this in effect is my proprietary product that I am selling to the government. There is not too much incentive to give away my know-how to my competitors or industry generally.

It seems to me that what is lacking here is some set of standard rules by the government trying, although I know it must be imperfectly, to spell out certain standard rules about the technological discoveries that have been found during the work done for the government. Perhaps even supplemental contracts to write up the results.

Another interesting set of problems to my mind is the problem of once we have a flow of input of what is going on, how are we going to adequately disseminate these and identify how they can be applied to practical applications in industry and commerce? This becomes a question of a classification system.

How can we classify the attributes of technological advance and discoveries and research and development in such a way that we have a common set of building blocks, the lowest common denominators so to speak, which can be put together when I have a specific problem in industry. If I have a problem I am aware of those particular attributes that I am interested in. How can I find which work has been done already which possesses this set of attributes in which I am interested? Most of the publications on this subject simply list a sort of index, a simple index. This is not enough. What we need really is in effect the equivalent of a cross-term index, using the attributes and making it possible to identify the particular set of developments which might be of importance for my particular problem. This today is lacking.

The sort of thing I am thinking of is like the uniterm index to chemical patents put out by Information for Industry, Inc.

One last thought. I think the government should invest considerably more in making it easier to get this communication so that industry can actually try to plow these fields that are being opened up.

Looking at the Standard Industrial Classification of the Bureau of the Census there are only a limited number of major industrial classifications and, for each one of the major ones, I think it would be quite feasible for the government to hold at least an annual, say week-long seminar, on technological advance in the industry and inputs into it by the government and defense contractors on a properly organized basis. What we are lacking here is communication, in a systematic manner, of the developments that are going on. The value of the research and development is not always obvious. It requires a week-long seminar, simply listening, studying, talking, exchanging information, to spark off the sort of ideas that lead to very important technological advances in industry.

This to me is a fascinating set of problems. I think the govern-

ment must take the lead in solving them. It is very difficult for industry itself to arrange this spontaneously. This I believe is the most important next step for the government—to tackle this problem as a national problem of tremendous hidden value to the community.

Thank you.

(Applause)

DR. KELLEY: Thank you very much, Dr. Robinson. You provoked some very good questions. I will have to think those over myself.

I am going to introduce the next two panelists, although they won't give you a formal presentation, but will be available for questions.

Before I introduce them, I would like to mention once again that if you have questions and wish to write them, put them on a card or piece of paper and pass them to the center; they will be picked up.

The next of our panelists is Mr. James W. Roach, Assistant Director, DDR&E. Mr. Roach was graduated in 1943 from the University of Illinois with a degree of B.S. in Mechanical Engineering. He has been associated with the Chance-Vought Corporation and the Fairchild-Stratos Corporation. He has had considerable experience as a project engineer and supervising market planning and analysis.

The final panelist is Dr. Hugh L. Dryden, Deputy Administrator to NASA—National Aeronautics and Space Administration. I hardly need to relate Dr. Dryden's experience because anything I would say would be a small sample of his accomplishments. He has been for many years in the government and is one of the most respected scientists the government has.

I would like Dr. Dryden and Mr. Roach to stand.

PART V — PANEL DISCUSSION AND QUESTION PERIOD

Invited Contributors
Research Institute Staff Contributors

DR. KELLEY: As the next matter before this part of the session, we would like to have comments, queries, from the Institute members. I will start at this end and ask Dr. Mary Holman to comment.

DR. MARY HOLMAN: I just want to make one short comment about one block of technology that virtually nothing is known about, and that is the block of technology consisting of inventions disclosed to various government agencies that for one reason or another do not warrant patent protection or are not selected for patent applications.

The various government agencies have different criteria for selecting inventions for patent applications. One agency selects 95 percent

of all inventions disclosures. Another agency selects less than 10 percent. And nothing is known about these inventions that are disclosed but are not patented.

We are currently working on a study and hope to throw light on this block of technology.

DR. KELLEY: Do the panelists have any comment to make on that observation? (No response)

DR. KELLEY: We will proceed to Donald S. Watson, the next member of the Institute staff.

DR. DONALD WATSON: I want to make a remark or two to supplement what has been said.

In our research work at the University, we have continued to work on patented inventions from Federally-financed R&D. During the last year we began an investigation which we had to suspend into the flow of technical information as embodied in technical reports. We found that the Atomic Energy Commission has an excellent system of gathering, managing, and disseminating technical information in that field.

But the principal reason that we had to suspend our research was that we found that we could not crack the problem of the Department of Defense. No one knows how many hundreds of thousands of technical reports are generated every year. The Defense Documentation Center, which I think has about a million documents in a warehouse at Alexandria, does not know whether the number they get annually are five percent of the total or 25 percent or 30 percent. This is an enormous problem.

But the mere matter of recording, classifying and counting the technical reports from government-financed R&D is a matter which has not yet been solved.

DR. KELLEY: Thank you.

Would you like to comment on that? (Laughter)

MR. ROACH: Yes, I would.

It seems that both Dr. Robinson and the gentleman and lady from the Institute feel that the Department of Defense problem is a kind of a hub or wheel that always seems to rotate around, and if we did our job better, probably everybody else would have an opportunity, too.

As Dr. Kelley said, this is somewhat of a problem. Although the Defense Department's budget, somewhere in the order of $50 billion, is not all oriented to research, $7 billion of it is oriented to either research or development.

The development for the field is more specifically oriented to

weapons systems, and that isn't really the problem of information dissemination.

Our weapons systems that come out of our developments are not generally that type of information which would be useful to industry. So really, we are talking about that portion of the DOD budget which is approximately a billion and a half dollars involved in the two categories of research and exploratory development.

These areas are the areas where DOD, as well as the other agencies represented on this platform, who have similar areas, and the areas of the agencies not represented, such as NIH, have activities going on that could possibly be of benefit to our industrial sector for private use or for commercial use.

Our problem has been, and it has been a struggle, as the gentleman just mentioned, to figure out ways of taking this tremendous mass of information, some of which is relevant, much of which is not, and try to get it into the private sector by some means that all people can make use of it.

There are several corollary difficulties involved, and I would like to mention them. I apologize for taking more time than just commenting. There are a number of ways of financing R&D, and, of course, the obvious way is by direct contract or grant, either to industry or to a university or not-for-profit. But there are some indirect ways of financing R&D which you can't really say are government-financed but the government pays the bill, and that is by what is called IR&D—Independent Research and Development. It is an allowable cost on contracts held with most of the government agencies. Its administration and the results of this type of R&D are a real problem to us.

We are searching for ways of better administering this and also searching for ways of getting this kind of information, if it is appropriate, out into other industrial segments than the company per se that has the IR&D money.

And, of course, the third way of doing this is for the company, through its own profit, to plow this back into the business for its own R&D activity. The company that does this and the company that does the cost-allowable type of IR&D, has the right to that information because it is a necessaary cost of doing business, in the case of the cost-allowable, or it is profit and therefore is completely within their control and they should have full rights to it.

But there are some certain aspects of it that would be useful to be known across the board, and that is the fact that you have a man, a scientist or engineer, who is doing work in that area.

If somebody knows who is in the same discipline, it would be useful to communicate, not necessarily give away your proprietary information, but if you knew the fellow was doing work in a specific discipline, it would be useful to communicate.

We are attempting right now to set up within the Department, and are working closely with AEC and NASA especially, and with the NIH to a lesser degree, a common, one-page report which tells what the objectives of the particular work unit—and we have broken it down to a work unit, a manyear, or two or three manyears, depending on the size of the thing—what the objectives, what the approach is that the man is using, and generally what is his progress. It has other information on it that is useful for machine search, for we propose to put this on a computer, and hopefully get all DOD's research and exploratory development into one centralized bank—or maybe three or four, depending on our services and our defense agencies—and to tie into some centralized bank that possibly would be monitored by Dr. Hornig's staff, or Dr. Kelley. This is one means of communicating information. Maybe not the specific results of the research that possibly Dr. Robinson mentioned, but it gives you the ability to know who in the industry—and hopefully all through the government labs and so forth—are doing efforts in certain areas.

I want to mention, if I may, please, sir, to respond to Dr. Robinson, one of his suggestions that possibly our emphasis on cost is reducing or restricting the free flow of information.

I think this comment is pertinent, but it needs to be taken into the context of the various categories of research and development. Our emphasis on cost is mainly applied to the engineering and the operational systems development areas. This is where we have sufficiently developed the technology to develop subsystems. We know what we want to build. We actually do the engineering work, not the experimentation, but the engineering work to develop a Titan or Atlas, or whatever the system is.

Here we have defined the problem, hopefully, through various techniques such as the progress definition phase, to where we can build this. Here the emphasis is on cost, and there is no question about it. The reason we emphasize cost so much more is because of the past history in the Department of Defense of not sufficiently defining the job and overrunning 320 percent, as somebody said.

In the earlier stages of research and exploratory development, this cost orientation is greatly less. I will admit, with any one particular contracting officer, you may run into a chap who gets his merit badge

because he reduces the cost of some contract. But on the average, the emphasis in research and exploratory development is not on cost but on technical content. The results of the job. Many of our contracts are level of effort, what we would call a term contract. It is not a completion contract where you have an end objective. You really are given a level of effort type funding.

DR. KELLEY: Don't run away, Jim. We have a question here that I think maybe you should answer.

What security clearance is necessary in order to get information of real value from the various agencies?

You can perhaps speak to DOD problems. Maybe Dr. Dryden can speak to the NASA problem.

MR. ROACH: That is a very difficult question to answer, because it will vary according to the information. It depends on what it is. On the average, for research-type information, that which comes from this about five percent of our total RDT&E budget of $7 million, is not classified, and therefore, it is readily available to whomever desires this information.

I might mention something that has happened that is underway right now in relationship to this dissemination of research-type information. Dr. Walter Carlson, of DDR&E, who is director of technical information for Dr. Brown, is establishing a series of information analysis centers to supplement the DDC—Defense Documentation Center. DDC is really a repository of information and as someone mentioned, they are having their problems.

Doctor Stegmeier, who is the Administrator of DDC, is having his problems being able to actually set up a mechanism for being able to record and retrieve all of these documents. But these information analysis centers will not be set up on a product line basis, as I think Dr. Robinson suggested, but they will be set up on technical disciplines.

A number of them exist today. They sort of grew like Topsy because people wanted this kind of thing and an agency was set up, say a reentry materials center where you could get information on who was doing what, that type of thing, on reentry materials.

This program has now been given some official status and budget to set up some 35 or 40 of this type of information analysis centers where they will try to break down the information that comes into them and pass it out, and answer questions, or be of whatever service they can for improving the communications between scientists and engineers.

As far as the original question of classification, that depends on the

subject and by which contract it was developed, what the contract was, and the regrading or declassification procedures and so forth. It will have to be on an individual basis.

DR. KELLEY: I will endorse that comment. In fact, the problem of security classification is one of the most perplexing.

Would you like to comment on that, Dr. Dryden? And perhaps you can also comment on another question that has come up, what would you think of closed-circuit TV programs for scientific personnel to help the scientist keep up with what is going on?

DR. DRYDEN: First on the security matter.

This is not a great problem with NASA. We have about 4,000 titles a month added to this information explosion, in the unclassified area.

In general, I would say that the only things within NASA that are classified are those relating to the national defense. We use missile boosters whose details cannot be made generally available, although you will find line drawings in almost every magazine, but not dimensioned working drawings. We also have certain information connected with atomic energy and our cooperation with the Atomic Energy Commission which does require in some areas special clearances.

The problem of closed-circuit TV programs: I don't know who is going to determine the content of this program. This is a real problem.

The problems of communication have been referred to, the supply of specific information to a specific man at the time that he is interested in receiving it. I don't know that this can be done by a series of formalized programs, although the role of symposia conferences is not to be underestimated. While I have my feet, I will say that NASA is approaching this problem of communication on an experimental basis. We have attempted some experiments in reimbursing companies for surveying collateral spin-off information.

There is an interesting experiment that we are running in communication with an aerospace research information center at Indiana University, where early in '63 we put up $150,000. Twenty-nine industries in the Mid-west put up $5,000 apiece, approximately matching the government contribution. With this, there was set up on a computer information proposed for NASA by a contractor in Washington, referring to titles and abstracts in the aerospace area. The research information center will, of course, make ordinary bibliographic searches for these companies, but they go beyond that. They try to work out profiles of interest, what area a particular company is interested in, and undertake to sort out from the great mass of infor-

mation coming into this center that part of it which they think would be of interest to the company.

We also, as you know, are making special efforts to see whether this transfer to industry can be accelerated. This center makes use of the form of publication that our group has put out called flash sheets. Essentially techniques and technology developments coming from our labs, in a few cases from contractors, and again circulating this to industry members who might be interested.

I have a very open and somewhat skeptical mind on the effectiveness of all these measures, but I think the government should be prepared to experiment in bringing these results to industry. There are letters from officials of large companies who are using this service who claim it to be of value, and they quote chapter and verse.

One company is interested in the tensile testing of very thin sheets. They got more information from NASA, and particularly by actually consulting some of the people in one of our laboratories, than they found from any other source. I suppose that is true in their particular sense. They might have gotten the same information somewhere else for all I know.

But we are attempting to develop new techniques for this communication to the man who wants the information at the time that he wants it.

DR. KELLEY: Thank you, Dr. Dryden.

I would like to now hear from another of the Institute peoples, Dr. Sanders.

DR. SANDERS: This question of R&D has many problems. Perhaps most of it is again a question of poor or distorted communication. We have heard today that our R&D expenditures amount to $15 or $16 billion, that about 70 percent of this amount comes from the Federal government.

Question arises, is this a confusion of terms? Some of us, perhaps simple-mindedly, have taken the government supplied R&D dollars as equivalent to industry supplied R&D. On this basis one would assume that patents resulting from government supplied R&D should be about 70 percent of all assigned patents. But this is far from reality. In the 3 years, since 1960, government generated patents constitute about 10 percent of all assigned patents and 6 percent of all patents issued by the United States Patent Office.

But the political mind is influenced primarily by the 70 percent input figure and on the basis of this it deems with favor the socialization of the patent system.

But when we look at the output in terms of commercially productive patented inventions the Federal contribution is nil.

In the last year's Conference when I was asked this question I said in terms of commercially productive inventions each 500 Federal R&D dollars are as productive as one dollar spent by private industry. A more close examination of such fragmentary data as I have been able to lay my hands on, leads me to say in terms of R&D dollars yielding commercially productive patented inventions it takes about 1000 Federal dollars to do what one industrial R&D dollar does. Either these two things are different, though labeled the same, or there is a gross and overlooked difference in their efficacy. Certainly the high Federal input gives the politically minded person an entirely distorted picture of the Federal contribution to patents producing commercially useful inventions.

I think one of the things that the Research Institute ought to try to do is make a very careful appraisal of the effect of these large Federal R&D expenditures on inventiveness and patents. It is conceivable that its net effect might prove to be negative.

DR. KELLEY: I don't know that we have much time to comment upon that. It is a very provoking question.

Is there someone in the audience who might want to comment on that, very briefly?

MR. BURKE WILFORD: I am Burke Wilford, American Society of Inventors.

We have a lot of scientists, both in industry and government, but very few creative scientists. This is probably on a ratio of 10 to 1, let's say, to be generous. And these creative scientists bring out the ideas which are patentable. So that the problem is not the dollars—the dollars mean nothing. It is the inspiration and how that inspiration is treated internally by the government, internally by industry, and particularly and most important of all, by education.

You can educate an inventor not to be an inventor because if you educate him enough, if it isn't in the handbook he won't stick his neck out. So let's not have dollars, and let's not think of doctors degrees. Let's think of where is the inspiration, or the like.

If you are a religious man it is divine inspiration; if you are a gambling person, an inventor was just lucky. Let's try and find out where the creative urge is.

Arthur D. Little published a report. Dr. Schon was the man who did it. John Green got the money for it. It showed that we had about one major invention a year. From 1900 to 1960 it showed that 41 of them came from individuals. Eight of them came from companies

that are on the New York Stock Exchange. Twelve of them came from small business. So our creativity lies still in the individual.

DR. KELLEY: Thank you very much.

I would like to let John Green, another Institute member, comment briefly.

Before you do, John, I have a question that you, above all people, can answer.

"Is there a central place where R&D reports from all government agencies are collected and classified? And does the government have any program for making these R&D reports to the extent they are not involved in confidential or secret information available to the public?"

MR. GREEN: To address myself to that specific question first, Dr. Wiesner's successor, Dr. Hornig, for whom Dr. Kelley works, recently announced the policy that the Department of Commerce would have this responsibility. The Department of Commerce actively will be administrated by the National Bureau of Standards; they are making positive efforts now to collect, organize, and catalog all this material. They are working very closely with Defense, AEC and NASA in that respect.

Now, to turn to some observations. I was both interested and pleased to hear Dr. Dryden say there was experimentation going on in connection with this acceleration of technology from government to industry, because it seems to me that this is the right way to look at it. To put it in some perspective, perhaps if we leave Ernest Tremmel, AEC, out, most of these large Federal expenditures for R&D are for development. And most of that development is with industry now. And most of that development with industry now is under contract, and under contracts which give industry the commercial rights in the inventions as they should.

As you know, before President Kennedy died, he announced a policy which favored this type of relationship.

So it seems to me that for this type of federally-financed development, in which the commercial rights are now with industry, the only acceleration the government can do is to keep the economy healthy. And that is about it.

For the other amount or volume of government research and development in which the government has title, I think we should distinguish between the government's mission and industry's mission. The mission of the agency which supported this research, be it AEC, NASA, Defense, Agriculture, whatever, is to carry out its assignment. And most often this is an assignment in which they are con-

cerned with highly sophisticated technology. They are not particularly cost conscious because they are concerned with high precision, high accuracy, high performance.

And whereas Mr. Roach spoke of cost—and that is important—the cost may be between $15,000 and $150,000 per component, whereas when you are making a commercial product to go on the market, it is between $1.50 and $15.

So there is quite a distinction between industry's mission, which is to have a saleable product, which fits consumer's wants, which can be sold at a price; and the government's mission which is to achieve some very difficult, precise task.

What I am saying is that there is a great deal of invention needed, a great deal of adaptation needed, to bridge this gap between government-science and successful industrial products.

Here you have the problem of the industry manager. He has to decide whether he has the investment, whether he has the market, whether he wants to take the risk attendant to this transfer. These are industry's own risks.

As I was observing this morning, there are only a relatively small handful of firms in the United States which have the financial structure, which have the scientific talent, which can really concern themselves with taking sophisticated government-science and somehow distilling industrial products from it.

DR. KELLEY: Thank you, John.

That concludes this part of the session. We regret that we are unable to answer some of the questions which I did pass out to the panelists. Perhaps we may get to those questions after the next part of the session.

Thank you very much.

MR. STEVENSON: Thank you very much, Dr. Kelley.

I think at this time we will have something in the way of a shift. The next group of panelists, I believe, are to come up.

Is that right?

EXECUTIVE DIRECTOR HARRIS: Yes.

MR. STEVENSON: Thank you very much, gentlemen, for your appearance on this panel today. (Applause) May I take this moment, while this shift is occurring—and please do not hold up—to say that it is my pleasure to be a participant in the program of NASA on technology utilization.

I would just like to add to Dr. Dryden's statement that it not only is an experiment, but it is also a statutory requirement, unique in the acts in setting up any agency, that NASA shall concern itself

with this problem of technology transfer. To this end it is a statutory requirement and NASA is proposing to meet it. It is an experiment in an extremely vital area.

One of the most useful communications that are coming out of it, in my judgment, to date, is that we are developing what may prove to be a relatively new type of publication. We are calling them technology briefs—technical briefs. Today some 45 of these have been published. These not only present the specific technological contribution of NASA on a particular subject, but are somewhat historical. They give perspective and attempt to show how this particular information can be used.

I would emphasize the importance which was stated earlier of having industry attempt to meet the government at least part way. The government cannot in my judgment go the whole way.

If industry will cooperate, as they are now doing in most sections of the country, in the receiving of this information, NASA can in turn be more effective in making this communication.

Now we turn to the next section of our afternoon session. You will recall that the first section is defined as "ACCELERATING THE USE OF GOVERNMENT-FINANCED R&D." If I could quip with you for a moment. As I look at the next program I realize that we are calling now on our legal talents and legal associates, whereas, previously, we have been listening to the engineer and scientist. I don't know whether we could call this deaccelerating use of government-financed R&D.

We will have the answer to that question as we listen to the participants. I first introduce the moderator for the second section, Mr. Edwin L. Reynolds, Assistant Commissioner of Patents.

I note Mr. Reynolds has been identified with the work of the Patent Office since 1922 and has served there in many capacities, that he is the author of numerous communications, and I am sure he is a very well-known person to the majority of those in this room.

So, without more ado, I will turn this meeting over to Mr. Reynolds.

(Applause)

PART VI — INTERFERENCE SETTLEMENTS: PATENT-ANTITRUST PUBLIC POLICY IMPLICATIONS

Invited Contributors

MR. EDWIN L. REYNOLDS: Commissioner Brenner was supposed to moderate this part of the program. He asked me to express his regrets that he isn't able to be here.

Since I think there is no one on the panel from the Patent Office,

I might take just a minute to explain the impact of interference settlements on the Patent Office and vice-versa, which is not very much.

We are not ordinarily concerned with the terms of interference settlement. We only deal with the final product which would ordinarily be a concession of priority or, occasionally, a dissolution.

We don't go into the question of whether the parties have selected the proper winner or whether the settlement is in violation of the antitrust regulations or anything of that sort.

About a year and a half ago a law went into effect which required the parties to file in the Patent Office copies of the agreement which formed the basis of a settlement of interference, and if that agreement is not timely filed, any patent resulting from the settlement will be invalid.

Since that time, we have received about 30 of these agreements a month on the average. We either put them in the interference file, or if the parties so request, they are placed separately from the interference files and will then not be available to the public unless some member of the public can show reason why he is entitled to it. They are open to the Justice Department and any other government agency that needs them in its investigations.

The law requires us to give notice prior to the termination of the interference, give notice to the parties of the necessity for filing this agreement.

We have done this in the declaration of the interference, and that is the only notice we give. Some people seem to feel we should give a second one later on.

Since we never know whether a concession of priority is filed as a result of an agreement, we don't feel that we are called on to do it. As far as we know, nobody has been caught short as a result of that practice.

You can file an agreement within six months late if you make a sufficient showing. We have had two or three of those. Up to now, we have granted them all. We tend to be rather liberal. It is not well to count entirely on liberality there.

The first speaker will be Mr. Donald C. Harrison, who is General Patent Counsel for the Union Carbide Corporation of New York. He is a graduate of Yale University and also has received a degree from M.I.T. and from Fordham.

He joined Union Carbide in 1931. He has been manager of the Patent Department since 1944. In 1955, he was appointed General Patent Counsel.

Mr. Harrison.

MR. DONALD C. HARRISON: In casting about for a point of departure to discuss this subject, I began to speculate as to just why whoever made up this program selected this subject for this particular gathering at this particular time.

Of course I have no particular way of knowing why they did select it. But I think it is possible that somebody in the program committee had recently read the fairly recent antitrust case of the United States against the Singer Manufacturing Company, because in that case, among the various things which the Singer Company was accused of and criticised for, was the amicable settlement of an interference.

In the District Court, the Judge saw absolutely nothing wrong, not only with the settlement of the interference, but any of the other acts.

When it reached the Supreme Court, the majority opinion didn't go into this question of the settlement of the interference. They said that they found enough other things to criticize and they didn't want to get into this. Mr. Justice White felt called upon to give something of a general warning.

As Judge Ryan of the District Court in that case pointed out, "there is no duty for the public benefit or otherwise placed on a patentee or licensee to oppose the claims of another in order to narrow or invalidate the scope of a patent which might issue to the other."

If you are in an interference, there is no duty on you to fight that interference to the bitter end. You can settle it. It is perfectly all right.

But as was warned by Mr. Justice White, "collusion among applicants to prevent prior art from coming to the office's attention is an inequitable imposition on the Patent Office and on the public."

"In my view," said Mr. White, "such collusion to secure a monopoly grant runs afoul of the Sherman Act's prohibition against conspiracy in restraint of trade."

That serves as something of a warning. Actually this is not a new problem. Almost any act or agreement which in itself may be perfectly innocent or perfectly legal can conceivably be used in some illegal fashion. A settlement of an interference could be so used.

What is a misuse one should look out for in settling an interference lest one day you find a government investigator setting up housekeeping in your file room? That is really what the problem is from the standpoint of the manufacturer.

There are basically two reasons for reaching an amicable settlement of an interference. One, to cut down on the great length of time and

enormous expense that can be incurred in an interference which is bitterly fought right up to the end.

It may take five, ten, fifteen or more years if you go the full course, and you may spend a great many tens of thousands of dollars in doing so. That is one reason to attempt to settle.

Another reason is that the outcome of an interference is very often highly conjectural right down to the final decision. It is rather unsettling on industry and on the individual company involved in the interference to have to wait quite a long time without having any real idea of who is going to get the patent or whether anybody does get the patent. So that is another reason for it.

Therefore, most settlement agreements provide for one or both of two things: one is to shorten the proceedings and make them less expensive. The other is to make the uncertainty of the outcome less possibly disastrous to either party. That is to say, a settlement may provide for some special conduct of the proceedings.

Really, to be prudent (this is good business practice as well as avoiding later criticism) ordinarily it is better to have the interference proceedings conform as nearly as possible to what is normal procedure.

That is to say, to put it up to the Patent Office to decide who the first inventor is and to give the Patent Office all of the really significant evidence on priority that is available.

This can be done by stipulation as to what various witnesses would testify, if called, and it can be done by stipulation of documents. This, very frequently, is provided as a way to save time and to save money and still get the essential documents before the Patent Office.

If the Patent Office does not decide, if you are agreeing between the two attorneys as to who is the first inventor, you are always taking a risk that you are going to be second-guessed by some court. This has happened.

I think a number of you will remember the chromium plating interference between Dr. Fink and Mr. Udy, where these two gentlemen made about the same invention at about the same time in the chromium plating field.

It so happened that the applications of both of these contesting inventors came into common ownership. When this happens, according to Patent Office rules, the common owner has to investigate and decide which one of these applications he wishes to proceed with.

In that case the attorneys studied the whole matter and came to the conclusion that Dr. Fink was the first inventor and Mr. Udy's application was abandoned over his protest.

In subsequent litigation, the court held that the attorneys had made a bad guess; that actually Mr. Udy was the inventor. This is the type of difficulty you can run into unless you do leave it to the Patent Office.

Of course any agreement to settle an interference must be based on the intention of insuring as far as possible that the patent does indeed issue to the person who was in fact the first inventor.

Certainly if it deliberately provides anything else or is even carelessly directed that way, it can be criticized as being a fraud on the Patent Office and on the public, entirely apart from any question of antitrust and, as Mr. Justice White points out, he thinks this would run into an antitrust problem. The only question there is whether you are committing two sins or one.

The other principal reason for settling a patent interference is to make the loss of the interference less painful. This usually means an exchange of rights. Or it may be that a party, to whom it is very important to have the patent right, may purchase the entire rights, or an exclusive license from the other party who may not particularly care whether he wins or not. He just wants to be paid for it.

It may provide that the loser will obtain a license. That license may be of any sort. It may be exclusive or non-exclusive, royalty free or royalty-bearing, restricted or unrestricted.

Actually it is in the area of the type of licenses that are granted that many of the booby traps will lie as to running into antitrust difficulties. That is, if two manufacturers, competing in the same field, particularly if they inadvertently or otherwise fall into a pattern of exchange of licenses, particularly if they are restricted, and if it is felt that the end result is to make it artificially hard for newcomers to come into the field, you can certainly find yourself in the soup.

I think, to summarize it, it is important to bear in mind that this is not a new problem. There is nothing very peculiar about this type of contract, that you do have to be careful to pay attention not just to making sure that you come out of the interference whole, but also to make sure that in doing so, you don't run afoul of the antitrust laws.

I think some of the things that the government enforcement officials will be looking at will be covered by the other speakers. I don't want to try to run down the middle of what the other members of the panel are going to talk about, so I think I will stop here.

(Applause)

MR. REYNOLDS: Since our time is rather short, I will abbrevi-

ate the rather extensive academic attainments of the other panelists. I have read them all and I can assure you that they are amply qualified. (Laughter) The next speaker will be Mr. Marcus Hollabaugh of the firm of Hollabaugh and Jacobs, who is a professor at Georgetown University and has had rather extensive experience in the Justice Department.

MR. MARCUS HOLLABAUGH: Perhaps I had better correct one thing right off the bat, and that is that I was at one time a professor at Georgetown University.

Several years ago Captain Robillard, whom all of you know I am sure, dug out an old Tennessee statute relating to patents, and while I doubt that this statute will shed much light upon the subject matter under discussion today, I thought I might bring it to your attention.

The statute defines the constable's duties as follows: "It shall be the duty of every constable of a district to demand to see the receipt for state and county privilege tax of every member of the circus, menagerie, side show, sleight of hand or legerdemain or any other exhibit for profit, or person's patent rights, and of every peddler of any article whatsoever either on foot, in a vehicle or on horseback." (Laughter) This statute has no pertinence as far as I know to anything that is going to be said here today, except I do think it is worthwhile mentioning because by no stretch of the imagination of our most imaginative panel members could we come up with a legislative proposal that will top that one.

As an antitrust lawyer, I approach the subject matter under discussion today with the following points:

The underlying reasons for and the objective of the patent system, namely, the providing of an incentive in the form of a 17-year monopoly for the making of invention, is basically sound and worthwhile.

The acquisition and commercial use of patents are subject to the control of the antitrust laws. The penalties suffered by the patentee or owner where patents are misused or made the subject of an antitrust violation are stringent and far-reaching. I see no need or justification for the enactment of additional legislation to deal with antitrust violations involving patents.

Where the patent granted actually discloses new and patentable inventions and which are thereby valuable additions to America's storehouse of useful knowledge, the public received a *quid pro quo* for the temporary monopoly given to the inventor. If, on the other hand, the alleged invention upon which the patents are founded makes no such contribution, then the effect of the grant is a restraint upon the public generally without the compensating benefit to the public

contemplated by the framers of the patent system. The patent system contemplates that where an invalid patent has been issued the courts will strike it down.

The Patent Office is charged with insuring that the requirements of inventiveness prescribed in the Patent Act have been fulfilled before a patent is issued. I think everyone would agree that where an applicant causes a patent to be issued, particularly if the applicant makes misleading statements on a matter of substance or commits conscious fraud, on a product which is unpatentable as a matter of law then obviously the applicant has obtained a patent to which he is not entitled.

Have applicants been improperly obtaining patents by improprieties in interference proceedings and settlements? While I doubt if this happens very often, the Singer and Tetracycline decisions have focused the spotlight upon this problem. What do these decisions mean with respect to future settlements?

To me the basic question here today is what shall be the measure of improper conduct in interference proceedings. What tests shall be applied to determine whether or not there has been dirty work at the crossroads?

Of course this is elementary to you gentlemen, but we antitrust lawyers who are not too familiar in the patent field take these things sort of step by step.

When more than one person applies for the same or similar patent of course the interference proceeding is declared.

Although priority is the only issue to be determined, the proceeding enhances the possibility of uncovering relative information about the prior art, particularly if some animosity develops, or in the regular course of the proceeding this information is developed.

Although not specifically sanctioned by statute, private settlements of interference proceedings are permitted. They are fairly common.

Mr. Reynolds has mentioned the statute which was passed not too long ago requiring the registration of these agreements. The propriety of agreements and activities engaged in at the interference level has been further projected into the area of hot discussion by this Singer case and the Tetracycline case.

I expect that most of you are familiar with both of these decisions, but I would like to make a couple of points about them.

In the Singer case the Department charged Singer with a combination and conspiracy with two foreign competitors to restrain and monopolize and Singer unilaterally with an attempt to monopolize interstate and foreign trade in the importation, sale, and distribution

of household zigzag sewing machines. The heart of the alleged offense was the use of patents to exclude the importation of Japanese sewing machines into the United States. On appeal from the District Court opinion granting defendant's motion to dismiss, the Supreme Court reversed, holding that there was an identity of purpose among Singer and the two European manufacturers to use cross-licensing patent agreements for the purpose of excluding Japanese competition from the United States under circumstances which, in the minds of the court, amounted to a combination and conspiracy violative of the Sherman Act.

Two points ought to be made. At the time Gegauf assigned the Gegauf American patent to Singer, the latter company already had a license to manufacture and use—hence, the assignment was not necessary to assure Singer that it could produce and sell its machines.

Of course, right off the bat the first question comes up, would the Supreme Court have reached the same conclusion had Singer not already had this license?

Everyone has his theory about this Singer case, as to what it means, what it stands for. I am now talking about the basic question of the antitrust violation. To my mind I think it can be cited, and I am not now arguing whether it is right or wrong, but my aim is first to find out what the court decided and what it meant to say. I think it can be cited for the proposition that when parties, in bringing about a transaction involving patents are motivated by several purposes, one of which is illegal, the latter purpose is the overriding consideration in determining legality of this transaction. Here Gegauf, a foreign manufacturer of sewing machines, assigned a patent to Singer for the purpose of putting Singer in a stronger position to block, by the institution of infringement suits and a tariff proceeding based on the patent, the importation of Japanese machines into the U. S. market. Aside from this purpose, Singer had several reasons for accepting the assignment including a desire to get title to the patent and income from it. Notwithstanding, 1) these reasons, 2) that patent transfers between companies is an everyday legal occurrence. And 3), that the mere institution of infringement suit is likewise legal, and actually authorized by the statute, the Court struck down the arrangement on the ground that one of the motivating purposes was illegal.

This, to my mind, is already quite an extension of the law and, in that sense, a new holding.

Perhaps of more importance to patent lawyers in their everyday

practice, are the implications flowing from Justice White's opinion in Singer. In 1956, while one of Singer's applications was in interference with a Gegauf application, the two parties entered into a general cross-licensing agreement providing that "the parties were not to attack one another's patent applications 'directly or indirectly,' not to do anything to restrict one another's claims in patents or applications, and to facilitate the allowance to one another or 'claims as broad as possible.' "

I am quoting this from the opinion. If I recall correctly there was also some language in this agreement that the patent action was to be in accordance with the laws of the particular Patent Office involved.

Justice White stated:

"In my view, such collusion to secure a monoploy grant runs afoul of the Sherman Act's prohibitions against conspiracies in restraint of trade—if not bad per se, then such agreements are at least presumptively bad."

No other Justice went along with this decision, so White's opinion stands alone.

I might mention to you that there is a note in the *Harvard Law Review* which came out this week. It is the *Harvard Law Review* of June 1964, Volume 77, which deals with the Tetracycline matter. In view of the limitations of time, I will not undertake to cover this matter.

This brings me then to what seems to me is the crucial question, and I am asked this occasionally by patent lawyers. Suppose two applicants, "X" and "Y", are in an interference proceeding. What may they properly do? Should there be any statutory regulations to govern the activities and agreements? People on Capitol Hill have given some thought to that particular thing, although I am not sure that they have any solution that might be satisfactory.

I am not here suggesting, as I said in the beginning, that we ought to have any new antitrust laws. To me, some of the points that I would think of in connection with this are these:

1) Obviously there should not be any absolute prohibition forbidding the applicants from disposing of interference conflicts by an agreement between themselves. That, it seems to me, is quite clear.

2) Without criticising the Singer-Gegauf agreement, which is referred to in the White opinion, I certainly would not recommend that applicants make an agreement that they help each other to facilitate the granting of broad claims or things of that sort.

3) I have seen continuing agreements between two companies

which provide that if interference proceedings are declared, then they have established a procedure or mechanism whereby they would be disposed of without an adversary proceeding.

Of course, depending upon the language of that kind of agreement, I personally would be a little worried about that if I were counsel to either of the parties.

If I were assigned the task of trying to devise a code of ethics or whatever you may call them, rules, governing conduct of interference proceedings, there are three or four points that I think I would keep in mind. And don't for a moment get the notion that I think I have the solution to this. But just trying to figure out some approaching steps.

First, it seems to me that the matter ought to be approached as basically and primarily a patent law problem rather than an antitrust problem. The granting of the patent and its getting out into commerce and so forth has antitrust implications. It seems to me this is really what we are talking about, a procedure within the Patent Office, the mechanism by which the Patent Office is to make these decisions, and to me it is basically a Patent Office question.

Second, a fundamental question it seems to me to be resolved is what precisely are the duties and responsibilities of counsel in interference proceedings? Are they to be guardians of the public interest? Are they under a legal and moral obligation to volunteer damaging information that might be damaging to their applicant? What are the duties and obligations upon counsel in these matters?

My own feeling is this: That with the Tetracycline decision, which is now on appeal to the Sixth Circuit Court of Appeals, and with the White decision in the Singer case, this question of what is proper activity and what are proper agreements to be made at this level, at the interference proceeding, are issues which are now out for discussion, and I think as time goes on we will probably hear a great deal more about them.*

Thank you.

(Applause)

MR. REYNOLDS: Our next speaker was to have been Judge Arthur M. Smith, of the Court of Customs and Patent Appeals. Un-

*_Author's Note._ In the first decision to adjudicate the issue, the Appellate Court (CA 7) held that the alleged fraudulent acquisition of a patent from the Patent Office does not state an antitrust violation for which damages can be recovered. Tool Machinery & Chemical Corp. v. Walker Process Equipment, Inc. 33 L.W. 2027 (7-21-64). For a recent decision involving alleged collusion in securing a patent, see P & D Sales & Mfg. Co. v. Winter, 1964 Trade Cases 71,171.

fortunately due to illness in the family he isn't able to be here. His place will be taken by Mr. Robert Harmon, who is the author of a paper in the *Patent Office Journal* of June 1963 on the subject of "Antitrust Misuse Implications of the Defined Field License."

Mr. Harmon.

MR. ROBERT HARMON: As Mr. Reynolds said, Judge Smith of course regrets very much being unable to attend today to deliver his remarks in person. He has asked me as his law clerk to read them to you. Accordingly, all of the first person references will be to Judge Smith, rather than to myself.

Historically, the growth and development of interference law within the Patent Office has led to the promulgation of rules and practices which are designed primarily to expedite the administrative determination of the issue of priority. The resultant maze has convinced many of the parties in interest in interference proceedings that a "poor settlement is better than a good lawsuit." A settlement in an interference thus recommends itself to the parties because 1) the issues are more promptly and economically resolved, 2) there is a present certainty in the result, and 3) the losing party is afforded an opportunity to negotiate a license or some other concession in return for his abandonment of the contest.

It seems to me that one of the principal dangers in such a settlement lies in the impossibility of determining how the surrounding circumstances may appear some years later when viewed in an antitrust or misuse context. While I am convinced that the vast majority of interference settlements are made in good faith we must in fairness admit the existence of some situations like that which was revealed in *Precision Instrument Mfg. Co.* v. *Automotive Maintenance Machinery Co.*, 324 U. S. 806, where the Supreme Court dealt harshly with the party who was involved in fraudulent conduct before the Patent Office. Such *ex post facto* determinations of unenforceability underscore the general dangers and risks which inhere in any interference settlement.

Suits involving the legality of interference settlements, whether they arise in the context of a Justice Department or FTC action, or in the context of a private infringement suit, may raise issues of the type normally encountered in ordinary *inter partes* interference proceedings. For example, a court, in examining the circumstances surrounding an interference settlement, may be interested to know whether the settlement has resulted in the patent issuing to the "true" first inventor. Thus, ordinary priority issues can become important questions in the public policy scrutiny of interference settlements.

It is my purpose to point out some of the problems which may be encountered in attempting to determine priority issues in cases outside of the ordinary interference setting.

Initially, the court in such actions will have to decide whether it intends to apply all of the rather formalized rules and practices with which interference proceedings abound, or whether it intends to pursue the question of priority from a more subjective viewpoint. In other words, will the court be interested in determining who was *really* the *first* inventor, regardless of whether this fact could have been proved according to traditional interference rules and practice? One important consideration will be whether the court will feel that corroborative evidence is required to the extent it is in the normal Patent Office interference proceeding. For example, will the court be willing to accept, without corroboration, the evidence of the alleged first inventor? Another problem concerns the concept of diligence. In determining who was the true first inventor, will the court concern itself with diligence? In the ordinary interference proceeding, of course, the party who is last to reduce to practice but first to conceive must show diligence from a time just prior to his opponent's conception until his own reduction to practice. However, it may be that a court concerned with the legality of an interference settlement will not be inclined to worry so much about diligence, especially if it is engaged in a subjective hunt for the true first inventor. The tendency in such cases may be to give particular emphasis to conception as the inventive act, and to relegate the ordinarily necessary diligent reduction to practice to a role of secondary importance.

While the courts may encounter difficult problems in attempting to determine who the first inventor was, it would seem that the parties to the interference settlement are faced with even greater difficulties. Assume for the moment that the court will want to know whether the settlement resulted in giving the patent to the "right" party, i.e., the first inventor, and that it will give the answer to this question much weight in the ultimate determination of whether the settlement was lawful, or whether it was part of an unlawful plan to exclude competition or restrain trade. Assume also that the question of priority turns on whether one of the parties has made a reduction to practice, as it often does in interference cases. Under such a set of circumstances, I can think of no more difficult job for the parties and their counsel, in the formulation of a settlement agreement, than to decide whether certain acts of one of the parties constituted a legally sufficient reduction to practice.

In the Court of Customs and Patent Appeals, at least, the law relat-

ing to the proof required to establish reduction to practice seems to me to be far from settled. In my opinion, an attorney who must attempt to formulate, on the basis of our recent decisions, some workable guidelines with respect to the nature and amount of activity required for actual reduction to practice faces a formidable task.

Consider, for example, the case of *Elmore* v. *Schmitt,* 125 *USPQ* 653, decided in 1960. There the subject matter of the count was a "binary counter." Although the name is somewhat exotic, the device was actually rather simple in construction. It consisted of a core, composed of a material having a substantially rectangular hysteresis loop, and a winding wound about the core. The winding was connected at one end to a capacitor and at the other end to a source of input pulses. The device was designed so that large and small voltages would be produced across the capacitor alternately, depending upon the state of the remanent flux in the core. The record indicated that the device was useful in a variety of applications, such as computers, radar equipment, Geiger counters and the like, although no specific application was disclosed in detail by either party.

The case turned on whether the junior party Schmitt could prove an actual reduction to practice prior to a certain date. The evidence showed that Schmitt had tested the device by examining the output waveform on an oscilloscope. The court in a unanimous opinion, held these tests to be insufficient. The court conceded that "so far as the tests went, their results were satisfactory," and also admitted that "oscilloscope tests of the kind performed by (Schmitt) are of recognized value in the art, and, in some respects, probably afford better indication of the properties of the device tested than would be given by normal use in a practical apparatus." The court went on to point out, however, that none "of the various tests employed * * * duplicated the conditions which would normally be encountered in a practical application of the invention."

In view of the facts of this case, the critical word would appear to be "duplicated." The court seems to be suggesting that a reduction to practice can be achieved only by actually testing the claimed device as part of a practical system, or alternatively, by testing it under conditions which precisely duplicate those which would normally be encountered in one of the disclosed uses. In many cases, such a requirement appears to be tantamount to holding that commercial practicability must be demonstrated in order to establish a reduction to practice.

It would appear that the court in the Elmore case, in determining

who the first inventor was, gave much greater weight to the proof relating to reduction to practice than it did to proof of the act of conception, notwithstanding the fact that while the principle under which the device operated was fairly sophisticated, its actual physical construction was relatively simple. Would a court subsequently investigating the legality of an interference settlement in such a case do the same? Or would it tend to disregard the niceties required in proving reduction to practice and hold that the difficult act of conception sufficiently identified the true first inventor? This may well be the type of question faced by prospective parties to an interference settlement.

Another difficult case is *Harding* v. *Steingiser,* 138 *USPQ* 32, decided in 1963. There the subject matter of the count was stabilized polyethylene. In a search for an antioxidant stabilizing material for polyethylene, the parties discovered that the addition of small amounts of a compound known as Santowhite Crystals rendered the polyethylene resistant to color change, odor development and electrical degradation. Again, as in *Elmore* v. *Schmitt,* the junior party had to show actual reduction to practice as of a certain date in order to win the interference proceeding. The junior party offered evidence showing that the material of the count had been milled at high temperatures for a length of time and then pressed into plaques. The plaques were tested and the results indicated good resistance to discoloration and odor development. A majority of three members of the court held that this evidence did not show a legally sufficient reduction to practice. This result was somewhat startling to me, since it was based primarily on the fact that no specific tests were made of the material as pigmented electrical wire insulation, which a majority of the court found from a review of the record was the "intended purpose" for which the stabilized polyethylene was developed. The majority made this finding even though the junior party's specification stated:

"It is an object of this invention to produce ethylene polymer compositions having a substantial odor, color and electrical stability. A further object is to provide ethylene polymer compositions capable of being heat-formed articles characterized by substantial resistance to color change, odor development, and electrical degradation."

Since the project out of which the invention arose was directed towards finding better insulating materials for electrical wiring, the majority of the court, relying on *Elmore* v. *Schmitt,* held that the tests to establish reduction to practice should have been made in that

context, rather than in the broader area of utility to which the tests, and indeed, the disclosure, were actually directed.

Two members of the court, Judge Rich and myself, were unable to agree with the majority opinion. In his vigorous dissent, Judge Rich said:

"A reduction to practice of the composition of the count can be established without proving any electrical properties of the composition. Electrical properties are not of much importance in a squeeze bottle, an ice cream container, or a sheet to cover a pile of cement bags or for the use as a painter's drop cloth, all common uses of films, sheeting, or molded articles of this material."

In short, although the junior party had shown that the invention worked, in at least some of its possible applications, the majority felt that his was not enough, and would have been satisfied, presumably, only with a showing that the material had essentially commercial practicability with respect to what the majority found to be its principal intended use.

A third case, *Walkup* v. *Greig* (PA 7053) was handed down recently. The question there was whether one of the parties had, as of a certain date, actually reduced to practice a novel means for applying developer powder in a xerographic reproduction process. A majority of three judges, in holding that a reduction to practice had not been proved, referred to the poor quality of copy samples made with the new device, to reservations with respect to the probable success of the device found in some of the record testimony, and to a forty month delay between the alleged reduction to practice and the date of filing of the patent application. Two members of the court, on the other hand, after considering the same evidence, felt that there was an adequate showing of actual reduction to practice.

A study of this decision is recommended, since it epitomizes the subjective nature of some priority determinations. What one judge may consider a fatal defect in the proof of reduction to practice, another may consider just a bit of evidence to be weighed with all the others.

One important factor common to all three of these cases is this: In each it was clear, on the record, that the losing party was the true first inventor insofar as conception is concerned. Yet in each case the court held that he was not entitled to an award of priority because of defects in the proof of his reduction to practice. This unfortunately is not a rare occurrence, especially in cases where corroboration or diligence is an issue. Thus, I would bring these remarks to a close with a query: Will the same rules apply where a court is

subsequently examining the legality of an interference settlement which may have been predicated on these decisions?

(Applause)

MR. REYNOLDS: Our last speaker will be Mr. Robert L. Wright, the First Assistant of the Antitrust Division of the Department of Justice. In addition to extensive experience in the antitrust field, Mr. Wright from 1958 to 1961 was Chief Counsel of the Subcommittee on Patents, Trademarks, and Copyrights of the Senate Judiciary Committee. Mr. Wright.

MR. ROBERT L. WRIGHT: Since I don't think there is much left for me to say on the subject, I won't give you the benefit of the more extensive remarks that I had prepared. I think it is perfectly apparent to anybody that interference settlement agreements are substantially no different from any other agreements involving patents in that all of them, whether a license or an interference settlement, create a possibility for a patent misuse when they are made between competitors. Those of you who try to make a guess as to whether or not they will cause antitrust trouble look first of course at the competitive relationship between the parties; and the difficulties, the hazards increase I suppose as the importance of the real parties to the settlement agreement, the corporations in question, in the particular field of technology involved, increases.

I don't think there is anybody here who would suggest that interference agreements are a proper vehicle for pooling the technology of rival corporations. None of us, I suppose, would try to defend a patent system which precluded technological competition between the leaders in any particular field. We assume that ownership of patents by industrial corporations is proper because their exploitation should lead, or is expected to lead, to competitive development of similar patents by other corporate entities.

I am not of course going to comment on any of this pending litigation, either ours or the Federal Trade Commission's. But otherwise I will be happy to answer whatever questions you may have.

MR. REYNOLDS: Unfortunately we have used most of our time. I don't think we will have time to hear from all of our staff contributors individually. If any of them feel that they have any pearl of thought on this subject, I would ask them to step up and cast it.

Does anyone feel the urge to express an opinion?

Perhaps it is just as well.

We don't have time, either, for questions, which again may be just as well, because I am not sure we would have all the answers. I

think that the subject has been very well covered by our panelists. We will have to conclude this session.

(Applause)

MR. STEVENSON: Thank you very much, gentlemen. Since we do not have time for questions, there is considerable interest by certain individuals, and there will be a chance possibly during the reception to discuss some of these things. The questions will have to be deferred to that period.

As we approach the second half of our afternoon session I am going to suggest that we do not take a recess in the sense of leaving this room, but that we stand for a moment.

We have already been in session for two hours.

(Recess)

LATE AFTERNOON SESSION

INTERNATIONAL CHALLENGES TO UNITED STATES FIRMS OPERATING ABROAD

MR. STEVENSON: The moderator for the last part of the afternoon program, where the subject is INTERNATIONAL CHALLENGES TO UNITED STATES FIRMS OPERATING ABROAD, is Dr. Jack N. Behrman, Assistant Secretary of Commerce for Domestic and International Business, Department of Commerce.

I will be brief in introducing him to you. He comes to us from a long experience in government. He was appointed to his present post by President Kennedy as Assistant Secretary of Commerce for International Affairs. He has had associations with this Institute on a number of occasions. He is the author of authoritative works in the area of our coming session. And so without further ado, I am going to call on Dr. Behrman to introduce in turn those who will contribute first to the subject of INDUSTRIAL PROPERTY PROBLEMS, and then to the subject of ANTITRUST AND TRADE PRACTICE PROBLEMS.

Dr. Behrman.

PART VII — INDUSTRIAL PROPERTY PROBLEMS

Invited Contributors

DR. JACK N. BEHRMAN: Thank you.

I am pleased to be here to participate in this particular discussion. I have just come from a trip around the world, from some of the less developed countries, examining particularly their patent systems, the way in which they treat industrial property rights, and find con-

siderable problems in India, Ceylon, Philippines, and various countries of Latin America. I think this discussion is quite timely.

I am particularly pleased also to introduce as the first speaker Mr. Paul R. Porter, who has been with me on many of these discussions in the past, particularly before my joining the government.

Paul was with the government himself from 1941 through 1953 in various capacities: War Production Board, Deputy and later Chief mission, Economic Affairs, American Embassy, London.

From 1949 to 1950 he was Chief of the ECA Mission to Greece. From 1951 to 1952 he was U. S. Special Representative in Europe for the Marshall Plan.

Since 1953 he has been Director and President, Porter International Company.

MR. PAUL R. PORTER: I have chosen to talk about a set of problems which are more emerging than current but they are near enough at hand to constitute a challenge.

The challenge is how to exploit profitably in underdeveloped countries industrial property rights derived from corporate research and development and from trade promotion.

In appearing before this Institute, which has made the simple word "Idea" its logotype, I feel called upon to offer, as my credentials, an unpatentable idea of my own to help meet the challenge I have stated. So far as I know it has not been placed in the public domain before.

Let us begin by an indication of the dimensions of our problem, as measured by the number of different sovereign systems which apply to patents, trademarks, copyrights and that important area of technology poorly protected by law, known as know-how.

Those of us who studied geography in an earlier day are prone to forget how many sovereign nations there are in the world now. Even the small company I head has done business in 51. A good measure of the number of nations which in the future may occupy the attention of those of us who manage property rights derived from invention may be found in the list of delegates to a recent conference in Geneva. During the past 12 weeks representatives of 119 nations have met there to talk about international trade and industrial development.

If, as one definition of an industrial nation, we use the yardstick of its capability to earn significant foreign exchange from the export of manufactured products, not more than 20, or one-sixth of the nations represented at the Geneva conference, would qualify. Approximately another 20 nations may be described as quasi-industrial.

Included in this group are such nations as Mexico, India and Spain. Together the industrial and the quasi-industrial nations represent about one-third of the sovereign nations of the world. About another third of the sovereign nations—or perhaps one-half, depending upon such arbitrary yardsticks as one may use—are making a beginning toward an industrial society. In this group are such nations as Costa Rica, Nigeria, and Iran.

In terms of our experience, the efforts of some of these nations may seem misdirected—as in the quest for a status symbol, such as a steel mill—but the drive for industrial development is a powerful one and will be at least partially achieved. These nations have also proposed many practical projects which have been supported by the World Bank, the U. S. Government and several of the European Governments. A minority of these projects have attracted private foreign investment.

The point of this brief review is that new opportunities are being opened for U. S. corporations in many of the quasi-industrial and the underdeveloped nations. But many of these opportunities cannot be adequately exploited by conventional investment or conventional licensing. One of our problems is the need for fresh thinking.

In considering opportunities for the exploitation of U.S.-owned industrial property rights in underdeveloped nations, let us start with some exclusions.

First, sophisticated technology is usually too advanced to be relevant to present needs.

Second, because of the small size of many underdeveloped nations and the thinness of purchasing power, manufacturing operations dependent upon mass markets are impractical.

Third, many countries in this group are too unstable to warrant the attention of American business at this time.

Fourth, every American corporation, no matter how big and powerful, is limited by the capital and management it can afford to commit.

A large field of opportunities remains even after these exclusions, but a high degree of selectivity must govern attempts to exploit them.

Investment as an instrument is necessarily limited to the most attractive opportunities, but licensing will allow a broader range.

How important are patents to licensing in the underdeveloped countries? In the economically weaker countries they are often not essential. Know-how is usually sufficient, particularly if there is a prospect for continuing improvement. In many of the countries there is room for only one producer of the products to be licensed. Economic

circumstances alone may create a near monopoly during the life of a license. Nonetheless a patent will usually make a license more valuable by prolonging its life and perhaps increasing the royalty. Certainly broader filing will be warranted in the future, and patent and trademark attorneys must become familiar with the economic conditions and laws of more countries.

Under prevailing practices, the cost of placing a license, let us say in Peru or Turkey, may be too large to make it attractive. Investigation of a prospect's qualifications and integrity and of local laws, as well as the expenses of negotiation, may impose a prohibitive burden.

It is in this connection that I offer an idea which, so far as I know, has thus far been discussed only within my own company.

In almost all but the most primitive of the underdeveloped countries, a special type of investment bank known as a development bank has come into being in recent years.

Recently the International Finance Corporation, a World Bank subsidiary, listed 125. In some countries there are more than one. More are being organized. Some are wholly government-owned, a few are wholly private, and a large number are of mixed ownership.

Various U. S. banks, through their Edge Act subsidiaries, have invested in about 25 of the development banks. The U. S. banks include the First National City Bank of New York, Chase Manhattan, Morgan Guaranty, Irving Trust, Bankers Trust, Bank of America, and Wells Fargo.

The idea advanced here is that some of the development banks might become a master licensee, directly responsible to the licensor, but in turn sublicensing a local borrower. Development banks have these incentives to act as a master licensee.

First, licenses would help development banks achieve their own ends. Most development banks are mandated by their charters, not only to earn money by investing and lending, but also to promote national development. These purposes would be served by the import of production and marketing know-how. The feasibility of a new industry may depend upon a license.

Second, a license from a qualified American manufacturer would improve the productivity of the bank's borrower, and perhaps its market, thereby making the borrower a better credit risk.

Third, the bank could take a small profit on the operation.

The licensor would have these advantages in comparison with direct licensing of a foreign firm:

First, the necessary investigation of the market and the qualifica-

tions and reliability of the ultimate licensee will have already been made by the development bank in its study of the loan application. This information would become available to the licensor without cost.

Second, greater confidence can be placed in the development bank than in a company which probably was previously unknown to the American company. Usually local commercial bankers and leading businessmen serve on the board of the development bank. Also, as noted, some major U. S. banks are stockholders in about two dozen development banks.

Third, the development bank is in a strategic position to secure foreign government approval of royalty remittances. The development bank must routinely examine the books of the ultimate licensee while he is a borrower, and can thus certify royalties due. The bank's public reports may be expected to provide information on the state of the national economy.

Frequently, circumstances may be favorable to the licensor acquiring an option to invest later in the foreign company, perhaps in conjunction with the development bank or by a first call on shares which the bank may purchase when its loan is made.

The use of a development bank as a master licensee is, of course, not the only form which might be employed. An alternative might be that a development bank would propose one of its borrowers as a licensee, certify the reliability of financial data, and perhaps guarantee performance of minimum license terms. Other variants are also possible.

A few months ago my company had occasion to put this idea to a test. My company has a contract to manage a development bank which was started in Cyprus last summer. A Cypriot manufacturer of macaroni for the local market applied for a loan to start a biscuit factory. A spot check of consumers by bank investigators revealed a decided preference for brand name imports. Moreover, part of the expected market would have consisted of resort hotels catering to British and other North European tourists. They required a good quality product.

Our management team concluded that although the applicant's credit position was strong, a loan would be risky unless the applicant could obtain a license which assured technical assistance for quality and an accepted brand name. The applicant at first did not know the meaning of a license but readily agreed to pay a royalty for technical assistance and use of a trademark when the facts were explained. In this case action on the license and requested loan were suspended when communal fighting erupted on the island, but the

incident is illustrative of the useful role which a development bank can play when it is aware of the value of foreign licenses for its own purposes.

At this time neither development banks nor the managers of industrial property rights appear to have given consideration to their obvious mutual interest in expanding the role of licensing in underdeveloped countries. To obtain such consideration is one of the challenges which we who are concerned with the management of patents, trademarks and copyrights have been invited to discuss today.

(Applause)

DR. BEHRMAN: Thank you, Paul, for one more stimulating idea in a brief fifteen minutes.

Our next speaker on the same subject of INDUSTRIAL PROPERTY PROBLEMS, is Mr. Leonard J. Robbins of Langner, Parry, Card, & Langner, who is a specialist in foreign patents and trademarks. He is the author of many papers in this field.

Mr. Robbins.

Mr. LEONARD J. ROBBINS: Ladies and Gentlemen: I think it is safe to say that since the war, and particularly during the last decade, there has been more activity abroad in the general field of industrial property than at any previous time.

For the executives and legal and patent staffs of U. S. firms which operate abroad, this is still another challenge they have to meet. It is not only a challenge but a problem of information and communication. At the present moment there appears to be a lull, so it may be a good time for review and for stocktaking. It is important to distinguish between what is still in the purely proposal stage or under dispute, and what is actually taking place or which has occurred. And it is also important to consider what may affect U. S. commercial interests abroad.

I will touch on the following topics involving industrial property: proposals for international and supranational conventions, and the concurrent proposals for harmonization of national laws; investigations and attacks; protection of know-how abroad; and the rise of foreign antitrust.

First, the conventions and harmonization.

The draft European Patent Convention has of course received major publicity in recent years as a dramatic forward step into new legal territory. The present situation is authoritatively surveyed in the interviews reported by Mr. Gerard Weiser in the Spring 1964 issue of this Institute's *Journal.* Some of the principal problems still remain unsolved.

The Germans call for an open Convention, the French for a closed Convention. Many here consider that the United States should be in at the beginning on an open basis—some say "must".

It is fascinating to speculate on possible compromise solutions, but it would be quite idle to discuss them here. The answer will depend essentially on political developments in the Common Market. No further official information is likely to be available until late this fall. However, certain sober voices in Europe are saying that the proposal as a whole is premature. The Convention is actually a very complex patent law for a superstate that does not yet exist. Can it successfully compete with national patent laws with which it will coexist?

The European Trademark Convention has not yet taken wing. It is rumored that a draft text has been completed. It seems fairly certain that this Convention will also be in the form of a complex trademark law with protection based on registration and not first user, and involving examination and opposition. It will coexist with the national trademark systems and in general the same basic problems of accessibility, association and adherence will exist as with the Patent Convention.

Most responsible European sources consider that even if satisfactory solutions to these problems can be found now, it will still be many years before all six parliaments of the Common Market countries have ratified the Conventions, and before money has been appropriated and staff recruited to enable the European Patent and Trademark offices to open for business.

And other events may intervene. As Walter Lippmann has recently emphasized, the whole conception of what Europe actually is, is changing.

In the meantime there has been a somewhat surprising development in the Scandinavian countries. For many years a Nordic Patent Convention has been proposed and discussed. In the last few months it has suddenly come to active life under Swedish leadership.

Essentially this involves the enactment of substantially identical patent laws in Sweden, Norway and Denmark and probably Finland, and a treaty between these countries whereby an application filed and granted in any one of them could also be automatically issued in some or all of the others, at the request of the patentee.

This would be an open Convention available to nationals of any country. It is believed that there are no important political objections, and the Nordic Convention may possible be in effect before the end of the present decade. In view of the existing similarities in prac-

tice and language among the Scandinavian countries, this is actually in the nature of harmonization rather than a supranational system.

The interesting thing is that the final proposals were made after very careful study of the draft European Patent Convention and consultation with the officials of the Common Market Commission in Brussels. Certain of the proposals in the European Patent Convention have been incorporated.

Incidentally, it hardly seems likely that the Scandinavian countries would undertake this change now, if they thought that a European Patent Convention would be available to them in the near future.

Harmonization has also just won a quiet victory in the countries belonging to the Council of Europe—which include the six Common Market countries. There are already two existing minor Conventions relating to classification and formalities. A new Convention has been signed dealing with harmonization of several important substantive aspects of patent law, particularly relating to novelty and patentability. While no one could say this makes the German and French systems similar, at any rate it does bring them closer together.

In this connection, it should be remembered that many proponents of the European Patent Convention, while approving in principle, have stated that harmonization of national patent laws must come first.

In the Benelux countries, a Trademark Convention was approved several years ago. This is not a harmonization proposal but would provide a single mark for Belgium, Holland and Luxembourg. However, ratification has been held up—apparently indefinitely. This may indicate that these three countries are waiting to see what happens to the similar but broader European Trademark proposal.

Turning to another continent, a very practical step has been taken in Africa. The vast French African colonies, which were formerly automatically covered by a French patent, have split up into separate countries.

Some twelve of these, including Madagascar, have formed the African and Malagasy Union to coordinate many of their activities. In 1963 they signed an Industrial Property Convention whereby they all adopt the same relatively simple patent and trademark laws, and a single filing in a centralized patent office will lead to patents and trademarks covering all twelve countries.

Considering the general confusion in Africa, it is remarkable that industrial property rights, at any rate in one group of countries,

should receive such prompt and sensible attention. It is to be hoped that foreign capital investment will respond to this invitation.

During this new and challenging period of developing international and supranational aspects of industrial property law, there have simultaneously been certain investigations of national patent laws and even outright attacks in a number of countries, which must be considered in the general picture of U. S. foreign activities.

In 1961, in the General Assembly of the United Nations, a draft resolution originating with the Brazilian delegation, was presented demanding an investigation of the role of patents in the transfer of technology to under-developed countries.

The original wording almost implied condemnation, but was toned down, as a result of well reasoned criticism by a number of interested organizations. The final resolution, dated December 19, 1961 directed the Secretary General to make a broad study of patents, and in particular the effect of patents granted to foreigners on the economy of under-developed countries.

The resulting U. N. Report has now been issued, dated February 14, 1964. It is fair, objective, and is based not only on theoretical research, but on an extensive questionnaire sent to over fifty countries and many interested organizations. It is well worth reading for itself, and as a sample of U. N. activity. It establishes factually and conclusively that there is an unbalanced distribution of capital, technological skills and managerial skills between the developed and under-developed countries.

The conclusion is that the grant of patents to foreigners in the under-developed countries is actually a factor for the correction rather than the creation of this unbalance.

On the other hand, pharmaceutical patents have come under direct attack in several countries. As is well known, the existing Italian patent law withholds any protection whatever for pharmaceutical inventions. The same is now true in Turkey. In India the grant of all patents in this field has been indefinitely suspended, and legislation of an extremely restrictive character has been proposed. In Colombia, New Zealand, South Africa and even Canada various proposals have been made to restrict the scope and term of all pharmaceutical patents and to make compulsory licensing to third parties a mere formality.

The avowed purpose is to make drugs available to the public as cheaply as possible. Arguments based on the heavy cost of pharmaceutical research now make little impression abroad, since so many successful drugs have been discovered and also since they are avail-

able at low prices from sources in Italy where American and European pharmaceutical products have been copied with impunity for many years.

This is a field where partisanship and misinformation are rampant. Participation by U. S. firms in educational programs is highly advisable if the impetus behind medical research is to be maintained.

If patent systems are eroded in one area, they may be weakened as a whole. However, it is just possible that Common Market pressures may be strong enough to make the Italians change course and enact a new pharmaceutical patent law.

Within the Common Market itself, it had been assumed that national patents were sacrosanct for the indefinite future, particularly in view of the coexistence principle in the draft European Patent Convention.

However, last year a surprising and controversial article was published by a high official of the Commission asking in pointed terms whether certain aspects of these national rights were indeed inviolable and sacred. Vigorous replies were made, but it appears that constant vigilance everywhere is necessary.

Turning now to the status of know-how abroad, in a number of countries, particularly in Europe, know-how is emerging as a recognizably distinct branch of industrial property—an intangible asset supplementing patent and trademark rights, which can be assigned or licensed. It can be protected against unauthorized disclosure. The legal theories supporting such protection have differed—in some countries implied contract or breach of confidence, in others unjust enrichment. However, in general, the foreign courts appear in essence to be applying the principles of unfair competition law—since up to now there is no statutory national law anywhere defining and protecting know-how rights.

In this connection it is of great interest that in 1961, after more than five years study, the International Chamber of Commerce adopted a resolution containing suggested rules for the protection of know-how. It was actually as a result of this resolution that the Common Market Commission included know-how along with patents, designs and trademarks in its regulations concerning notification of agreements in the industrial property field.

At the present time, know-how, both old and new, has therefore become a saleable asset for American firms operating abroad. However, until statutory law emerges, all foreign agreements involving know-how must carefully define the rights and duties of the parties involved.

As regards foreign antitrust, the control of competition in the Common Market by what amounts to a civil-service organization interpreting legislated antitrust rules on essentially economic grounds is, of course, something new for U. S. firms to cope with.

However, it must be remembered that in the industrial property field, the products protected by national patents and trademarks in the six Common Market countries should not be subject to any prescriptions involving competition conflicting with the national patent and trademark laws, since, by definition, the essential right of the national patentee or trademark owner is to prevent competition in the product in the national territory.

It appears that this situation must continue while European patents and trademarks exist—or until they have been superseded by supranational rights. It must also be remembered that when national patents and trademarks are licensed, then many borderline situations can arise in connection with Article 85 (3) of the Rome Treaty and even Article 86.

It almost stands to reason that any activities outside the strict confines of the patent and trademark grant under the national laws may be prohibited—though justification can be an interesting challenge to ingenuity.

Although there is still undercover opposition both within and outside the Common Market to the procedures established by the Commission, it does appear wise to notify all but the simplest industrial property agreements to the Commission, since the possible penalties for independence could be great.

After the original notifications in this field have been analyzed and classified, it appears probable that the Commission will issue rules which will clarify the dividing lines.

Industrial property is of course only a small part of the Commission's domain, but the new antitrust regulations can be of vital significance to U.S. firms operating in Europe in technological fields involving patents and in consumer markets, involving trademarks.

In addition to antitrust regulations in the Common Market, as a further problem for U.S. firms operating internationally, a large number of foreign countries—at least 18—now have individual national laws against restrictive trade practices which can also be considered as constituting "foreign antitrust." In some of these countries the legislation is principally directed against price fixing. However, in others, there are some strong parallels to the Common Market antitrust rules. In particular, in Great Britain, Western Germany and Spain certain types of industrial property agreements must or should be regis-

tered before the appointed authorities. In Brazil this will also be true when a government organization is established. In Japan actual negotiations with Government authorities are necessary before the terms of an agreement can be finally settled.

In conclusion, it will be seen that while international, multinational and supranational industrial property rights are very much in the news, nothing definite, constituting a clean break with the past has actually occurred up to the present and is not likely to for a number of years. In the meantime, U.S. firms must continue to take out conventional national patents and trademarks in foreign countries.

On the other hand foreign antitrust, as distinguished from foreign aspects of the domestic variety, has already made a definite impact, and must be taken into account from now on when preparing industrial property agreements involving international trade.

This brief and superficial survey has been based on a mixture of long-term optimism and present caution. Certain of my professional friends, both in this country and abroad, take a somewhat more stringent view of the situation and consider that many aspects of these industrial property developments, while apparently leading to simplification, may actually add complications and produce chaotic legal results in a field already complex enough.

I can only refer to that ancient story of the doctor, the engineer and the lawyer discussing the relative ages of their professions.

The doctor said, "When Adam had his rib out, that was the first operation." The engineer said, "Before that happened, order had to come out of chaos, and that was the first engineering job." So they turned to the lawyer, who paused and then looked them straight in the face and said, "Who do you think made the chaos?" (Laughter and applause)

DR. BEHRMAN: Thank you, Mr. Robbins.

PART VIII — ANTITRUST AND TRADE PRACTICE PROBLEMS

Invited Contributors

DR. BEHRMAN: Mr. Robbins has already moved us into the next subject on ANTITRUST AND TRADE PRACTICE PROBLEMS. I notice the program calling for four speakers on this subject, twice as many as on the other.

I am not quite sure whether this means that the problems have varying solutions, or whether there is disagreement as to the nature or existence of the problem. I think it is probably the latter.

To speak first on the subject is Mr. Paul Rand Dixon, who has

been in many discussions with us in the Department of Commerce on these problems. He is Chairman of the Federal Trade Commission since 1961.

Prior to that, he was with the FTC as Trial Attorney from 1938 to '57; from 1957 to '61, as Chief Counsel, Staff Director of the Subcommittee on Antitrust and Monopoly, U. S. Senate.

Mr. Dixon.

MR. PAUL RAND DIXON: Dr. Behrman, Ladies and Gentlemen: I promise to stay within the eight minutes, I hope.

When Professor Harris invited me to speak on the subject of "International Challenges to United States Firms Operating Abroad," I realized somewhat belatedly that perhaps what was contemplated was an erudite treatment of the Draft Convention for a European Patent Law or perhaps a discussion of the four A's—Accession, Adherence, Association and Accessibility.

While appreciating the importance of the current negotiations directed toward a supranational European Patent Law, my association with patent law and procedure has necessarily been limited to my charged responsibilities at the Federal Trade Commission, i.e., to proceedings involving either the fraudulent procurement, or ultimate misuse of the patent grant.

Of particular interest in this regard are two recent cases, the so-styled "antibiotic case" [1] and Grand Caillou Packing Company, Inc., which was released by the Commission only last Thursday. One of these cases is in court for review and I would expect very soon the other one will be there, so my remarks must not therefore be interpreted as other than the view of the FTC. In the antibiotics case the Commission found, as you perhaps know, that Charles Pfizer & Co., Inc., knowingly made false and misleading statements of fact before the Patent Office and deliberately suppressed information, all of which was material to the Patent Office's consideration of Pfizer's patent application.[2]

American Cyanamid Company was found to have accepted a license from Pfizer under this patent with knowledge that it had aided Pfizer in securing the patent by reason of its misrepresentations of fact to, and its withholding of information from, the Patent Office.

The Commission observed in its opinion that:

"The monopoly granted by the patent laws is a clear but narrow exception to our free enterprise system. The thought that monopoly

[1] American Cyanamid Company et al., D. 7211, Decision August 8, 1963, Final Commission Order Jan. 7, 1964. Pending on Appeal, 6th Cir. Feb. 25, 1964 .

[2] The Conover application, United States Patent 2,699,054 of January 11, 1955.

power may be acquired through fraud, unclean hands, inequitableness or bad faith, or any borderline behavior before the Patent Office has manifest connotations of unfairness. Ironic indeed would be the result if this Commission—with power against partial, incipient and various other hybrid monopolies—could not arrest the continuance of an absolute monopoly procured by unfair methods."

The Commission concluded that "misrepresentations and the intentional withholding of material information to obtain a commercially valuable patent is an unfair method of competition and an unfair act or practice" in violation of Section 5 of the Federal Trade Commission Act. The Commission further concluded that its jurisdiction extended to preventing the enforcement of a patent procured by such means.

This decision has unfortunately been misinterpreted in some quarters abroad. We were advised that within the EEC the case was considered as extending the Commission's control over the pharmaceutical industry in Europe and as evidencing a disposition on our part to restrict and weaken the United States Patent System.

Neither, of course, is true. The decision is directed only to the practices of these specific companies in procuring a patent and the decision does not reflect any change in American patent policy, or otherwise weaken the protection afforded by United States Patent Laws.

The Grand Caillou case [8] may also have important domestic patent overtones. In this case the patents covered indispensible shrimp processing machinery which insured a monopoly to respondents.

Respondents, however, were leasing this machinery to United States processors on the West and Gulf Coasts while selling the same machinery to competing foreign processors trading in the United States.

The Commission held this conduct to be illegal stating in part that: "The discomfiture of the American canners is understandable, for the respondents have placed them in an untenable position. They are required to operate with static higher peeling costs—costs which remain at a constant level without regard for production level. Foreign canners using machines purchased from respondents' experience initial lower costs which recede with increased production. American canners have been placed at a competitive disadvantage by respondents' foreign sales and the likelihood is that their foreign competitors, particularly the Japanese, will enlarge their penetration

[8] Grand Caillou Packing Company, Inc., Docket No. 7887, Decision, June 4, 1964.

of the United States canned shrimp market. Domestic canners are powerless in the face of respondents' patent monopoly to effect any change in their competitive position vis-a-vis their foreign competitors using respondents' machines and the public interest requires remedial action on their behalf. Respondents' discriminatory practice of selling to some, but not all, competing canners has been shown by this record to be unfair and violative of Section 5 of the Federal Trade Commission Act."

This case is not to be construed as an attack on the patent monopoly but only on its misuse as a vehicle for destroying competition. The decisions on the appeals on both these cases should shed some light on our future direction, perhaps to tell us that we were wrong.

The grant of additional authority to negotiate reductions in tariff and nontariff barriers to trade by the Trade Expansion Act of 1962 opens up the possibility of increased trade and competition between the United States and the European Economic Community.

It is my hope that the rules for this trade will be interpreted, administered and enforced towards achieving a competitive climate of equality.

Under our statutes, the antitrust legality of any international arrangement whether it be patent, technology and trademark licensing agreements, joint production and manufacturing ventures or exclusive foreign distributorships, turns ultimately upon whether, viewed in its industry setting, it represents an unreasonable restraint upon the foreign or domestic commerce of the United States. And in applying this "rule of reason" the standard for lawfulness may differ domestically and internationally.

During the course of the White House Conference on Export Expansion, I suggested that unreasonable restraints as applied to international commerce may not necessarily have the same meaning as unreasonable restraints on domestic commerce.[4]

This suggestion was motivated in some measure by my concern that the American businessman may well be operating under more restrictive rules than his foreign competition.

For example, cartel agreements among firms in the European Coal and Steel Community for export sales are not subject to regulation. The Treaty of Paris thus permits cartels in selling to third countries. Articles 85 and 86 of the Treaty of Rome correspondingly

[4] Report to the President of the White House Conference on Export Expansion, page 35 (Sept. 17, 18, 1963).

apply only to practices which affect trade between the member states.

These articles accordingly have no application to intrastate activities unless they are such as to have a substantial effect on interstate commerce. Moreover, there is no regulation of agreements which establish practices forbidden by Article 85 provided these practices are to be carried out in countries outside the European Economic Community. The only discriminatory practices therefore that are subject to regulation are those which affect interstate community trade.[5]

Our American antitrust laws, however, apply to the operations of United States companies anywhere in the world if they restrict competition in United States foreign or domestic commerce.[6]

This means that if an American firm's practices substantially affect United States commerce he must abide by: 1) the Antitrust Laws of the individual EEC member states; 2) The EEC Antitrust Laws, and 3) United States Antitrust Laws.

It also means that in third markets he must comply with the requirements of his own antitrust laws while his international competition is free under its national laws to operate unrestrictively against him.

These are matters which were broached during the White House Conference on Export Expansion and they certainly are among the international challenges facing those American firms operating aboard.

The fact that United States antitrust laws may be affording foreign producers opportunities over American nationals in international markets is also among the challenges facing those who are charged with the enforcement of these laws.

Surely our responsibility for interpretation in the prospective light of these rapidly developing competitive inequities, (if inequities they truly be) will require re-evaluation of our past administration. Perhaps the final answer will lie in further concerted, cooperative efforts with EEC members and others directed towards fair and equal competitive rules for all.

Thank you.

(Applause)

DR. BEHRMAN: The next speaker is Mr. Wilbur Fugate. We

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[5] *Economic Policies and Practice,* Paper No. 4, *Private Trade Barriers and the Atlantic Community,* page 4 (Material prepared for the Joint Economic Committee, Congress of the United States).

[6] United States v. Aluminum Company of America, 148 F.2d 416, (2d Cir. 1945); United States v. Imperial Chemical Industries, 100 Fed. Supp. 504 (S.D. N.Y. 1951), decree 10 Fed. Supp. 215 (S.D. N.Y. 1952); Branch v. Federal Trade Commission, 141 F.2d 31.

are rushing along to try to provide you some time to ask questions and argue, because I know these ideas are stimulating some response on your part. This is the first time I knew, as many times as I talked to Wilbur, that he and I are alumni of the same college, from which Dean Rusk also graduated—Davidson College. Congratulations, Wilbur. (Laughter) He is now chief of the Foreign Commerce Section, Antitrust Division, Department of Justice, besides all the other things which he has done. He has been and is currently U. S. delegate to the OECD Committee of Experts on Restrictive Business Practices, an area in which we in the Department of Commerce also have considerable interest. And, as you know, he is author of *Foreign Commerce and the Antitrust Laws.*

Wilbur?

MR. WILBUR FUGATE: Thank you, Jack.

Ladies and Gentlemen: One of the delegates, Mr. Dixon, frequently attends those meetings. We have several others.

I will also try to keep within my allotted time.

I would emphasize, to start out with, that the application of the antitrust laws to United States foreign trade is a well-established and fundamental policy of Congress which has been reiterated many times from the first enactment of the Sherman Act in 1890. The rationale of the treatment of patents and industrial property by the courts with respect to foreign trade as well as with respect to domestic trade seems to me to indicate two main lines or two main bases. The first is that the patent system is primarily designed, as set out in the Constitution, to promote the progress of science and the useful arts, and therefore the courts have emphasized the public interest in the patent system, and the Supreme Court has sometimes said that the public interest in the patent system, in certain respects, is very similar to the public interest in the antitrust laws.

The second basis, it seems to me, of these cases both with respect to international and domestic commerce is that the patentee must strictly stay within the scope of the patent, and that when he ventures out of the area the patent rights have given him and attempts to use the patent as a lever to gain other competitive advantages which are not inherent in the patent, then he is subject to the usual rules regarding antitrust conduct. In fact he may be treated somewhat more stringently because of the use he has made of the limited monopoly given him by the government.

A number of the foreign trade cases concern cross-licensing of patents and technology between American and foreign competitors, with mutual territorial restrictions.

In these cases, the courts have emphasized that the parties did go beyond the actual patent, trademark or technological rights possessed by the parties. Commonly each licensed the other for all of the patents and technology owned or controlled in a broad field, including future patents and inventions.

In the *National Lead* case, for example, this involved a network of patent license agreements between American and foreign competitors: National Lead owning United States titanium patents, through a subsidiary, entered into an agreement with a Norwegian company owning foreign titanium patents.

Each gave the other an exclusive license for the patents and technology for respective territories, and each appointed the other its sole agent in the other's territory for all of the products in the licensed field.

The agreement specifically prohibited each party from exporting products in the licensed field into the other's territory.

Subsequently, similar agreements were made with other major companies in the field in other countries. The District Court in that case had little difficulty in declaring the arrangement illegal as a worldwide patent pool of all present and future patents covering an entire industry and dividing the world up into exclusive territories.

An important case dealing with foreign trade is the *Timken* case, which stands for the proposition that neither patents nor trademarks will support agreements to divide world territories.

Originally, American Timken had licensed a subsidiary of the British Vickers Company, later British Timken, under both patent and trademarks, with territorial restrictions.

At the time the case was brought, the patents had expired but by analogy it was argued that the division of markets was justified by the licensing of the trademark "Timken."

The Supreme Court noted that the agreements went far beyond the protection of this trade name since they dealt with the control of the manufacture and sale of bearings whether or not the name Timken was affixed thereto.

In any event, the court said "a trademark cannot legally be used as a device for Sherman Act violations."

I will mention just one other recent case, the *Singer* case. That complaint charged Singer, the sole American manufacturer of household zigzag sewing machines, with combining with two European manufacturers to use their United States patents to keep out the competition of Japanese importers.

This case primarily concerned the United States domestic market,

and the Supreme Court held the arrangement illegal as being part of a conspiracy by two competitors to keep out the trade of third parties, which happened to be Japanese importers.

The case does indicate the impartiality of applying the antitrust laws, whether it helps or hurts our companies or whether it helps or hurts foreign companies.

The treatment of foreign competitors trying to enter the United States market is the same as that with regard to American companies trying to enter the United States market. In either case, the rationale is that the competition will help the American market.

These foreign trade patent cases raise the question of the essential nature of a particular arrangement, whether it is a division of the markets agreement, a conspiracy to exclude competitors, or whether it is a licensing agreement with some restrictions ancillary and necessary to the enjoyment of valid legal rights.

In the cases with which we are familiar, the courts have found the primary purpose to eliminate competition in United States or foreign markets with the transfer of industrial rights being merely incidental thereto.

The courts in these cases have not attacked the patent grant but only the misuse of patents. They have also made it clear that patent rights will not protect companies which enter into arrangements restrictive of competition in the foreign field any more than in the domestic field.

At a time when the United States is seeking to expand its trade with other nations, it is essential that private barriers not be erected which will stifle this trade.

(Applause)

DR. BEHRMAN: Thank you, Wilbur.

We will hear now from the company side, Grant W. Kelleher, Counsel, Standard Oil of New Jersey. He was, during the '30s and early '40s, Special Assistant U. S. Attorney General, Antitrust Division, Department of Justice.

From 1948 to '50 he was in private practice. From '50 to '52 he was in Germany, first as Chief of the Decartelization Division, Office of General Counsel, U.S. High Commissioner for Germany. And then as Deputy General Counsel for the U.S. High Commissioner, after which time he joined the Standard Oil Company.

Mr. Kelleher.

MR. GRANT W. KELLEHER: Dr. Behrman, Ladies and Gentlemen: I would like to take the few minutes that I have this afternoon to stress and elaborate a bit upon the remarks made by Mr. Robbins and Chair-

man Dixon that the antitrust international challenge to U.S. firms operating abroad is not limited to U. S. law today.

As all of you know, there have been a plethora of laws which have been passed since the end of World War II, largely at the instigation and urging of the U.S. authorities. Prominent among these is the Treaty of Rome. I would hasten to urge all of you to recognize that the antitrust provisions of this treaty, particularly Article 85, are, so far as we can see now, bound to have a profound effect upon the method in which business is being done within the Common Market, and particularly business of the type in which you gentlemen are interested.

Article 85, as all of you know, prohibits contracts, agreements, and concerted action which distorts or restricts competition in trade between the member states. It itemizes a list of practices which is not exclusive, such as price fixing, division of territory, and the like.

Enforcement of these antitrust laws is lodged with the EEC Commission which has within it what is called a directorate general of competition, led by a skillful leader by the name of VerLoren van Themaat, a Dutch economist who is strongly imbued with the philosophy of a free economy achieved through the antitrust laws. He has under him a staff of what are now highly trained lawyers and economists who are again dedicated to enforcement in an effective fashion of these provisions of the Rome Treaty.

Many of these people have spent substantial time in the United States getting the views of the Department of Justice, the Federal Trade Commission, and of private practitioners concerning antitrust problems.

The Commission has the power to levy extraordinarily heavy fines in the event of a violation. It can, for example, as I recall, if I am correct, levy a fine equal to 10 percent of the turnover of the particular concern involved in any year during which a violation occurs.

There is a provision under the law for appeals to the Court of Justice, so that it is hoped that the rule of law will prevail and that there will not be a serious risk of the Commission operating beyond the judicial principles which we all respect.

Among the important provisions of Article 85 is a provision which authorizes an exemption from the prohibitions of Article 85 (1) in the event that there are certain findings made.

Those findings can be very general. For example, the text of the treaty speaks of agreements which result in economic or technological improvement. So that there is a broad discretion under the act to grant exemptions from Article 85 (1).

The Commission, itself, is charged with the responsibility of handling applications for exemptions. It has established procedures by which companies wishing to obtain exemptions from Article 85 (1), or wishing to obtain what is known as a negative clearance, can do so.

A part of that procedure consists of a notification procedure under which any company or person, for that matter, which has an agreement—which is a party to an agreement which it considers may be in violation of 85 (1), but which it believes to be entitled to an exemption under 85 (3), may notify the agreement.

But bear this in mind: Before there may be any application for exemption under 85(3), it is essential that the agreement, itself, be notified in advance.

As a consequence of this notification procedure, some 35,000 agreements have been registered with the EEC. Most of these, however, are agreements involving either exclusive dealing arrangements or arrangements under which distributors are given exclusive territory and where they are, therefore, not free to distribute products beyond the member state in which they operate.

The Commission now is engaged in trying to sift out these filings to handle this enormous administrative problem. I would expect that within the next four or five months it will have disposed of a good number of the cases filed through exercise of a right, for which it has applied to the Council, to grant very general exceptions, that is, exemptions covering a number of cases, instead of exemptions dealing with specific cases.

As I said, there has been what I might almost term an abnormal preoccupation by the Commission with exclusive dealer arrangements. In addition, one of the most important areas under consideration by the Commission is the area of patent licensing agreements.

Indeed it is in this area that the Commission first published what it calls an official notice defining what practices, in its view, do not constitute a violation of Article 85 (1).

Most of those practices are traditional practices which are characteristically incorporated in license agreements in the United States. But some of you, if you do not already know, may be startled to realize that there was a heavy controversy in the Commission as to whether any exclusive license would be permissible under Article 85 (1). So I think this gives some measure of the intensity with which the Commission may approach problems of this kind.

I welcome the remarks of Chairman Dixon about the desirability of some sort of rationalization of our laws with the laws of other countries.

I think the controversy that has ebbed and flowed during the past ten or twelve or fifteen years over whether our antitrust laws should be applied in foreign trade was provoked to a substantial extent by the fact that countries abroad were cartel shelters.

They permitted industry and business to engage in cartels. And it was a pretty weak defense, as Wilbur Fugate will testify, for anybody to come forward to the Department saying that because a practice of this kind was lawful under German law or under French law, our antitrust laws should not be invoked against it.

But the fact is that, as I say, in the last fifteen years, the whole attitude toward competition in many of the European countries has changed substantially.

We now have a going, viable set of antitrust laws in the Common Market. And it seems to me that the least that the American businessman is entitled to do is to know what rules he is to follow.

Is he permitted to follow within the Common Market the rules of the Commission with respect to patent licensing within the Common Market, even though the patent license agreement may affect competitive trade or import trade of the United States, or is he still bound to play by two sets of rules?

I think this problem falls upon the statesmanship and good will of the authorities of the State Department, of the Federal Trade Commission, and of the Department of Justice to try to rationalize this and reconcile this.

Because, after all, there is ingrained in the body of international law and in our own law a recognition that we must give comity to the laws of other states. I submit that if we have effective competition, effective rules to preserve competition within the Common Market and within other countries, our authorities might well give consideration to the possibility of allowing the authorities within the community and within those particular states to enforce their laws and to withhold challenge under our law.

Thank you very much.

(Applause)

DR. BEHRMAN: Thank you, Mr. Kelleher.

Mr. Harold A. Levin is Chief of the International Business Practices Division, Bureau of Economic Affairs, in the State Department. He will be our final speaker on the subject.

He has been with the State Department for the past seven years. Prior to that he was responsible for foreign requirements in the Defense Production Administration and a consultant on the same matter

with ECA previous to that. He also served with the State Department in the late 40's.

Mr. Levin.

MR. HAROLD A. LEVIN: Thank you, Dr. Behrman. I neglected actually, to send the Institute any biographical details. In order to remedy that, let me tell you that I did not go to Davidson College, to my great regret. (Laughter)

But I am very happy to appear on the same platform with my distinguished colleagues, Dr. Behrman and Bill Fugate, who both did, along with, though not at the same time as, my eminent boss, Mr. Rusk.

Since I have only eight minutes, I am going to start by telling only a very short story. It can in fact be highly summarized since it is a new incarnation of the very good story that Mr. Robbins told us.

Representatives of three government agencies were engaged in a heated controversy about the relative importance of their agencies, their programs. The first was a representative of the Department of Health, Education and Welfare, who maintained steadfastly that public health was preeminent.

The second was an officer of the Army Corps of Engineers, who eloquently described how the Army Engineers bring order out of chaos.

The third was a representative of the Department of State, who—and you will be surprised by this punchline—said "Yes, but who created chaos?" And he took away all the marbles.

Forgive me, Mr. Robbins, for competing with you. A while back, I appeared at a session with businessmen among whom there was a general feeling that there was a dichotomy between our antitrust laws and our foreign policy. Since the outline of what I said then, which I made after the talk, is the only speech I have with me, I am going to start out by a discussion of the approach of the State Department to antitrust here and abroad.

We believe very deeply that our own antitrust laws, and the philosophy they represent, serve the purposes of economic growth, of expansion of world trade, of economic and, indeed, political freedom.

These are objectives to which our foreign policy is also dedicated. They are enshrined in legislation in the foreign field; for example, in our Foreign Assistance Act, which declares that it is the policy of the United States Government to foster private initiative and competition, and discourage monopolistic practices.

A clause of this sort has been in our foreign assistance legislation ever since 1951.

And we have in the recent Trade Expansion Act, in Section 252 (b), a so-called "anti-cartel clause" which authorizes the President to suspend tariff concessions to foreign countries whose tolerance of international cartels unjustifiably injures our foreign commerce.

Something like this has been in our trade legislation since 1943.

We have also in our Friendship, Commerce, and Navigation Treaties with a number of foreign governments, a so-called "restrictive business practices clause," under which each party undertakes to take whatever action it can to eliminate restrictive or monopolistic practices which may be hurting the other party. We have tried to get a clause of this sort put into every FCN Treaty we have negotiated since World War II, and it now appears in about a dozen such treaties covering quite a representative group of countries.

In our government's lending and credit policy the purpose of preventing restrictive or monopolistic practices is always kept in mind, and the effort is great to conduct that policy in such a way as never to encourage and as much as possible to discourage restrictive business practices.

We have heard, as I think Mr. Kelleher has indicated, quite a few complaints that our own antitrust laws are too stringent, too far-reaching as they apply to the operations of American businesses in foreign commerce, to enable American businessmen to operate abroad as effectively as they would like to, or as they feel they need to under modern circumstances.

These complaints I think are generally subdividable into two types; one, that foreign laws are generally less severe than ours and allow foreign firms to engage in cartel practices that our firms cannot engage in, thereby putting our people at a serious disadvantage.

The other type of complaint is that the mere problem of operating under two sets of laws creates an undue burden for our firms, including excessive costs of legal counsel. Our general feeling has been that noting the great antitrust progress that has been made in other parts of the world in the last decade or two, our proper course of action is to encourage foreign governments and foreign communities to continue in their movement toward us—to seek to achieve, if we possibly can, a rationalization or harmonization of approaches to antitrust at the highest common denominator. I think we should in fact be devoting whatever efforts we can toward intergovernmental efforts to deal with antitrust problems of international significance.

Now, in the very short time remaining, which Dr. Behrman has

just reminded me of, I want to relate these observations to the question of industrial property protection abroad.

We have in my Division in the Department two basic functions which some people claim must give us schizophrenia, and sometimes I guess we are in danger of getting this, the functions on the one hand of promoting in any way we can healthy competition policy around the world, and on the other hand of promoting American interests in industrial property protection around the world.

These two functions, are really not inconsistent, because I think that the more foreign governments can move in our direction in the antitrust field, the more inclined they will generally be to adopt and to maintain adequate systems of industrial property protection. I think it is no accident at all that in most other countries where we are faced with problems of inadequate patent protection they have little or no legislation in the antitrust field, or little or no effective machinery to carry it out.

So I think we have a challenge to this Government and also a challenge to American business to try to explain the virtues of progress in both of these fields. After all, we have the world's most advanced and comprehensive antitrust system, and at the same time the most advanced and comprehensive system of industrial property protection. It serves our interests to encourage foreign progress on both these fronts. If Rand Dixon can keep within his eight minutes, so can I.

I thank you very much.

(Applause)

MR. STEVENSON: As Dr. Behrman has to leave our session it falls to the lot of your general chairman to bring the afternoon's meeting to a conclusion.

By the way of qualifying for this role, may I take a minute to tell you my story. It concerns the scene in which two nuns were emerging from the circus tent late in the afternoon, only to find that there had been a violent shower and storm, and there were many pools of water between the exit of the tent and their car. Two clowns, standing nearby, arose to the occasion, but not in the Sir Walter Raleigh fashion. Piggy-back they started to carry the nuns to their cars.

And at this point Bill turned to Jack and he said, "Jack, you know, this is kind of vergin' on the ridiculous."

And so it seems that it is vergin' on the ridiculous for me to bring this very interesting discussion, with many abstract and legal questions, to a conclusion. But I know I can rely on the members of the staff.

PART IX — PANEL DISCUSSION AND QUESTION PERIOD

Invited Contributors
Research Institute Staff Contributors

MR. STEVENSON: I have a question for Mr. Dixon before we turn to the staff, as the question comes from the floor. I don't know whether here again, as a chemical engineer, I have to disqualify myself on the shrimp case. But the question reads: "Would decision in this case lead to possibility that charging a different rate of royalty be regarded as an unfair method of competition?"

We turn to Mr. Dixon for the answer.

MR. DIXON: I much prefer to have another question, gentlemen.

MR. STEVENSON: You always have the liberty to rephrase the question.

MR. DIXON: I will refrain from answering it because nothing is any worse than getting out into the abstract.

MR. STEVENSON: You are excused, sir.

Now we will turn to the staff for any contributions they may have to make.

PROFESSOR S. CHESTERFIELD OPPENHEIM: The last shall be first, I take it.

Antitrust is so gutted with generalities that I am going to take a few minutes to respectfully present a proposal primarily addressed to the Antitrust Division, although I am sure FTC Chairman Dixon may also be interested in this suggestion.

Just a little bit of a background. I think all of us know that in the field of antitrust, as applied to foreign commerce, there is a paucity of judicial guideposts. In other words, the decisions that have come down from the Supreme Court and the lower Federal courts virtually are confined to the illegal per se violations. So American business hasn't really benefited too much from guides other than the anti-cartel policy practices that our law prohibits.

In the domestic field we have a wealth of judicial antitrust law interpretations, but I take the position that it isn't necessarily true that these domestic law interpretations apply with equal force to foreign commerce.

As a matter of fact, I am inclined to agree with Justice Frankfurter's comment that the circumstances of foreign trade may very much alter the incidence of antitrust policies as applied to foreign commerce and may differentiate them from domestic commerce.

I don't claim any originality or invention for this, and I may be

guilty of unconscious plagiarism as far as the literature is concerned, but my proposal is this:

I should like to see the Department of Justice, Antitrust Division, undertake a little experimentation as an antidote to the vagueness and generality that throw such a cloud of uncertainty over American business firms doing business abroad in the Common Market or other Free World countries.

I don't see why the Department might not take a leaf out of the notebook of the European Common Market and the Commission's experience in supplying as supplementary guides to the statutes what I call standards, criteria in selected areas for American firms doing business abroad.

For example, to be concrete, which I am trying to be, joint ventures would be one area of great difficulty, and not necessarily of the per se variety.

Another is the area of patent antitrust problems.

A third I have in mind is what Mr. Kelleher said is so much the preoccupation of the Commission abroad, and that is marketing arrangements, distributor and dealer franchise restrictions.

It seems to me that the Department of Justice should venture to provide some guides. Chairman Dixon, under his administration at the Commission, has exemplified this. For example, the Federal Trade Commission has guides to advertising allowances under the Robinson-Patman Act. It has guides to deceptive pricing. It has recently innovated advisory opinions and trade regulation rules.

Let me make it clear that I personally think that if anything is to be done immediately—and this is urgent in the foreign field because of the greater risks and dangers in investment abroad—it cannot await a case by case determination.

This moves too slowly and is too protracted for this jet-like propulsion of foreign antitrust problems.

First, I would like to say I am not thinking about rule-making. I don't think the Department of Justice Antitrust Division has rule-making power. The FTC claims it and has exercised it.

Secondly, I am not thinking about clearances. I think clearances, about which there have been so many proposals, without statutory authority, are really a mirage. In other words, you either don't get a clearance from the Antitrust Division or what is cleared is not a matter of any significance. The Department, I think, has shown great caution in the administration of its clearance program.

What I have in mind is simply half a loaf is better than none; half a road map is better than none. I think the Department should face

up to this problem, comparable to what I have mentioned at the FTC, and also comparable to what Mr. Kelleher mentioned. The official notice of the EEC concerning patent licensing agreements, and the other one, official notice concerning contracts for exclusive representation concluded with commercial agents, are two good examples of comparable guides for American business under our antitrust laws.

I know that American business likes to have a decalogue of "do's and don'ts." The complaint is always, "What will the guides do for business? These criteria will be pretty general anyway, won't they?" My feeling is that I have found the EEC official notices helpful. They have been an antidote to the generalities of the Articles of the Rome Treaty and I think our Department of Justice can provide a similar antidote to the general standards of our antitrust laws. I sometimes feel that Department of Justice—and I am not saying this unkindly—sort of enjoys a great roving range of discretion. But it has implied authority to supply guides which are not like rule making or regulations which it has authority to promulgate.

I sometimes wonder if there is an indisposition to fill in some of these great blank checks the Justice Department has in discretionary authority. I can't for the life of me see why we can't take, as I say, a cue from what is happening abroad in the EEC. If you look at their official announcements, or the Federal Trade Commission guides in another field, you will find that at least the businessmen and their antitrust counselors will have something more to go on than the general words of the Sherman Act which for 74 years provided an amorphous framework. The result has been that a slow, case-by-case adjudication in the courts has been the only way to give guides to business.

If the Department of Justice doesn't venture into something that supplements this, what will happen?

We have an example. The proposed Javits-Morse Bill, a strange fellowship in co-authorship, will call for a Commission to inquire particularly into antitrust policy applied to foreign commerce and how to get relief against the inequities in this area of antitrust.

Senator Hart, Chairman of the Antitrust Subcommittee of the Senate, has publicly announced that the subcommittee is going to hold hearings on antitrust foreign commerce problems.

Then Congress might get interested in this area. But can we wait? All of this will be protracted. It will involve hearings and a welter of proposals. Grant Kelleher is Chairman of the ABA Antitrust Section Committee on International Trade, and he knows so well the variety of proposals. But nothing has been done.

I have presented my specific proposal. I am hopeful that Bill Fugate and perhaps Chairman Dixon, might be inclined, or maybe might feel free, to comment on what I am proposing.

MR. STEVENSON: We are engaged in a controversial area. Would any members of the Panel this afternoon like to take Professor Oppenheim to task in any way for his position? Or question him?

MR. FUGATE: I suppose that is mainly directed to the Department of Justice.

MR. STEVENSON: I don't want to call on you exactly. I hoped you would volunteer.

MR. FUGATE: Professor Oppenheim gave the FTC a pretty good recommendation on its actions.

I must point out that the Commission is in a different position than the Department of Justice since the Department of Justice is a prosecuting agency. We do not feel that we have the statutory authority to make administrative rulings and decisions.

Only the courts under our system, as we see it, can decide how the antitrust laws apply to a particular situation. Of course, Congress can give the power to an administrative body to issue administrative opinions, but Congress has not given such power to the Department of Justice which is essentially in the role of prosecutor.

I would not agree with Professor Oppenheim that the antitrust foreign trade rules are so uncertain. I think that many of the rules are very clear. One reason for some protests on the application of the law to foreign trade is that the rules are all too clear, for example, that you cannot place restrictions on United States exports, and that you cannot bind your foreign competitor not to sell back in the United States. It seems to me the gist of many complaints is that these rules are too clear.

In any event this is an area for Congress if it is really decided that changes in the law or court interpretations of it are desired.

The basis, though, of the Sherman Act was that it was a very broad statute which would be adapted to new conditions, which would be adapted to foreign trade as well as domestic trade, and that it was not wise to write into the statute very rigid rules which might not fit the changing circumstances of trade. And, particularly, that parties should not be able to evade the Act simply by changing the form of an arrangement.

However, we are cognizant of problems here. We do have a limited type of clearance which we think is the most that the Attorney General is authorized to give. Mr. Orrick, the head of our Division, has

consistently invited businessmen to come in and discuss their foreign programs, and I will emphasize that invitation.

MR. STEVENSON: No meeting of this Institute would be complete if we did not hear from our old associate, Mr. Federico.

Have you anything to say? You at least have to come to the mike and make your presence known.

MR. P. J. FEDERICO: I cannot add anything to the antitrust aspects of the subject, but I would like to say a word in the field in which I have been doing some work, and that is the statistics relating to applications for patents in foreign countries and the United States. At the last Conference, data was presented showing the tremendous increase in foreign filings by Americans throughout the world, and a corresponding increase of filings by nationals of other countries in countries foreign to them.

This increase has kept up for the last few years; there is more and more of a cross-filing of applications, and consequently a greater interest in foreign laws and international matters in the United States, as this particular meeting shows, as well as other meetings held elsewhere.

This interest also led to the Law School of The George Washington University offering for the first time anywhere in this country a course in International and Comparative Patent Law, which is going to be repeated next year. This is an advertisement.

One of the questioners this morning referred to a newspaper article or advertisement that appeared in the *New York Times* and *Washington Post* and asked that it be put in the record. I do not intend to say anything on the subject matter of the article itself, but to comment on the use of statistics.

The articles says:

"Why is it that in Japan, with half the population of the United States, they should file 214,000 patent applications a year, whereas in the United States, with double the population, they file only 80,000?"

The question is supposed to have a great significance. There are two mistakes in the statement. One is the figure of 214,000 patent applications filed a year in Japan. This is a combination of trademark applications, design applications, utility model applications, and patent applications, all added together.

If you look at the patent applications alone, they are on the order of 40,000 a year.

Looking at the native-filed applications, they run on the order of 30,000 to 35,000 applications. In the United States on the order of

60,000 to 65,000 a year. It would be a fallacy even to compare those application figures.

The Institute *Journal* published a demonstration several years ago showing that if you follow the conventional methods of using patent statistics to show relative inventive activity among countries, you end up with the result that the leading country is Liechtenstein with over 800 percent greater activity in inventing than its nearest competitor.

Those of you who may be interested in following patent statistics will find a collection for some 40 or 50 countries, statistics relating to their applications and patents, and also relating to country of origin, in the *Journal of the Patent Office Society* for February of this year.

Thank you.

(Applause)

MR. STEVENSON: Do other members of the staff have anything that they would like to say at this time?

Mr. Creed?

MR. JOHN F. CREED: I have been sitting up here silently for four hours. I am sure it occurred to some of you that I might be mute. (Laughter) To dispel that doubt I would like to say a few words about taxation. The exploitation of industrial property rights abroad is fraught with both foreign and domestic tax implications. In connection with foreign taxation I would like merely to commend to your attention an article appearing in the spring 1964 edition of the Institute *Journal.* It is entitled, "Taxation of the Foreign Licensor in Australia." It is the first in the series that will cover the Commonwealth countries, the Common Market countries, and Japan. And there is a prospect that additional countries will be added at a later time.

Turning to U. S. taxation, frequently the exploitation of industrial property rates abroad takes the form of an exchange of such rights for stock in a foreign company that is to exploit them. Under Section 351 of the Internal Revenue Code—provided there is a prior Section 367 clearance—no gain or loss is recognized to the U.S. transferor so long as the rights qualify as property in the tax sense.

To the extent that such rights consist of patents and trademarks, no difficulty is usually encountered and the Treasury will normally issue advance private rulings assuring the tax-free treatment on the stock acquisition. The problem arises when the industrial property rights consist of know-how. The problem is that of demonstrating that know-how qualifies as property.

In 1960 the Treasury suspended the issuance of advanced private

rulings on the tax-free character of know-how for stock exchanges. This was pending a study which was due to be completed in three or four months. Finally, nearly four years later, in March of this year, the Revenue Service issued a public ruling, Revenue Ruling 64-56, which sets forth the requirements that know-how must satisfy if it is to qualify as property.

I might say that the ruling is reasonably enlightened in some particulars, perhaps in most, and in general conforms to the conclusions reached in earlier studies appearing in the Institute *Journal.* I would like to read a few of the high points of the ruling to you:

1) The term property for purposes of Section 351 will be held to include anything qualifying as secret processes and formulas, and anything else in the general nature of a patentable invention, without regard to whether a patent has been applied for. Other information which is secret will be given consideration as property on a case-by-case basis.

2) The fact that information is recorded on paper, or is otherwise manifested in some physical form, will not necessarily indicate that property exists.

3) It is assumed—and I take it required, under the ruling—that the country in which the transferee is to operate affords to the transferor legal protection against the unauthorized disclosure and use of the process, formula, or other secret information.

4) When the transferor agrees to perform services with the transfer of such property, tax-free treatment will be accorded to the entire consideration—consisting of stock in this case—if the services are merely ancillary and subsidiary to the property transferred.

Illustrative of this are services performed in promoting the transaction by demonstrating and explaining the use of the property, or by assisting the effective start up of the property transferred.

5) Continuing technical assistance after the start-up phase will generally be regarded as in the nature of engineering or like services giving rise to ordinary income taxation.

After waiting the four years it was to be anticipated that the log jam of private rulings would be cleared. But such was not to be the case. In a number of instances—every one to my knowledge—the Revenue Service has required such an extreme degree of evidence that the requirements of the published ruling are satisfied that great delay at best will be encountered in obtaining rulings under Section 351, if such rulings are obtainable at all. Hopefully, as time goes on, a more liberal policy will be implemented.

Hence in most instances it is still not practicable to obtain an ad-

vance ruling on the property aspects of know-how. Thus U. S. companies continue to proceed with such transfers with some tax peril. Certainly they are well advised to scrutinize and study the know-how that is to be transferred in light of the published ruling.

As a final word it should be mentioned that whether or not an advance ruling is requested under Section 351, an advance ruling is required under Section 367, to the effect that tax motivation—U. S. tax motivation—does not principally underlie the transaction; that is, that U. S. tax avoidance is not a principal reason for the transaction. Normally the Revenue Service will issue this ruling, provided the transferee company is itself to utilize the know-how in the manufacturing operation. It will not generally issue a ruling for example to a Swiss company which will re-license.

Under a Section 367 ruling the taxpayer is, of course, free at a later time to adjudicate the property question if it is brought into issue by the Revenue Service. Absent the 367 ruling and all the taxpayer can argue about is whether the income is ordinary income or capital gain. Thank you.

(Applause)

MR. STEVENSON: Are there other contributions from members of the staff?

Mr. Weiser?

MR. GERARD J. WEISER: May I quickly remark that the amount of time, generally 60 seconds, allotted to the members of the research staff to appear here, is indirectly proportional to the amount of time which we have spent on some of the studies.

There are two points which I would like to underscore with respect to antitrust—Common Market antitrust. The first one which underscores the seriousness of foreign antitrust with respect to American operations abroad is the fact that the defense of invalidity of the agreement between various parties under Common Market and national antitrust laws has been asserted consistently in the last two years in various transactions in the European Common Market. The invalidity defense has been asserted on the basis that the agreement is in violation of certain clauses of Article 85, in particular of its implementing regulations, which subject certain agreements to notification. So that there has been a large increase of private party suits in the European Common Market countries, in particular France and Germany.

On the other hand, on the more positive aspect of EEC antitrust which has been mentioned here, while in the United States we have a bad per se doctrine, European Common Market has been developing

what amounts to a good per se doctrine. By the use of directives and regulations, the EEC Commission has made it now possible to ascertain what conduct approximates closely that which the European Common Market Commission would consider as proper under the Treaty of Rome and its implementing regulations.

These are probably the most striking two contrasting developments in the last two years, in the last year in particular, coming out of the European Common Market.

As a final remark, if you are interested in the subject, the Institute has published reports on this topic, both antitrust and patent developments in European Markets, including a number of interviews with officials of the European Common Market antitrust and patent sections. You will find these in the Spring 1964 issue, in the Conference '63 issue, Fall '62, Spring '62, and Fall '61. Essentially for three or four years now.

(Applause)

MR. STEVENSON: Dr. Markham, do you have anything you want to say?

DR. JESSE W. MARKHAM: I come to the podium only to demonstrate that I am not mute. I come here completely unqualified. I am an imposter, for one thing. I am not listed on the panel. I was on the previous panel. I didn't qualify there either because one needed to have a pearl of wisdom.

Finally, all of my wisdom comes in lumps of 50 minutes, which also handicaps me a little bit by virtue of my profession.

However, I would like to emphasize the point that was made by the last commenter, Mr. Weiser. I think that really one of the big questions that has been raised here in the context of, say the challenge to American industry abroad, is what is happening internationally to the widely different, the divergent systems of law, that business firms confront. My own researches on the European Common Market and antitrust legislation as it is developing around the world, in Japan, even a little in Brazil, I think that while I go along with the Danes that all predictions are hazardous, especially about the future, that one can say that there is a great convergence of law around the world, and this should act very much to the benefit of American business enterprise. They, more than anyone else, are accustomed to operating in a legal atmosphere requiring competition. And if their muscles should begin to get flabby I am quite certain that Chairman Dixon and the Department of Justice under the good offices of Mr. Fugate here will keep them pretty well-flexed. They are getting plenty of practice at home, in other words, in abiding by a system of law, that

insists on competition for the first time really in the history of these statutes. Although I don't agree with every aspect of domestic antitrust law, I think unquestionably it is much more effective than it ever has been, and for the first time we have a set of laws generally generating effective competition.

If, internationally, therefore, there is a point of convergence of law in the distant future, then I think that one might at least raise a question, perhaps even conclude, that American business enterprise faces a fairly rosy future in the international market because business firms of the United States are going to be far, far more familiar with not just the law but with all of those decision-making processes, all of those business practices, that are generated by the existence of such laws. In any case, I would like to toss this out as a probable prediction for the future.

(Applause)

MR. STEVENSON: We are indebted to Dr. Markham for concluding our discussion this afternoon on a positive and, shall I say, a happy note. May I, on behalf of all of us, express appreciation to our panelists this afternoon for their participation, and as we declare this meeting adjourned now, I will tell you that the reception is at 7:30 in the Palladium Room. We look forward to seeing you there at that time.

Thank you for your attention.

(Whereupon, at 5:40 p.m., the meeting was concluded.)

THURSDAY EVENING SESSION

Kettering Award Address

THE VAGUE CONCEPT OF "INVENTION" AS REPLACED BY § 103 OF THE 1952 PATENT ACT

JUDGE GILES S. RICH

An address delivered by Giles S. Rich, Judge of the United States Court of Customs and Patent Appeals, at the Award Dinner of the Eighth Annual Public Conference of The Patent, Trademark, and Copyright Research Institute on June 18, 1964. Judge Rich received the Institute's seventh annual "Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education."

I believe in incentive systems. Over 20 years ago a prize competition lured me into some intense study and writing[1] which, through a traceable chain of events, has led to my being here tonight.

I did not win the prize. Neither did the other contestants, save one.[2] But they all contributed something. That is the way incentive systems work. They bring out all kinds of efforts, excellent, good, mediocre, indifferent, and bad. But the *system* brings forth the effort. Society benefits from the good and mediocre, as well as the excellent, efforts. The bad efforts don't hurt it any. They may even prevent others from making mistakes if they are made known.

The patent and copyright laws create such incentive systems. The copyright laws provide an incentive which brings out the greatest works of literature and art as well as a lot of trash. The patent system works in a similar way. But you can't get cream without producing milk and, anyway, it is the milk that society lives on.

I don't suppose you will be surprised if I talk about the patent system. The aspect of it I will talk about is the one I think causes the most trouble, the clarification of which I therefore believe would do the most good.

As groundwork I will first state an axiomatic but too-little-thought-of principle. A monopoly merely gives rise to *power* which can be put to either good or bad uses. Hence, in the case of monopolies

[1] The Linthicum Foundation Competition, 1941, Dean John H. Wigmore, Northwestern University Law School, Chairman. The writer's contribution was published in five installments in the *Journal of the Patent Office Society,* Vol. 24, pp. 85, 159, 241, 328, and 422, commencing Feb. 1942.

[2] The winner was Laurence I. Wood whose paper was published in book form, 1942, by Commerce Clearing House, Inc., under the title *Patents and Antitrust Law.*

created by government grant, which is all patents are so far as the rights they create are concerned,[3] we have to distinguish between good and bad monopolies.

I will take two well-known examples from history. First, the bad monopoly. Queen Elizabeth granted to one Darcy, a member of her court, a monopoly of playing-cards for 21 years so that he could make some money. But playing-cards were old and well-known and others were making a living from making and selling them in England. This monopoly, which was by Royal Letters Patent, therefore took from the public a freedom in business which it had long enjoyed before the patent; and it was bad.[4]

In Venice in 1594 the Doge, on behalf of the government, granted to the great Galileo a "privilege," which was the Venetian name for a patent, on a machine which he had *invented* "for raising water and irrigating land with small expense and great convenience," on the condition that it had never before been thought of or made by others.

Galileo made a couple of significant remarks in his petition for the privilege. He said, "it not being fit that this invention, which is my own, discovered by me with great labor and expense, be made the common property of everyone;" and also, that if he were granted the privilege, "I shall the more attentively apply myself to new inventions for universal benefit." In short, he was not inclined to divulge his invention only to have it copied; but if the government would give him some reasonable protection he would not only divulge it and build it but might even apply himself to making some more inventions. Deeming this to be a *good* use to which to put a limited mon-

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[3] Dean Wigmore, n. 1, in his foreword to the Wood book, n. 2, said:

* * * I take the opportunity to intrude my personal opinion, that neither Courts nor treatise-writers have been radical enough in defending the legitimacy of the "monopoly" in a patent, as distinguished from the ordinary trade-monopoly. Is it not a fact that every property-right we have is a "monopoly"? The right to our house or our automobile is simply a right to keep anyone else from entering or using it without our consent; and is that not a monopoly?

* * * *

Of course patent-rights can be so *used* as to merit the distrust attaching to a monopoly,—by contracts fixing prices, by tying agreements, by pools and the like. But so can gold-mines and all the necessities of life by bargains be used monopolistically; yet no one blames the mine-owning right itself or the food-ownership right itself; the blame is directed to the use of it.

And so I for one regard it as unfortunate that courts and treatise-writers have not stood up more boldly for the fundamental right-ness of the patent right itself. I say "for one", because I do not recall reading anywhere an adequate defense of the theory of the patent-right.

[4] Darcy v. Allin, 11 Co. Rep. 846; 1 W.P.C. 1. See *Monopolies and Patents* by Harold G. Fox, U. of Toronto Press, 1947, p. 318. The case also has the popular title "The Case of Monopolies."

opoly, the Council voted to grant him a "privilege" or patent of monopoly for 21 years.[5]

The Venetians were accustomed to doing this, having granted about 1600 "privileges" in the 15th and 16th centuries.[6]

The English in 1624 enacted a statute[7] abolishing and prohibiting future monopolies of the bad Darcy sort and authorizing the continuing grant of Letters Patent for new inventions within the realm, which has continued to this day.

The founding fathers came to America from the mother country, bringing with them knowledge of this practice of granting monopolies. In the nearly 150 years of the colonial period preceding the Federal Constitution, the colonies and then the States granted numerous patents for new inventions as well as monopolies to encourage the founding of new industries, including, as the English did, encouragement of setting up in America industries already practiced abroad.[8]

It is not surprising that, when it came to the writing of a Constitution, provision should be incorporated, with no controversy at all, for Congress to make laws for the granting of patents to inventors, or that George Washington should urge its speedy enactment, or that the very first Congress should enact our first Patent Act of 1790.[9]

Then began our patent system. One might describe it as a great experiment which goes on continuously, getting more complex all the time, in which this Institute is playing, for the first time, a vital roll in finding out how the system actually works, as an aid to preserving its basic principles and saving the obvious good that is in it.

In this experiment, which involves a mixture of economics, law, technology, and psychology, we still have the centuries-old problem of monopoly power being utilized for socially good and socially bad ends and of deciding which is which.

The greedy nature of some men is such that there are always pressures toward the creation of bad monopolies. Undue preoccupation with countering this pressure, however, has quite blurred the vision of many well-intentioned but not too well-informed people to the good uses monopoly can be put to and to the good that monopoly

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[5] *Journal of the Patent Office Society,* Centennial Number, "History of the Patent Office," July 1936, Vol. 18, p. 23.

[6] *Id.* Most of the privileges were for copyrights but a small percentage were for inventions.

[7] The Statute of Monopolies, May 25, 1624, 21 Jac. I, c. 3. For its history see Fox, *supra,* n. 4, Chap. IX, pp. 113-126.

[8] See *JPOS, supra,* n. 5, pp. 35-58.

[9] *Id* .pp. 55-62.

power can do, properly channeled and not so proscribed as to lose its effective power.

Paradoxically, in the working of the patent system, monopoly often promotes competition. Numerous instances are all around us, wherever two products serving the same general purpose have achieved, with the aid of patent protection, commercial production. And only after such production is there any possibility of market competition.

To this point I have taken note that the *primary* distinction between good and bad patent monopolies is that the good patent does not monopolize something the public *already has,* so as to take something away from the public. The invention covered by the good patent must be *new;* and so our statutes have always provided, though the provision was not always enforced.[10]

But beyond bare novelty one must go one further and troublesome step to have a sound system and keep the monopoly on the good side.

As we refrain from granting patents on inventions that are not new, we must also refrain from granting patents on those inventions which would arise *spontaneously,* given the need or the desire for them, as the yelp of the dog surely follows from stepping on his tail, or with *only a nominal expenditure of time, effort, money or wit*—especially if the invention is one of real utility likely to meet with popular demand.

It was not long after the Patent Act of 1836—in 1850 in fact—that the United States Supreme Court made this clear in the "doorknob case," *Hotchkiss* v. *Greenwood.*[11] What was involved was the trial judge's charge to a jury that if *no more ingenuity or skill was required* to construct the patented doorknob *than was possessed by an ordinary mechanic acquainted with the business,* then the patent was invalid.

The Supreme Court approved the charge. The opinion said: "In other words, the improvement is *the work of the skilled mechanic, not that of the inventor.*" (My emphasis.) The decision made clear that patents are not to be granted on inventions which are no more than what the ordinary mechanic acquainted with the business would produce as a matter of course in the pursuit of his calling. Such mechanics are expected to produce *new* things, such as were involved in that case, which was the attaching of an old clay doorknob to an old metal shank in precisely the same manner that metal doorknobs

[10] *Id.* pp. 77-82, 230. Under the 1793 Act, for example, there was no examination for novelty over a period of 43 years. About 10,000 patents issued under that act for terms of 14 years, less than the number issued today in 3 months.

[11] 52 U.S. 248.

had been attached to such shanks before. Technically the assembly was *new,* but the court found novelty was not enough.

In referring to "mechanics" in this matter we can take them to be representative of a class—all those with ordinary skill in the various callings, ordinary shoemakers, ordinary chemists, electronic technicians of ordinary skill, etc.

Due to the reasoning of the case, that the new doorknob "was the work of the skillful mechanic, not that of the inventor," what came out of it after 1850, and is still with us, was an injection into the law of what has ever since been called the "requirement for invention."

As is usual with a "doctrine" derived from a court opinion, the doctrine persists while the facts out of which it arose are forgotten. The opinion in the first case is quoted to the judge in a second and he does an opinion embroidering on it, his words being quoted in turn and reembroidered and so on.

I think the resulting situation with respect to the law on the "requirement for invention" was well summed up by Judge Learned Hand, who knew as much patent law as any judge ever has, at a Senate hearing in which your then Dean Colclough and I both participated in 1955, as follows:

"You could find nearly anything you liked if you went to the opinions. It was a subject on which judges loved to be rhetorical. * * * patent lawyers * * * like to quote all those things. There are lots of them." [12]

This proliferation of views on what did and did not amount to "invention" went on for 100 years. We were enlightened with the view that "invention" resulted from the exercise of the "inventive faculties" and other circular reasoning. Our present standard text, Walker, now in its seventh edition, says "An invention is the result of an inventive act." [13] Whole books on the patent law were written around such concepts. People collected the statements pro and con in volumes equally divided about in the middle—"invention" on one side, lack of it on the other. Negative and positive tests for detecting its presence evolved. So did exceptions to each test. And patent lawyers selectively quoted all of this mass of material as though it proved something. Judges like Learned Hand found, in his words, that "They never seemed to tend toward enlightenment." [14]

This requirement finally evolved into a *"standard* of invention"

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[12] Hearings pursuant to S. Res. 92, 84th Cong., 1st Sess., on the American Patent System, Oct. 10-12, 1955, p. 113.

[13] Walker on Patents, Deller Ed., Vol. 1, p. 110.

[14] Hearings, n. 12 *supra,* p. 113.

which the courts pretended was being raised and lowered like an elevator as though it were something tangible. They also proclaimed in all seriousness—and are doing so this very summer—that this "standard" was to be found in the Constitution, where there are only two words on which it could possibly be predicated, the word "inventors" and the word "discoveries." [14a] You really have to be on the Supreme Court to find out a "standard" there because the only way it works is this: if you think the lower court was wrong in sustaining the patent, you proclaim that it applied too low a standard and reverse its decision.[15]

Some judges got it fixed in their minds that if a thing is an "invention" then it is patentable and if it is not patentable then it is not an "invention," not realizing that the same things are invented over and over—by the use of the inventive faculties or by inventive acts or what have you—and although clearly "inventions," their originators being as firmly convinced of it as was Galileo, they are not patentable for want of novelty. So it is customary for judges to approach all inventions gingerly in their opinions by referring to the, as "alleged" or "supposed" inventions.

All an invention is, however, is something which has been found out, or devised, or discovered. The question today is not what to call it but whether under the statute it is patentable. Hundreds of "real" or "true" inventions, all resulting from "inventive acts" and the exercise of the "inventive faculties," are held unpatentable every day for lack of novelty.

The Patent Office, of course, proceeded on the same basis, and still does so to a dwindling extent, rejecting applications for want of "invention" and granting them when it could be persuaded that "invention" was present. And through it all the patent lawyers and the judges persisted in telling all concerned that "invention" was something which could not be defined, like God! Patent validity came as a matter of grace, from on high. This was a messy state of affairs. The surprising thing is it worked so well. But not well enough.

[14a] I am not unaware of the statement of the *objective* in Art. I, sec. 8, clause 8, "To promote the progress of * * * useful arts." See "Principles of Patentability," 28 *Geo. Wash. L. Rev.* 393. When Congress exercised its power under that clause and set up a patent system, so long as the *system as a whole* functions to further the Constitutional objective, it would not seem that the statement of the objective could set any "standard" for patentability of any single invention.

[15] See Great Atlantic & Pacific Tea Co., v. Supermarket Equipment Corp., 340 U.S. 147, 87 *USPQ* 303 (1950), where the two concurring opinions below were held to have applied a "standard of invention * * * that is less exacting than that required * * *."

In 1941 a Commission, appointed by President Roosevelt, and headed by Charles F. Kettering,[16] came out with a report which said:

"One of the greatest technical weaknesses of the patent system is the lack of a definitive yardstick as to *what is invention.* To provide such a yardstick and to assure that the various courts of law and the Patent Office *shall use the same standards,* several changes are suggested. It is proposed that Congress shall declare a national standard whereby [mark these words] *patentability* of *an* invention shall be determined by the objective test as to its advancement of the arts and sciences." [My emphasis.] [17]

One apparent thought there was to stop talking about whether a thing is or is not an "invention," to take anything presented as *an* invention, and then to determine its *patentability* according to a standard which Congress was to declare, Congress never having said anything about it up to that time.

For some years nothing came of the Kettering Commission proposal but in the 79th, 80th, and 81st Congresses, from 1945 through 1949, identical bills were pending entitled, unfortunately but almost inevitably, "A bill to declare a national policy for determining invention." Now I have just said that the problem was not really to determine "invention," but to determine the *patentability of* inventions and this matter of language is one of major concern. Kettering got a hold on the distinction, but it keeps fading away like Alice's cat.

People don't think so much as they talk; and when they do think, they tend to think in words, at least about legal abstractions. Words are used to describe things, concepts, and experiences we have in common so that we can communicate. This thing, this concept, this experience every patent examiner, lawyer, and judge had come up against in practice was called the "requirement of invention," or just "invention"—the undefinable something or other that has to be there. This proves to be a cliché, meaningless though it is, that is hard to break away from. I taught for many years, and presumably my students learned, that the prerequisites to patentability were novelty, utility, and invention. There was nothing else to teach. Thinking and its concomitant words had not progressed beyond that point in the '30s and '40s. But today they have. Any current text-

[16] For a note on who Kettering was and his prolific accomplishments in the fields of business, research and inventing, see "The Kettering Archives" by Eugene B. Jackson, 44 *Jour. Pat. Office Soc.* 331, May 1964.

[17] Report of National Patent Planning Comm., June 18, 1943, H. Doc. 239, 78th Cong., pp. 6, 10.

book and most cases, you will find, use the old terminology. But it isn't true any more and hasn't been for eleven and a half years—in my opinion, that is.

My not believing in ghosts or angels doesn't mean, *in law,* that there are no ghosts or angels, because if you think there are, and are frightened or informed by them, then they exist. As long as judges say there is a requirement for "invention," and many still do, then there is one. If you take a patent into court and the judge invalidates it for want of "invention" you *know* there is one. But why am I saying there is none? Am I talking theory or law; if law, then what kind of law? Or am I talking nonsense?

The outcome of those bills to determine invention, and one or two other bills, was that Congress got interested in revising and codifying the patent law and did so.[17a] In the new law (Title 35 U.S.C.) is a section, 103, described at the time by those who wrote it, at least in one place, as "incorporating a requirement for invention." [18] It was also described more carefully and accurately elsewhere [19] as providing a "*condition* which exists in our law and has existed for more then 100 years * * * by reason of decisions of the courts." (My emphasis.) And that "condition" is described in the title of this new section 103 as one for the existence of "non-obvious subject matter." The addition of section 103 was stated in the House Report on the bill [20] to be *one of the two major changes or innovations in the statute.*

What section 103 itself says is that what is patented must *not* have been *obvious* to one of *ordinary* skill *in the art involved,* at the *time* the invention was made. The parallel with what would be expected of the "ordinary mechanic acquainted with the business" in the "doorknob case" should be clear.

This is not a "standard of invention"; and it is not called a "requirement of invention." The presence or absence of "invention" is not mentioned. The use of the term "invention" was, in fact, carefully avoided with a view to making a fresh start, free of all the divergent court opinions and rhetorical pronouncements about "inventions." [21] And in doing that it was contemplated, as the House Report states,[22] that "This section should have a stabilizing effect and minimize great departures which have appeared in some cases."

[17a] See Giles S. Rich, "Congressional Intent—Or, Who Wrote the Patent Act of 1952?", in *Patent Procurement and Exploitation,* BNA 1963, pp. 61-78.

[18] House Report No. 1923, 82nd Cong., 2nd Sess., to accompany H.R. 7794, p. 5.

[19] *Id.* p. 7.

[20] *Id.* p. 5.

[21] The writer speaks from personal knowledge as one of the drafters.

[22] Note 18, at p. 7.

As has been pointed out by one of the drafters of that section, Mr. Federico, in his Commentary,[23] what section 103 was gunning for was

"* * * some modification * * * in the direction of moderating the extreme degrees of strictness exhibited in a number of judicial opinions over the past dozen or so years; that is, that some change of attitude more favorable to patents is hoped for. This is indicated by the language used in section 103 as well as by the general tenor of remarks of the Committees in the reports and particular comments."

The real vice or inadequacy of the judge-made requirement for "invention" was in the truism Mr. Federico also restated, "the so-called standard of invention * * * is an unmeasurable quantity having different meanings for different persons." It left every judge practically scott-free to decide this often controlling factor according to his personal philosophy of what inventions should be patented, whether or not he had any competence to do so or any knowledge of the patent system as an operative socioeconomic force. This was too great a freedom because it involves national policy which should be declared by Congress, not by individual judges or even groups of judges on multiple-judge courts. In section 103 Congress made such a policy declaration. It did not there declare what should constitute "invention." It was a statement of something to take the place of this vague concept. And it was made in the face of judicial declarations, made in the *absence* of a statute, which Congress expressly desired to modify.

I would like to inject a new term into the language so we can discuss the matter rationally. I would like to call it the THIRD REQUIREMENT of patentability. The statute sets out all the requirements in the clearest possible form. Section 101 says inventions must be *new* and *useful,* requirements one and two; section 102 defines novelty; and section 103 lays down the *third requirement.* I repeat its clear-cut title: *"Conditions for patentability; non-obvious subject matter."*

Upon examination in the Patent Office or upon adjudication in court, under the statute, when novelty, utility, and unobviousness as defined in section 103 are found to exist, there is *patentability* and *that is the end of the matter.* An examination for the presence or absence of "invention," or of precedents on that muddy issue, is not called for and is not proper. It is a work of supererogation. It illustrates, furthermore, a failure to grasp the meaning of the statutory provisions. There is no such prerequisite in the statutory law.

[23] "Commentary on the New Patent Act," by P. J. Federico, 1954, published in Vol. 1 of 35 U.S.C.A.

When, as is the case with the "requirement for invention," the century's accumulation of judicial precedents range from A to Z and Congress, looking at the situation under the guiding light of Kettering's statement that *this is no yardstick and the greatest technical weakness of the patent system,* determines to make a yardstick and says the measure shall be "M", right in the middle of the alphabet, it behooves everyone concerned with administering that law to follow the measure "M" and to stop flitting about arbitrarily from A to Z, lighting upon that letter which seems most appealing.

But what do we have today? A host of lawyers, examiners and judges all doing their level best to follow the law as Congress wrote it? Anything but that! What we have today is a mish-mash, and that is a nice old English term, older than the 1624 Statute of Monopolies. Why do we have a mish-mash?

First, a century of thinking and writing about a phenomenon in one set of nomenclature is a hard thing to overcome. Also a lot of people go on administering the patent laws and practicing under them without bothering to read the revision of them, so they are not aware that there has been a change.

Second, by hindsight it is apparent that those most intimately concerned with the writing and expounding of the new patent act in 1952, themselves brought up in the "requirement for invention" tradition (and I speak as one of them) did a very poor job of informing the public what it was they had done. One reason for that was that, on the average, their own comprehension of what they had done was not too clear. Remember, they were all of the school that "invention" *could not* be defined and there they were, trying to put a provision on that very subject into the statute. In going as far as seemed to be possible in that direction, they knew they were not making a *definition* but rather a *statement of policy,* a *specific required approach* to a difficult problem, which approach they thought would stop some of the nonsense derogatory of the patent system that had been going on. In pursuit of that objective, the drafters and Congress did one thing, by way of a statement of policy to counteract a judicial trend, which has had a clear-cut effect. Following a phrase casually dropped by the Supreme Court in *Cuno* v. *Automatic,*[24] in 1941, that "the new device, however useful it may be, must reveal the flash of creative genius," some courts took off on a quest for such a flash and, not finding it, invalidated patents. The last sentence of section 103 stopped

[24] The Cuno Engineering Corp. v. The Automatic Devices Corp., 314 U.S. 84, 51 *USPQ* 272 (1941).

this abruptly with the legislative command: "Patentability shall not be negatived by the manner in which the invention was made." But the judicial reaction to the first sentence,[25] in contrast, got to be all fouled up.

Third, the members of the bar have a lot to answer for in creating and perpetuating the mish-mash because it is they who, desiring to make use of some of the extreme cases antedating the patent act to invalidate patents in litigation, played down section 103 and early in its life persuaded a number of courts that it made no change whatever but was "mere codification." [25a] They are now paying more attention to section 103 as they learn that it can help them when they are on the other side, but they are learning slowly and my generation of lawyers, at least, is still talking, out of habit, in terms of "invention." Just listen to them!

Find me a trial lawyer for an infringer who will not urge on the court, as the existing test for "invention," the views expressed by the Justices of the Supreme Court in *A & P* v. *Supermarket,* in 1950,[26] two years before the effective date of section 103, and I will joyfully transfer my Kettering Award to him. He would deserve it more than I do. I have no clients. Herein lies a grave defect in the development of sound law through adversary proceedings.

Fourth, in the legislature the mish-mash has been described in detail, up to 1957 (the first 5 years of the act) in Senate Committee Study No. 7. What is its title? "Efforts to Establish a Statutory Standard of Invention." [27] The Senate Patent Subcommittee is still striving to bring about a higher degree of uniformity in the courts, in the various groups of the Patent Office, and between the two

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[25] §103. *Conditions for patentability; non-obvious subject matter*

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[25a] A little reflection should show that when judicial precedents constituting the "law" range from the very liberal to the most strict, it is a patent absurdity to speak of a statute taking a middle ground as a "codification" of existing law. See note 17a, *supra.*

[26] *Supra,* n. 15, 340 U.S. 147 . This was a case preeminently in the minds of the drafters of the 1952 Patent Act, having been decided during the writing of the first drafts. See note 17a.

[27] Study of the Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary, U. S. Senate, 85th Cong., 1st Sess., pursuant to S. Res. 95, Study No. 7 (1958).

organizations, but in what terms does it do its own thinking? The subcommittee's annual Report (No. 107), April 3, 1963, is concerned about the "Patent Office 'standard of invention'" and refers to the development by that office of a "policy statement pertaining to standards of invention." The report for the next year (No. 1018), May 1, 1964, again refers to the need to eliminate differences within the Patent Office and between it and the courts "concerning the standard of invention." Meanwhile, apparently without the committee's knowledge, the Patent Office Academy has been teaching that there is no "standard of invention," that "invention" is meaningless, and that the prerequisite is as stated in section 103. Might it not do some good and help to achieve the uniformity the subcommittee so much desires if its own members, and staff, could convince themselves, in spite of what uninformed judges have said, that the 1952 Patent Act was intended by their fellow legislators to *replace* the "standard of invention," which never was a standard, with a requirement of unobviousness to a particular kind of person at a particular time?

Amid the confusion, there are some encouraging signs in the courts. During the first few years after the 1952 act, many courts took the position that Congress really had done *nothing* in enacting section 103 and went about their old business of looking for "invention." Then in 1955 came Judge Learned Hand's *Lyon* v. *Bausch & Lomb* [28] opinion and in 1960 his *Reiner* v. *I. Leon* [29] opinion, both of which realistically appraised and appreciated what section 103 had done, namely, to restore the law to what it had been 20 or 30 years earlier and, as he said, "to change the slow but steady drift of judicial decision that had been hostile to patents * * *." In the former opinion he remarked that " 'invention' became perhaps the most baffling concept in the whole catalogue of judicial efforts to provide postulates for indefinitely varying occasions." In the latter he said "It is not for us [the judiciary] to decide what 'discoveries' shall 'promote the progress of science and the useful arts' sufficiently to grant any 'exclusive right' of [to?] inventors. Nor may we approach the interpretation of §103 * * * with a predetermined bias." While saying "The test laid down [in 103] is indeed misty enough," he was able, with the evidence provided, to follow it. Certiorari was denied in both of these cases. In both cases the patents were sustained. The Supreme Court could easily have upset him had it wanted to. In fact, Judge Hand remarked to me and others at that Senate hearing in 1955 [30] "Oh, they

[28] Lyon v. Bausch & Lomb Optical Co., 224 F. 2d 530, 106 *USPQ* 1 (2d Cir. 1955).
[29] Reiner et al. v. I. Leon Co., 285 F. 2d 501, 128 *USPQ* 25 (2d Cir. 1960).
[30] *Supra*, n. 12.

must take it," referring to *Bausch & Lomb*. Later during the hearing he testified,[31] "whether we were right in construing it [§103] as meaning that the old rules were to apply, remains to be seen. I hope the case will go up." From the viewpoint of the writers of the law, he was very right!

Last April (1964) the Fourth Circuit Court of Appeals in *Marvel* v. *Bell*,[32] which in 1954 said 103 merely codified the law, came to the conclusion, after reading a number of cases which "have undertaken to comprehensively set forth the standard of invention to be used as a test," that

"When the mass of verbiage has been distilled, however, we have little more to guide us than the test which is incorporated in section 103 * * *," and went in search of the "objective criteria of [un]obviousness." Perhaps, next time, that court will take the final step and *start* with the statute, ignoring the "mass of verbiage" it replaces. It seems a logical place to start, especially since it was intended to displace some of those cases in which the verbiage appears.

Last May (1964) the Sixth Circuit Court of Appeals, in *Monroe Auto Equipment Co.* v. *Heckethorn Mfg. Co.*,[33] said, "It is virtually a practical impossibility to define adequately that abstraction which we call invention," [34] and then, in spite of that difficulty, said "we must have objective references and a place from which to start. For this we turn to the statute * * * §103." A very good place to start! But then the court came to a very unnecessary conclusion "that invention is synonymous with unobviousness. Thus to say that a device lacks invention and that it is obvious is to state the same legal proposition in two ways." [35] It concluded that while obviousness "does not begin

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[31] *Id.* p. 120.

[32] 330 F. 2d 164, 141 *USPQ* 269.

[33] 141 *USPQ* 553.

[34] The full quotation is (141 *USPQ* at 553):

It is virtually a practical impossibility to define adequately that abstraction which we call invention. Long ago the Supreme Court said: "The truth is the word cannot be defined in such a manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not. In a given case we may be able to say that there is invention of a very high order. In another we can see that there is lacking that impalpable something which distinguishes invention from simple mechanical skill." McClain v. Ortmayer, 141 U.S. 419, 427 [Nov. 2, 1891]. This court consistently has echoed this view. [Cases cited.]

[35] A case was cited for this proposition, In re Jacoby, Jr., 309 F. 2d 513, 135 *USPQ* 317, 50 *CCPA* 734, in which the opinion was written by the present author. The Patent Office Board of Appeals had said the claimed invention "must be unobvious and involve invention." In a footnote to a reluctant but needed quotation of that statement the writer said:

to solve the problem," it "gives us a touchstone for the contextual meaning of invention." It also concluded that in a patent case decision is arrived at by three steps: a determination of what the prior art was, what the patentee has made, and whether it would have been obvious, viewing the prior art from the time just prior to when the patented device was made. That is just what section 103 says! It is beginning to take hold and the next step will be to realize, what should be so clear, that when the unobviousness question has been determined, there is nothing more to do and the question of "invention" can be forgotten.[36]

I cite these as straws in the wind. A study in the *Columbia Law*

To add to the statement that it must be unobvious, as required by 35 U.S.C. 103, the further statement that it must "involve invention" is merely to state the same legal proposition in two different ways. It would seem to suffice to state it once, and that, preferably, in the words of the statute.

It should be clear that this was intended to put the proposition, developed more forcefully in the present paper, as gently as possible and that it was *not* intended to suggest that "invention" and "unobviousness" as provided in section 103 are alternative *equivalents* for determining patentability, which they are not.

[36] Along with it can be forgotten the "complexities" of another issue wrestled with by the court in deciding whether "unobviousness" is a question of law or fact. Compare Armour & Co. v. Wilson & Co., 274 F. 2d 143, 124 *USPQ* 115 (7th Cir. 1960). The presence or absence of "invention" before 1953 was always, in my judgment, the determination of an issue of public policy—what inventions *should* be patented. As such it is a "question of law." This policy has now been legislatively expressed in section 103. In that section (note 25, *supra*) the following potential issues of fact appear: (1) What are the *differences* between "the invention" and "the prior act"? (2) What is disclosed by the prior art presumed to have been available to the inventor? (3) What was the level of ordinary skill in the art at the time the invention was made? (4) Other fact issues relating to *circumstances* indicative of the presence or absence of obviousness, traditionally taken into account in determining "invention," such as long-felt need, immediate copying, sudden displacement of existing practices or devices, difficulty of achievement, failure of others, etc. Once these *facts* have been assembled, there remains the ultimate statutory requirement of unobviousness, the third requirement for patentability, which becomes a matter of statutory *application* and as such must be a question of law. As the court concluded in the *Armour & Co.* case, *supra*, "The development of the factual content necessary to statutory construction is a question of fact." It may be *several* such questions, however. As the court did *not* conclude in *Armour & Co.*, after the fact issues are settled, the determination of unobviousness is necessarily a legal conclusion arising out of the facts, pursuant to the statute —a question of law.

The *Armour* case concluded (1960), in the separate opinion devoted to the fact or law question, that after the facts were settled, "We examine the *standard of invention* applied to these facts as a question of law." (My emphasis.) But under section 103 there is no "standard of invention." The directive of the statute is to determine whether the invention "would have been obvious" on the basis of the *differences,* the *ordinary* skill, and as of the *time* of invention. *These* are the factors, and these alone, by which courts are to determine the existence of the third requirement. Leastwise, that is what the statute provides.

Review in 1963[37] concludes that "nothing indicates that the courts are moving toward a common interpretation of the statute." I am not so sure. I say give them time. They are stirring like live cocoons. We have only had this statute for a dozen years and the judges who have been there that long, as many of them have, are still indoctrinated with the old "standard of invention" terminology they learned from the old patent lawyers and the old textbooks. There will be new editions of all three in due course.

I might mention the Court of Customs and Patent Appeals which has been turning out a consistent stream of opinions, for at least the eight consecutive years of which I have personal knowledge, strictly applying the obviousness formula of section 103 to determine *patentability,* not the presence of invention, and slowly but surely warping the Patent Office into basing its actions on the statute. The results are beginning to show in the actions and board opinions we review. I believe we have invaded the Patent Office Academy. The Solicitor's office writes its briefs in the language of the statute.

Assistant Secretary of Commerce Hollomon made a speech in New York in March, 1964, in which he is reported to have said that he "believes that the courts and the Patent Office should both follow the same standard *of patentability.*" This would be nice but is obviously impossible until one or the other of them decides to standardize. A good place to begin would be the Patent Office, a lot easier than in the courts. Dr. Hollomon further said "that a standard of *patentability* should be more definitely set forth." He is to be complimented on his terminology, in not talking about a "standard of invention," but I think we should experiment with *using* the section 103 standard before we try to create another one. I find it very workable. It was a harder job to get it than he may imagine and in twelve years no better one has been proposed. The "criteria which may be worked out," referred to in the Revision Note to section 103, have never materialized. I doubt they ever will.

I have had two practical suggestions in the back of my mind for some time. One is to have sort of wallpaper border printed up to run around all the patent examiner's rooms on which the words NEW USEFUL UNOBVIOUS PATENTABLE are repeated endlessly. This could be designed into the new Patent Office building. Most inscriptions on the present Patent Office are not very useful. They might put on the

[37] "The Standard of Patentability—Judicial Interpretation of Section 103 of the Patent Act," 63 *Col. L. Rev.* 306-325 (Feb. 1963).

Constitutional clause so people could see it contains no *standard* for determining patentability.

The other suggestion—and this one is more serious—is based on the discovery that lecture courses are given for new and other Federal judges from time to time on how to be a judge, printed in books and given to the judges, compliments of the West Publishing Company. This Institute or some other disinterested party or organization should prepare a lecture on the basic elements of patent law in up-to-date terminology as used in Title 35 U.S.C. and see to it that the Federal judges get it. Even a glossary would help, in which it would appear that the "requirement for invention" became obsolete in 1953 by an act of Congress, along with many prior court opinions discussing it, being replaced by unobviousness as defined in 103 as the THIRD REQUIREMENT FOR PATENTABILITY. By limiting the lecture to the terms of the statute and their clear meanings I do not see how the bar could object and many judges would be grateful.

I was recently discussing this subject with a young patent lawyer, urging that we should all stop talking about the "standard of invention." She said, "What difference does it make?" That is a fair question which has to be answered, and with my present answers I will end:

The differences it will make—the reasons why we *must* learn to make this change—are these, among others:

—Until we stop talking about a "requirement for invention," it will never be clear that THE THIRD REQUIREMENT is that stated in section 103 *and no other*; that when 103 has been complied with, there is no further and different requirement called "invention"; that compliance with 103 is the policy judgment of Congress on how to bring the invention within the Constitutional purpose.

—Because looking for the presence of "invention" in addition to compliance with 103 defeats the legislative purpose.

—Because talking about both unobviousness and "invention" as different things leads to weird and confused thinking.

—Because testing patentability by the presence of "invention" gives judges and the Patent Office too much freedom to decide patentability of new and useful inventions on the basis of a personal view as to what *should* be patentable, instead of accepting the view of the legislature on that question of national policy.

—Because it will get all those concerned with the administration of the patent system—Patent Office, Courts, and the bar—speaking the same language, a sine qua non to the communication of intelligence.

—Because you cannot use "invention" as both an abstract noun and

a concrete noun in the same statute or opinion without confusion. The invention is the thing that has been produced by the "inventor." There will be muddy thought as long as one has to say: this invention (in the concrete sense) is unpatentable because it is not an invention (in the abstract sense).

—Because it will do more than anything else I can think of to bring about that long-sought-for greater uniformity of opinion on patentability.

—Because it makes the prerequisites to patentability intelligible.

As I hope I have been.

To quote Learned Hand—that well-named judge—once more, maybe I am only "shovelling smoke." Time alone will tell.

(Applause)

EARLY FRIDAY MORNING SESSION

JUNE 19, 1964

NEW DIMENSIONS AND DIRECTIONS

MR. STEVENSON: Ladies and Gentlemen: Having tested the loudspeaking system and finding that we are in working order, I'll call the morning session to order.

This morning we meet to discuss the subject of NEW DIMENSIONS AND DIRECTIONS. Our moderator will be Mr. Abraham L. Kaminstein, Register of Copyrights.

Mr. Kaminstein was educated in New York, and it's always pleasant for a Bostonian to find that New York is represented on our platform this morning. I can assure you that Boston is also present. Professor Kaplan and I will have to hold these honors.

He received his undergraduate degree from College of the City of New York, received his law degree from Harvard University, which, of course, has a little of the Bostonian flavor.

He came to the Library of Congress in 1947, was Chief of the Examining Division of the Copyright Office and later Deputy Register. In 1960 he was appointed Register of Copyrights.

He participated in the preliminary work of the Universal Copyright Convention and is now a United States representative on the Intergovernmental Copyright Committee.

During the past three years he has chaired a panel of experts to consider the revision of the present copyright law.

It's my pleasure to introduce our moderator, who will now take over.

MR. ABRAHAM L. KAMINSTEIN: Mr. Chairman, thank you.

Ladies and Gentlemen, our first two speakers this morning are people we rarely get down here because they are too busy during the academic year, but I for one will be very anxious to hear what they, from their academic towers, have to tell us about copyright revision.

We have changed the order. Professor Kaplan will speak first.

Professor Kaplan comes to us from a distinguished record in government service, at the Nuremberg trial, and in private practice, and is now Royall Professor of Law at Harvard Law School. He has been designated Reporter to the Advisory Committee of the Federal Rules of Civil Procedure, was co-author of the first casebook on copyright, and has written several articles which delve into esoteric parts of the copyright law. Without more I am very glad to introduce Professor Kaplan.

PART X — IMPACT OF PROPOSED COPYRIGHT LEGISLATION: THE BUSINESSMAN, THE GOVERNMENT AND THE PUBLIC

Invited Contributors

PROFESSOR BENJAMIN KAPLAN: Mr. Register, Ladies and Gentlemen: I would like to make some general comments on two subjects assigned to me—"Duration of Copyright" and "Fair Use of Copyrighted Works" —taking off from certain tentative proposals for revision of the law recently made by the Copyright Office. I stress that the proposals are very tentative, and that my remarks must be general. If at some points I seem to be quarreling with the Copyright Office, I hope that this will be taken only as a sign of my sincere respect and admiration for the work that has been done in recent years by the Register and his able associates in the revision effort.

As to duration of copyright: we all know that the present statute provides a 28-year renewable term—a maximum of 56 years of protection—generally commencing with the publication of the work.

In 1961 the Copyright Office proposed that the term be enlarged. Why? In explanation, the Copyright Office said, first, that some works—they are few, to be sure, but they do occur—have commercial value beyond the 56-year point, when the author or his near relatives may be still alive. Second, the Copyright Office found that many foreign countries give protection, in the case of a natural, as distinguished from a corporate author, for the life of the author plus 50 years; and it seemed to the Copyright Office not implausible to give our domestic authors a term of protection not less than that which these foreign countries would accord them for the same works.

So the Copyright Office tentatively declared for a term of life plus 50 years, or the equivalent of that formula. By "equivalent" the Copyright Office means this: if you are disposed to convert or commute a term of life plus 50 into a fixed term of years—what lawyers call a period in gross—and you consider the median age at which authors produce their works, and their average age at death, and so forth, you come up with a term of about 75 years as an approximation of life plus 50.

There are technical difficulties in putting this principle into statutory style; but you can take it in a general way that we are dealing with the proposition of extending the term of copyright from 56 to 75 years, an increase of 19 years, or one-third again the present term of copyright.

Now there are a few other things that need to be considered in connection with duration. Should the copyright term continue to be split

into an initial period and a renewal period, or should the term be single? The latest paper that I have seen appears to abandon renewal and would create a single or unitary term. I take no point upon this.

We must now take a final step. As it was part, at least, of the purpose of the Copyright Office in proposing an enlargement of the copyright term, to give the author, the creator, a better chance to share in the financial returns of commercially enduring works, the Copyright Office has naturally been concerned with what might be called the "mess of pottage" transaction, that is, the famous and sad case of the impecunious young author who, early on, sells this entire copyright to a publisher for a small lump sum, only to find in later years that the copyright has become a bonanza money-producer, a gusher, in which the author shares not at all. What is to be done about this kind of case?

The present act, by means of a curlicue related to the renewal, makes some effort to deal with it. But the attempt is notoriously ineffectual. The Copyright Office now proposes two alternative new remedies. In the first alternative, the author would be disempowered to make a transfer of the copyright or of any exclusive right thereunder for a period of more than 25 years. Our author would thus get a chance, not later than 25 years after the transfer, to make a new deal with his copyright that might bring him some fresh money. Under the second alternative suggested by the Copyright Office, there would be no absolute limit of time on the author's effective transfers. But after a transfer had run for 20 years, it would be open to the author to go to court and seek an equitable adjustment or, indeed, a termination of the transfer, upon a showing that the profits of the transferee were strikingly disproportionate to the compensation received by the author.

That is the package as tentatively suggested by the Copyright Office. The central change—extending the copyright term by 19 years—leaves me not dismayed, but quizzical. In an age of accelerating speeds, of precipitous obsolescence, is it wise to predicate the copyright term upon lifetime plus more than two generations after death? And this is proposed more or less across the board—for all or most of the works to be embraced in the new copyright statute. When you look to foreign examples, as the Copyright Office has done, you will find, I think, that the life plus 50 years basis is generally conceived to apply only to natural authors; when it comes to corporate authors, the period is often 50 years, which is less than our present domestic term. But the proposal of the Copyright Office, as I understand it, is that the 75-year formula shall apply to corporate authors also.

For some the pot may be sweetened by those alternative proposals for saving authors against themselves. But those proposals have already been attacked as unworkable or as unduly or unnecessarily paternalistic, and as a revision bill started its progress through Congress those ideas might well drop out, leaving the naked question of enlarging the copyright term.

Now I will suspend for a moment on duration of copyright and pass to my second subject, fair use. In the end we may see that the two subjects come together.

Various of the rights conferred upon the copyright proprietor by the Copyright Act are stated in unqualified terms. But the statutory language is not applied with literal strictness. Take the exclusive right to "copy" the work. Immediately the common-law conception of infringement comes in, and that means that in a certain sense a stranger is entitled to copy. He may copy the theme of the work even if the theme is original, even if it is novel in a patent sense, provided he does not copy the particulars or details. There comes in also the privilege of fair use: the stranger can go further and copy particulars, even a material part of a copyrighted text in sequential form, under any of a variety of circumstances from which the common law raises a privilege of fair use, or, as the British say, fair dealing. So, to mention an obvious case, a critic or reviewer may quote materially from a copyrighted work in order to base a critique or review.

The present act says nothing about fair use, and the Copyright Office, in the interest of candor and clarity, has proposed that the new act acknowledge the existence of the concept. There are quite a number of people who will have no part of this proposal, who would prefer to leave the fair use privilege under the rug, where it now is.

There are, however, one or more questions, usually taken to be phases of fair use, that may resist being left under the rug. They are too urgent. One of them is whether a privilege exists, within reasonable limits, to photocopy copyrighted material. The problem is urgent because photocopying has become very easy and is getting cheaper all the time.

Libraries and their clientele like to consider photocopying, particularly for purposes of research, as being merely an extension of the assumed privilege of readers to make hand-copies of parts of copyrighted works. But it is understandable that authors and publishers do not take so lighthearted a view of photocopying.

If the new act were to say that all photocopying without consent of the copyright proprietor was prohibited, it would have about as much success as the Eighteenth Amendment. So the Copyright Office

has tried to devise a plausible compromise formula on the question of photocopying. In one tentative draft it was proposed that a library should be permitted to make one photocopy for a reader of one article in a periodical issue, or of a similarly small part of any other work; and somewhat more photocopying would be permitted if the volume could not be readily obtained from trade sources.

It may be that a formula will be found. But it illustrates the nicety, and the delicacy, and, if I may use the word, the cussedness of the problem of copyright revision, that no sooner does the Copyright Office produce a formula than some bright fellow realizes that back of the photocopying machine there loom information storage and retrieval systems of heroic powers. From the point of view of copyright, does not the problem of these systems resemble the problem of photocopying? It is no wonder, then, that any proposed solution of photocopying in terms of fair use is watched nervously for its relation to larger problems of which the storage and retrieval system is an example.

To conclude. I have already expressed a disquietude about enlarging the copyright term across the board. Discussion of fair use leads to the point, which has been too often overlooked, that the question of the proper duration of copyright is tied to the kinds of works dealt with by the statute and the scope and strength of the rights to be vested in the copyright owner. Thus it is one thing to give 56 or 75 years of protection against "copying," copying being qualified by a liberal privilege of fair use. It is quite another thing to give the 56 or 75 years of protection against copying without such a qualification. And these issues may appear in different lights as we examine the various kinds of copyrighted works in their industrial, social, or educational settings.

For further illustrations I encroach on two subjects that will be discussed later this morning. In the draft bill for the protection of ornamental designs of useful articles—a bill separate from the general copyright revision—no claim is being made for even 56 years of protection; the period sought is much shorter. Why? Even those who are enthusiastic for copyright in these designs seem to be aware that the industrial situation does not call for lengthy protection. Again, I have here a tentative Copyright Office draft on the very question of information storage and retrieval. The copyright proprietor would be granted the exclusive right "to reproduce [the work] in any form in the programming or operation of an information storage and retrieval system." I would ask the technicians—and I am not one of them: if

the right is stated in the statute in these unqualified terms, would it be sensible to have the right extend for 75 years?

So it would seem prudent for us all to keep an open mind on the question of the proper term of copyright until we see more clearly the shape of the whole revision bill—the various works to be covered, the nature of the rights to be conferred, and the limits upon those rights, whether they are expressed in terms of fair use or in some other way. That is my sermon.

(Applause)

MR. KAMINSTEIN: Thank you, Ben. I knew we could depend upon you to say what you had to say without concern as to where the chips fell.

In fact, after Professor Henn gets through, we may need double time to reply. (Laughter)

I was remiss in not telling the audience, for those of you who do not know, what the course of revision has been.

Starting in 1956 the Copyright Office prepared or asked experts to prepare some 35 studies dealing with major facets which might come up in revision.

Subsequent to that, in 1961, July, we put out a blue book which contained our recommendations for the new law.

Since that time, and after discussion of the specific recommendations, we have prepared a draft which runs to about a hundred pages, which has been discussed for the last two years with the panel of experts.

The draft, as Professor Kaplan has said, is tentative. We have already discarded portions. We hope to change others. On one of the provisions that he dealt with we have been attacked by both sides—and for opposite reasons. (Laughter)

Professor Henn will deal with the extent of protection and some other matters in revision. He went to New York University and Cornell Law School, where he was editor-in-chief of the *Cornell Law Quarterly*, back to N.Y.U. Law School for his S.J.D. and practiced in New York, was general counsel for the Magazine Publishers' Association; President, the Copyright Society of the U. S., and now teaches copyright at Cornell Law School.

He is the author of several articles on copyright dealing with the Universal Copyright Convention, divisibility and others.

It is a great pleasure to ask him to take the gloves off and let us "have it."

PROFESSOR HARRY G. HENN: Thank you, Kami.

Ladies and Gentlemen: We might start by looking at the first patent

act of 1790 [1] and the first Copyright Act of 1790.[2] The term was 14 years for patents, as you probably know. The term for copyright was 14 years, and then only if at the end of the first 14-year period the author survived was there a right to a renewal, and that was for 14 more years.[3]

So back in 1790, the terms for patents and copyrights were comparable.

Copyright extended the term over the years,[4] and by 1909 it had become 28 years, plus renewal of 28 years regardless of whether or not the author survived or had a surviving spouse or a surviving child.[5]

The patent people had a more difficult time. They tried to increase their duration in the 1860's. They asked for an additional seven years, or a total of 21 years. There was a compromise. It was not quite as fair as it might have been to patentees, and the result was 17 years.[6] Patent duration has remained at 17 years to this day.[7]

Proposal for 76 Year Copyright Duration

As Professor Kaplan pointed out, the proposal of the Register is for a term of 76 years; [8] that is some 4½ times what the patent law provides for a patent.

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[1] Act of April 10, 1790, 1 Stat. 109 (1790).

[2] Act of May 31, 1790, 1 Stat. 124 (1790).

[3] Act of May 31, 1790, §1, 1 Stat. 124 (1790). This approach followed that of the first English copyright statute, the Statute of Anne of 1710, 8 Ann., c. 19 (1710), the recommendation of May 2, 1783 to the several states by the Congress of the Articles of Confederation, and the copyright laws passed by Connecticut, Georgia, Maryland, New Jersey, New York, Pennsylvania, and South Carolina between 1783 and 1786. Massachusetts provided for "the full and compleat term of twenty-one years"; New Hampshire for twenty years; North Carolina for fourteen years; Rhode Island for twenty-one years; Virginia for twenty-one years—all without renewal.

[4] Act of February 3, 1831, §§1, 15, 4 Stat. 436, 439 (1831) (increasing original term to twenty-eight years; renewal being authorized where there was surviving spouse or child, as well as where author survived); Act of March 4, 1909, §§24, 64, 17 U.S.C. §24 (1958) (increasing renewal term to twenty-eight years). Both increases applied to previously copyrighted works in which copyright was then subsisting.

[5] See 17 U.S.C. §24 (1958) (". . . the author of such work, if still living, or the widow, widower, or children of the author, if the author be not living, or if such author, widow, widower, or children be not living, then the author's executors, or in the absence of a will, his next of kin shall be entitled to a renewal and extension of the copyright in such work for a further term of twenty-eight years. . . .").

[6] Act of July 8, 1870, §22, 16 Stat. 198, 201 (1870).

[7] 35 U.S.C. §154 (1958).

[8] Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1258 (1963).

JUSTIFICATIONS FOR PROTECTING COPYRIGHTS LONGER THAN PATENTS

Why is this? We all know copyrights and patents derive from the same constitutional clause, with its same constitutional emphasis on promotion of the public interest and on the exclusive right for limited times, in short, with emphasis on the *public* interest and on *limited* times. Why, then, this difference in duration?

If you look to the tests of copyrightability and compare them with the tests of patentability, you would conclude that perhaps patents should be protected for a longer period because in the case of copyrights all the author has to do is to show "originality", and that means simply that he may not copy from anyone else. In the case of patents, the tests are "novelty", "utility", and as we know from Judge Rich's excellent talk last evening, "non-obviousness".[9]

However, there are other ways of trying to justify the longer protection for copyright.

Sometimes it is said that a patent is more of a monopoly, but, of course, in either case, neither the writing nor the invention has existed before, so that you can say that neither a patent nor a copyright takes anything away from the public.

Another approach is to say that a patent protects the idea and ideas should be relatively free and protected for a more limited period, whereas copyright protects only expression, and since the same idea can be expressed in various forms and media of expression there is less real protection for copyright, therefore justifying a longer period.

Still another approach is to point out that the patent gives the patentee the exclusive right to use, whereas in the case of the copyright, the copyright owner has the exclusive right to copy. This means that under copyright, if someone else independently conceives of the same thing, he may use it, and, in fact, he may copyright his work also.

This sounds plausible, but it is not too convincing because very rarely do you find a second work which is very similar to a first work which has not been copied. The usual situation when you find this, at least so far as my experience is concerned, is where both the first author and the second author copied from the same source.

In the case of patents, if this argument were accepted, you could say that there should be an exclusive right to use for a very limited period and perhaps after that an exclusive right to copy.

Our concern, however, should not be with "monopoly". I do not think you get very far by talking in those terms.

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[9] 35 U.S.C. §§101, 102, 103 (1958).

I think the important thing to do is to look at the extent of protection granted to the copyright as compared to the patent. This is what Professor Kaplan has suggested.

Intensiveness of Copyright Protection

The extent of protection has two factors. One is the extensiveness of protection, the duration, which Professor Kaplan has mentioned. The other is the intensiveness of protection.

In discussing intensity of protection, I think you have to look to 1) what works are protected, 2) against what uses, and 3) what remedies exist for infringement.

Proposed Expansion of Copyrightable Subject Matter

With respect to works protected, the proposed revision would enlarge the number of works protected. In the first place, one proposal calls for making more authors eligible for Federal copyright than are now eligible.

At the present time, to make a long story short, American authors and authors from countries which have been positively proclaimed by the President are entitled to statutory copyright. One of the proposals is to make all authors, from whatever country, eligible so long as they do not come from a country with respect to which the President has made a negative proclamation.[10]

When you look to the classes of works, the proposal calls for an increase in the types of works which would be protected by statutory copyright. The leading example of this would be sound recordings.[11] At the present time phonograph records, as you all know, are not protected by statutory copyright. You might say that to some extent they are protected against dubbing by the law of unfair competition.[12] But query how valid those earlier decisions are in view of the recent *Sears, Roebuck* and *Compco* cases.[13]

You might well argue that, with respect to phonograph records which have been publicly distributed, there is not any unfair compe-

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[10] Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1319 (1963).

[11] *Id.* at 1218.

[12] See Ringer, "The Unauthorized Duplication of Sound Recordings," in 1 *Studies on Copyright*—Arthur Fisher Memorial Edition 117 (1963).

[13] Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225, 84 Sup. Ct. 784, 11 L. Ed. 2d 661 (1964); Compco Corp. v. Day-Brite Lighting, Inc., 376 U.S. 234, 84 Sup. Ct. 779, 11 L. Ed. 2d 669 (1964).

tition protection any more because this is something which the copyright statute under the Constitution could have protected.[14]

Another situation where the classes of works being protected would be largely expanded is with respect to unpublished works. At the present time we have common-law copyright which protects works prior to publication.[15] This is under state law. One of the proposals is to federalize common-law copyright and make all works prior to publication eligible for statutory copyright and, in fact, ineligible in most cases for common-law copyright.[16]

If you look to the number and classes of works protected, I think you find an expansion and a very substantial expansion.

Proposed Expansion of Rights

Looking to the second aspect of the extent of protection, the rights protected, the patent includes the right to exclude others from making, using, or selling the invention,[17] a rather broad prohibition. Copyright prevents copying in various forms and media, but there are limitations on these rights at the present time.[18]

For example, the owner of a play cannot prevent *any* performance of his play. He can only prevent a *public* performance, a performance in public.[19]

So far as the owner of music is concerned, he cannot prevent *any* performance. He cannot even prevent any *public* performance. The only thing he can prevent by way of performance is public performance *for profit*.[20]

The owner of music is now subject to the jukebox exemption. Any person who has a coin-operated jukebox, so long as he does not charge admission to the place where it is located, may use the music by performing it in his establishment without consent and without paying any royalties.[21]

The owner of music also is subject to a compulsory license with respect to recording. If he records his music or permits others to

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[14] On the theory that the copyright statute preempts the field of protection for the *published* writings of authors. The copyright statute, of course, expressly preserves common-law and equitable rights of authors in *unpublished* works. See note 15 *infra*.

[15] Expressly preserved by 17 U.S.C. §2 (1958).

[16] Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1243 (1963).

[17] 35 U.S.C. §154 (1958).

[18] 17 U.S.C. §1 (a), (b), (c), (d), (e) (1958).

[19] 17 U.S.C. §1 (d) (1958).

[20] 17 U.S.C. §1 (e) (1958).

[21] *Ibid.*

record it, anyone may come in and by complying with a relatively simple procedure record the music, make certain accountings, and pay certain nominal statutory royalties.[22]

How would this be changed by the new statute? So far as fair use is concerned, which Professor Kaplan mentioned, there would be a contraction of protection because there would be a statutory recognition of fair use in certain areas where certainly the cases are somewhat doubtful.[23]

Under the proposed revision, however, there would be a substantial increase in protection along other lines.

For example, it is proposed that the owner of music shall have the exclusive right to perform it in public, and that the "for profit" limitation be eliminated.

It is also proposed, and there are pending bills in Congress, to eliminate the jukebox exemption.[25]

There are also proposals either to eliminate the compulsory license or to revise it and make it more favorable to the owner of music.[26]

I think it is fair to say that the net effect of the revision would be to give more substantial rights to the owners of copyrights.

Proposed Expansion of Remedies

Rights without remedies, of course, are not very meaningful, and the copyright owner, as most of you know, has a very substantial arsenal of weapons against infringers.

On the civil side he can get an injunction, actual damages or profits.[27] He can impound and have the infringing materials destroyed.[28]

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[22] *Ibid.* See Henn. "The Compulsory License Provisions of the U.S. Copyright Law," in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 877 (1963).

[23] Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1226 (1963).

[24] Preliminary Draft §5 (c) (Alternatives A and B), §8 (February 15, 1963). The Register's Report favored retention of the present "for profit" limitation on the right of public performance of musical works. Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1228 (1963).

[25] H.R. 5174, 88th Cong., 1st Sess. (March 28, 1963); H.R. 6017, 88th Cong., 1st Sess. (May 2, 1963); H.R. 7194, 88th Cong., 1st Sess. (June 24, 1963); H.R. 8457, 88th Cong., 1st Sess. (September 17, 1963). See Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1232 (1963).

[26] Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1236 (1963); for retention and modification of compulsory license, see Preliminary Draft §11 (a) (Alternatives A, B, C) (April 4, 1963).

[27] 17 U.S.C. §§101 (a), (b), 112 (1958).

[28] 17 U.S.C. §101 (c), (d) (1958).

He can prevent infringing materials from coming through customs.[29] He gets costs.[30] And, what is even more exciting to lawyers, he may even get his attorney fees if he is successful.[31]

There are also statutory damages. At the present time a person may get statutory damages, a minimum of $250 per infringement, a maximum of $5,000.[32] The suggested revision would increase the maximum from $5,000 to $10,000.[33]

Then there are criminal penalties for willful infringement for profit. It is now a misdemeanor, subject to a fine of from $100 to $1,000 and up to one year in prison.[34] Under the proposed revision, it would become an "offense against the United States" with a minimum fine of $250 and a maximum fine of $5,000, and, for subsequent offenders, there would be $1,000 minimum, $10,000 maximum, and up to three years in jail.[35]

Then, just to make it even worse for the infringer, certain proposed presumptions in such criminal proceedings would operate against him.[36]

I think it is fair to say that the remedies would be fortified under the proposed revision.

Net Effect: Substantial Intensification of Copyright Protection

So in all three respects—the numbers of writings protected, the extent of the rights granted, and the available remedies—substantial intensification is being proposed.

There has been, of course, some relaxation in certain areas, but I think that the net effect is as I have stated.

If you combine this increased intensity of protection with the longer duration, you would think the copyright owners would have the best of all possible worlds.

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[29] 17 U.S.C. §§107, 108 (1958).
[30] 17 U.S.C. §116 (1958).
[31] *Ibid.*
[32] 17 U.S.C. §101 (b) (1958).
[33] Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1307 (1963).
[34] 17 U.S.C. §104 (1958).
[35] Preliminary Draft §40 (November 5, 1963). The Register's Report favored retention of the present criminal penalties. Report of the Register of Copyrights on the General Revision of the U. S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1335 (1963).
[36] Whicher Draft §40 (a) (January 23, 1964). Neither Preliminary Draft §40 (November 5, 1963) nor the Register's Report contained any such recommendation.

Application of Proposed Increased Protection to Existing Copyrighted Works

It does not end here, however. The proposed revision would apply all of the new provisions to existing copyrighted works. It would not apply its provisions to works already in the public domain, but to any work in which statutory copyright is subsisting on the effective date of the revision the new law would apply.[37]

In other words, you could have a work which has gone on through almost 56 years and perhaps a few more years because of the recent extension by Congress,[38] and then the new law would apply. There would be an extra 20 years, let us say, with extra increased protection.

In applying the new statute to existing copyrights, of course, you run into all kinds of problems. You run into the problem of people who are making use of the work, which is now lawful but which will not be lawful under the new statute. You have all kinds of contractual arrangements which are predicated on the present statute, and these will be upset to some extent by the new statute.

The revision has some very complicated provisions in dealing with this which I shall not go into except to stress that they are very complicated and that some of them will exist during a transitional period of, say, five years, and some may even have an effect thereafter.[39]

The proposed revision, then, is quite complicated. It would give substantial increased protection, substantial increase in duration, and it would provide a windfall, I think, for people who have presently copyrighted works.

Lesson to Copyright Interests from Patent Experience— Moderation!

I think that copyright interests should learn a lesson from the patent experience and should exercise more self-denial and moderation. I think authors and users should be more modest in their demands for more protection, and for more detailed provisions governing their rights.

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[37] Report of the Register of Copyrights on the General Revision of the U. S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1258 (1963).

[38] Pub. Law 87-668, 87th Cong., 2d Sess. (September 19, 1962) (extending automatically term, in any case in which the renewal term of copyright was subsisting on September 19, 1962 and would expire prior to December 31, 1965, to December 31, 1965).

[39] See e.g., Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 1258, 1294 (1963); Preliminary Draft §11 (a) (Alternatives A, B, C) (May 1, 1963).

Many people feel that the proposed language is very detailed. It reads like something between a corporate trust indenture and the Internal Revenue Code. (Laughter) Most of these people will admit that most of the language is very complex, but not the language pertaining to their particular industry. It would seem to me that if the statute were made more general it would be more understandable, it would be more useful, and it would not become obsolete quite so quickly. Obviously, the more detailed a statute is, the more quickly it will become obsolete.

One virtue of the 1909 Act is that it, while verbose, is very vague in certain areas and therefore has been able to be used with respect to works and uses which did not exist and were not contemplated in 1909.

I think also the Library of Congress should be moderate. Its emphasis on getting free books under the deposit system is having an unfortunate effect on the copyright revision program.[40]

I think the interest of the Library of Congress as the principal research library in this country and its emphasis on photoduplication is immoderate. Personally, I believe that in some areas the proposals with respect to photoduplication go too far.[41]

I think the Copyright Office also should be more moderate. The proposed revision calls for increased emphasis on registration and deposit. Registration and deposit of copies would be far more important under the proposed revision, and also there would be added emphasis on recordation not only of assignments but of all other kinds of papers relating to copyright.

In other words, I think that if the revision goes through as suggested, the Copyright Office will have to be substantially enlarged, and I personally have never been quite so much in favor of a formal copyright system as some people. We have done very well, those of us dealing with the common-law system, where we are dealing with an entirely automatic system.

The main thing, of course, is to get a modern statute passed. After a statute is passed, however, I think it is important to foster a favorable attitude toward copyright.

We all know the judicial attitude toward patents, which has not been very helpful. Copyright lawyers, of course, are aware of the unfortunate provisions in the Internal Revenue Code with respect to

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[40] See Report of the Register of Copyrights on the General Revision of the U. S. Copyright Law, in 2 *Studies on Copyright*—Arthur Fisher Memorial Edition 81 (1963).

[41] See note 23 *supra.*

copyrights where copyrights are treated more poorly than are patents.[42]

The best approach, in my opinion, would be to take the old-fashioned view that when an inventor discloses his invention or when an author publishes his writing, he makes a sort of contract with the government and the public. Therefore, preexisting works should continue to be governed by the present statute, and the new provisions with respect to duration, rights, and remedies should not apply to them.[43]

I do not think that there is any greater complexity to doing this than there would be under the proposed revision, because if you follow the Register's suggestions, the old law is still going to have substantial relevance for the term of duration, 76 years, because you are always going to have to look back and see whether or not statutory copyright was properly secured and maintained.

My message, Mr. Register, to copyright interests is: *Moderation!*

(Applause)

MR. KAMINSTEIN: Thank you, Harry.

I'd like to issue a special invitation to you to attend a panel meeting in the ABA sessions in August and to make the same or similar speech to your colleagues in the copyright bar.

One of the subjects we hoped we would not have to deal with in the revision of the law, in the total revision, was the jukebox situation and the design situation. There is now pending in the House of Representatives and its Rules Committee a bill on the jukebox clause. And on the design front the Senate has passed S. 776, and a similar bill is before the House as H. R. 5523, had hearings before the House committee, and is now waiting.

Philip Dalsimer, of Kane, Dalsimer and Kane, has been involved in design litigation and legislation for a long time. He took his engineering at Michigan, his law at Columbia, and has been Chairman of the New York Patent Law Association, Copyright and Design Committee, Chairman of the ABA Committee on Design, and more directly has been a member of the Design Coordinating Committee under the direction of the distinguished and recently decorated Judge Rich who is still, I hope, very interested in design.

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[42] Compare Int. Rev. Code of 1954, §1221 (defining capital asset as excluding copyrights held by taxpayer-authors, etc.), with id. §1235 (affording long-term capital gains treatment to most sales or exchanges of patents).

[43] Prior copyright revisions, including increased duration, in most respects, have been applied retroactively. However, when recording rights for musical compositions were first recognized in the Act of March 4, 1909, such provision was made applicable only to compositions published and copyrighted after July 1, 1909.

Mr. Dalsimer speaks with authority on the language in the proposed bill and in the design field.

Mr. Dalsimer.

PART XI — NEW CONCEPTS OF DESIGN PROTECTION

MR. PHILIP DALSIMER: Thank you.

I know that it's not proper to covet the designs of others, nor should I covet the employment opportunities of my associates here on this panel, but I couldn't help observing that, being preceded by two professors, one commented that shortly he was leaving for Martha's Vineyard and the other shortly was leaving for Nantucket. And as I return to my office to prevent design piracy, I will think of this very much. (Laughter)

The topic in the brief moments of sharing that we have together was entitled "New Concepts of Design Protection." I think it might better have been titled "Twentieth Century Design Confusion."

It's difficult to believe that the simple field of protecting creative design of utilitarian articles could at this late date in design creation remain so confused. It's almost a miracle of modern law, a miracle of our legislative procedures, and a miracle of our appeal procedures that has caused this.

And when I say "confused," I don't mean confused in any general sense. I mean confused in a total sense.

As a lawyer I find myself uncertain as to what advice to give a client, first, when he comes in and says, "What do I do to protect my design?" and then I find myself completely unable to tell him what to do after the design has been copied by a competitor.

In today's marketing of industrial products, I am going to make a rather bold assertion, which some of you may challenge, to the effect that most products have aspects of nonfunctional design, and these aspects are a major factor in their sales promotion.

I believe that we have passed through the era of the rugged pioneer who took a piece of wood and hewed his shovel and had a shovel. Today even a shovel is beautifully designed. Now, this beautiful design, and, as I call it, this more than function, is I am suggesting a distinguishing characteristic of the product. I am not suggesting that the functional part of the design isn't also a distinguishing characteristic. It is. But there is no doubt in my mind that large areas of products in today's market have the nonfunctional design, the beauty, the ornamentation, the appearance all as part of this creative sales effort that become distinguishing features of the product and are used in the sales effort and promotion.

I believe that with some products, this design, this creation, this eye appeal to the purchaser does accumulate good will very similar to the good will inherent in a trademark in the more formal sense.

The Saturday Review of Literature, a magazine not normally devoted to design, recently gave an entire issue to the subject. It's rather interesting to observe what the editorial introduction stated:

"In this *Saturday Review,* we consider American design. We do not pretend to offer a definitive report. Certain timely aspects are discussed by specialists in the field.

"Walter Dorwin Teague, himself a well known designer, lists what he considers the 20 best designs since World War II. His personal choice ranges from automobiles to ski poles, from American towel racks to Soviet pistols, from jet planes to Eames chairs, from Italian typewriters to Italian toilets."

Another author, Arthur Drexler, has a fascinating title called "The Disappearing Object." He states the thesis that all this folderol, this fancy designing of products from teaspoons to skyscrapers may have gone too far. The object, he says, the object itself, may be buried. In other words, it may be disappearing behind a false front of design.

Says he, and I quote, "There's no reason why a telephone must be an object of sculptured beauty and lovely pastel colors. But most design today is still naively conditioned by the desire to make something"—and I quote his word—"to make something *distinguished,* to make interesting what is intrinsically uninteresting. The designer of an appliance may, after all, really be required to provide only an acceptable box."

Of course, the designer doesn't provide only the acceptable box. The designer provides a distinguished object.

I repeat Mr. Drexler states "most design today is still naively conditioned by the desire to make something distinguished."

I don't think this distinguishing is a "naive" condition. I believe that it's a part of our modern society. We do, as purchasers, want distinguished designs, and the manufacturers and the designers are giving us distinguished designs.

This to me is precisely the point of departure. The designer today desires to make his article distinguished. He accomplishes this act of making it distinguished by his design. The article then is *not only distinguished* but, in my opinion, it is *also distinguishable* by the design.

And so we come to the basic questions: Should the law protect against design copying or, product simulation? How does the law protect against product simulation?

I have been thinking about this subject for many years. Many of you here know more about this subject than I do. But at least I have devoted some thought to it. And in thinking about what I might say today I decided that I needed some reanalysis, in my own heart I needed some reanalysis, as to why it was that I had an interest in protecting design.

Long ago—in fact, it goes back almost to my law school days—I apparently aligned myself with what I then called the "good guys," the fellows who were going to protect against copying. And as the years have gone by I find myself still on the side of the good guys. I'm on the side of the designer.

Why?

Well, the first thing is the "free ride" concept. I have the feeling that when time and money are spent in the development of a new design, a new creation, that it's repugnant to my sense of justice to have someone else come along and just take it.

The whole field of patents and copyrights is based upon permitting a man to retain for a limited period of time the benefits of his labors.

Second, prevention of copying creates employment opportunities. Perhaps I like designers and I like to think that there is an expanding field of employment for more and better designers.

And then I think of another point, and that is that there is an increase in factory employment by the creation of new designs. I think it is a better stimulant to our economy to have newly created versions being put into production rather than the mere copying of the old, of the one that another person had created.

And, of course, there is the normal encouragement of creativity. This is something different than the money aspect of this concept. I think that society is bettered by encouraging good design. Society itself, it seems to me, is the loser if fewer people are stimulated to create, and I think this is true in all fields, and design is one of them.

It's always easier for a follower to copy an established market. It's more difficult to create the new. And I think that encouragement to design is needed and that society benefits by these incentives.

We come to another point, not so significant to some, more significant to others, and very often dependent upon the particular product you're talking about. That is the prevention of confusion. When you have exact similarity of design and color, I believe that there is confusion of the public regardless of whether the manufacturer's name is placed on the product. I don't think the placing of the defendant's name on a product prevents confusion.

Now, the protection against this product simulation has been a very

gradual, developing process in our law. We all know that design patent was the beginning of this protection. However, it has lost favor, perhaps for two basic reasons—one, that the protection was obtainable rather slowly. It wasn't an instantaneous protection. You had to file an application, battle through an application, eventually issue a patent. No protection in the meantime.

Design patents lost favor because protection was slow in forthcoming and then the patents were so frequently held invalid.

The revision of the patent law did not touch the design patent statute, and the design patents, it seems to me, fare no better in the courts now than they ever fared, and the invalidity of design patents makes them a very poor mechanism for protection of design.

Now, then, with the advent of more and better ways of copying by the use of profiling machines and rubber molding techniques, copying has become a fine art. It's an art that is highly skilled. And if you key that with the fact that mass production in international markets, is ordinary and commonplace, copying has now become truly economically desirable for the copier.

A copier can wait just a short time, see which items are successful, have the copy produced in any one of the countries of the world, whether that be the United States or any other country, and destroy the original market rather quickly.

This an illustration of the quick rubber mold copying technique. A rubber mold was made around the original item which was purchased on the open market. There is the rubber mold. You take the original out. You put in the plaster. Here is the plaster copy. This is done so quickly that the copy was on the competitive market in six hours. With profiling machines you can do a tremendous duplicating job on very complex articles.

Thus we now have techniques that make it imperative to find a way of protection.

Let me show you a rather simple device. It's a candle holder. All it is is something that looks like atoms revolving around something. That simple candle holder created abroad, widely advertised in beautiful advertising, has already been copied precisely in this country, and it was copied almost instantaneously. And it's a rather difficult thing to copy, but it was done.

Now, if you follow the sequence of development—the design patent not adequate for protection, a tremendous need for protection in view of copying being so simple and fast—the courts began to evolve what I call a "gut reaction." It was just a sense of fairness. They

said, "We're going to stop some of this." And they did. Sometimes it was done by statute, sometimes by common law.

Under the California Code, the courts found a way to protect against design copying. In *Haeger Potteries* vs. *Gilner* 123 F. Supp. 261 under the California Code the court had no difficulty in reaching a decision that ashtray product simulation per se with nothing else was enjoinable. And they enjoined the defendant manufacturer from making the ashtray copies even though the defendant manufacturer embossed his name on the bottom of the defendant's ashtrays.

Of course, all courts don't go the same way. While Southern California was going one way, the Ninth Circuit was going the other. In a case involving dishes, not the outline shape but the surface ornamentation, the Ninth Circuit Court of Appeals in *Pagliero* v. *Wallace China Co.* 198 F. 2d 339 reached the conclusion that the *beauty* of the article was functional.

The court in effect when asked to define "functional" stated: "It means it serves the function that you want it to serve. A plate is to be beautiful. Therefore, if it's beautiful it's functional."

Simple. Nothing to it. (Laughter)

By 1939 the Restatement of the Law of Torts concluded that design simulation per se was protectable as a tort in the United States provided it was nonfunctional. And some thought that in this great body of developing law we had reached a point where courts were now beginning to protect design simulation. Then along came the *Stiffel* case. The lower courts protected design simulation. I don't have the lamp here, but this was a pole lamp with three lights dependent from it. Question marks in my mind: Whether that design had acquired secondary meaning, whether it did meet the tests of secondary meaning under the Restatement of the Law of Torts. Whether there was function or nonfunction. But at least the lower courts held that these were protectable.

The Supreme Court dealt a hammer blow to this entire field of protection where you can prove secondary meaning and copying. The Supreme Court dealt what I believe to be an absolute death blow. I see no way of talking around the case, although some of my colleagues believe you can.

I believe the Supreme Court has absolutely, specifically, clearly held without question that there is a preemption in the field to the Federal government under the patent and copyright clause of the Constitution and that there can be no protection in the field of product simulation per se, by State law.

I'm not going to try to analyze the *Stiffel* case. Tom Arnold has

written a tremendous article on this. I believe it will be published soon in the *Trademark Reporter.*

I believe there is a tremendous danger in what has occurred, in that we seem to have stopped the development of unfair competition in the field of product simulation. We have come to the end of the road, shall we say.

What are the other forms of protection available for product simulation?

Lawyers became aware of and the Copyright Office fostered a widening scope of the copyright laws to protect against product simulation. I may not be precisely correct in this, but I believe the broadening scope of this field of protection of product design under copyright law goes back to the time when Register Warner gave a talk in connection with the protection of jewelry designs, and from that point forward more and more products that were not fine art products became acceptable works of art, and the claim of copyright was accepted for filing in the Copyright Office.

There was a gradual extension, and it has covered, and the regulations now cover, such things as glassware, tapestries, fabric designs, lamps, bookends, artificial flowers, quite a host of products. However, of course, it does not protect truly industrial designs.

I don't think that the Copyright Office is ready to accept easily such things as icebox designs, electric appliances, household and various industrial products.

Now, this "gut reaction" of the courts to protect saw the extension of product simulation protection by unfair competition and copyright. You also find the extension of it in the field of trademarks and unfair competition.

A very simple case was the car freshner case, *Car Freshner* vs. *Marlenn* 125 *USPQ* 111. I don't know how many of you have ever seen the actual Car Freshner case samples. A very simple product. It was a piece of blotter material cut in the shape of a tree, impregnated with some sort of a sweet-smelling solution that would bring the smell of fresh air to your room and your car.

And this was copied precisely. The tree itself was copied. The defendant then put his name on the article, his company name and also a different trademark.

The question was whether the copying by the defendant of the pine tree shape of this product was to be protected.

A registration of the shape as a trademark in the United States Patent Office was held invalid on the ground that it was essentially the shape of the product. The court, however, held for the defendant

on the basis of unfair competition. In other words, a product simulation.

The pine tree shape of the product also appeared on the various display cards and advertising matter and thus could fairly be said to be the trademark. If you didn't have the product and you just saw a green tree on a display card, you could readily conclude that the tree is the trademark symbol. But there are many instances where the shape of the product per se also becomes the trademark symbol. For example, I'll use as a simple illustration, a man's wallet. You can put little metal corners on it to prevent corner wear. If you design a rather interesting trademark shape and stamp the metal corner to that shape, the corner is both a protection for the leather and a trademark. If the manufacturer runs as advertising copy, "Look for the wallet with the beautifully designed tulip-shaped metal corners," the tulip shape becomes hammered home as the trademark. It is, however, also part of the product and in part functional.

This is a complex area. The complexity of this area, of what is product, what is trademark, what is design, what is functional, what is nonfunctional, has indicated to me the wisdom that the law of unfair competition should be left open and developing, not foreclosed as the Supreme Court appears to have done.

The continuing gut reaction has brought new proposals for legislation, and I will talk very briefly on these proposals. First, the Lindsay bill, which is the Federal Unfair Trade Practice Act. This bill says nothing specifically about product simulation. I believe that were it to be passed it would likely not protect against product simulation. That is a personal opinion. I believe that it should be amended to state specifically that it intends to protect against product simulation.

The National Conference of Commissioners on Uniform State Laws will have presented to them at their next meeting a draft proposal of a state uniform unfair and deceptive practices act. That act a few months ago had in it a provision specifically providing for product simulation as an act of unfair competition. That provision has now been removed from the present draft on the basis that the *Stiffel* case says that the states may not deal in the field of product simulation.

Now we come to the design registration bill. The design registration bill, it seems to me, is desperately needed. Even if unfair competition were to continue developing, truly it only really protects in the area where you can prove secondary meaning, where you can prove that the copying leads to confusion. There are many types of products where the burden of such proof would be too great. You could not prove secondary meaning.

And yet all of the reasons for design protection are still valid.

The design registration bill was carefully thought out. It is a Federal law based on the constitutional provisions supporting the patent and copyright laws. And in all aspects that bill has had what we would call a real going over. It's practical, and it seems to me it's economically desirable.

Let us review its highlights. Because copying is instantaneous in today's market, protection should be instantaneous. And under this pending design registration bill, protection originates from the moment of publication. Protection is instantaneous.

The second point is that you have to provide a bill that gives a certainty of remedy. It's not satisfactory for a lawyer to tell a client, "Maybe you can do this. Maybe you can do that." You have to provide a certainty. There at least should be one road down which a client can go and be assured of some protection, and design registration would give that certainty. It would be a simple pathway to follow.

And then errors in marking, errors in failing to put on the copyright notice, minor errors in detail shouldn't knock the pins out from under you. You're dealing with a vast group of manufacturers, a vast group of designers, and you must have something that is simple.

Consequently, this bill provides that minor errors will change the scope of your protection but not destroy total protection. The bill very carefully works it out so that you don't lose your total right.

The duration of protection is modest yet reasonable. The design registration bill provides for five years and a renewable term of five years or a total of ten years. This was thought out in the terms that this was a reasonable period of protection for the field in which we are operating.

The bill provides reasonable safeguards against the innocent handler of an infringing product. Under the design registration bill an innocent retailer is not liable. Under the copyright law as it exists today, with a work of art, an innocent retailer who handles the infringement is liable just the same as the infringer who is the guilty copier.

I think the time has come for lawyers to realize and for artisans and manufacturers to recognize that if we are to move forward in the field of design protection, it must be, at this moment in history, by way of a design registration bill based on the Constitution, Article I, Section 8, that we can't wait the years of uniform state trade laws, we can't wait the years of the Supreme Court reversing the *Stiffel* case, we can't wait the years of battling out extensions of a copyright law in an area where copyright law is going through revision and has

nothing in it concerning design registration. We should take what we have, see it clearly, and move it forward.

The Design Registration bill S 776 was passed by the Senate. It is pending in the House, HR 323.

For any of you who are more interested in detail, I'd be glad to speak with you later.

(Applause)

MR. KAMINSTEIN: Thank you, Mr. Dalsimer.

I suggest you talk to your colleagues about the possibility of a five-year swap with honor, glory and summer vacations. (Laughter)

This is one area where we certainly have come close to the patent field. And our remaining subject is also one where we are newly come into contact with the patent field.

Ten years ago few people would have thought that copyright revision might be concerned with information retrieval. Today it is a very lively subject of discussion. And at a recent meeting of the American Book Publishers Council, William Knox of Esso Research predicted that the book was obsolete as far as the spread of scientific information was concerned.

This comes as something of a shock to the book publishers, and they are very disturbed.

Our next speaker is Alexander J. Etienne, graduate of Rensselaer Polytechnic Institute and of the Law School of The George Washington University, who went to IBM in 1939 as a patent attorney and is now Consulting Patent Attorney in the Patent Department at IBM and who knows a great deal more about computers and information retrieval than we do.

Mr. Etienne.

PART XII — PATENT AND COPYRIGHT IMPLICATIONS OF ELECTRONIC DATA PROCESSING

MR. ALEXANDER J. ETIENNE: Mr. Kaminstein, Ladies and Gentlemen: There's an old cliché which runs, "Unaccustomed as I am to public speaking." Thus never spake Zarathustra!

In the year of our Lord 1521, in a voice which thundered across Europe, Martin Luther uttered these words: "Here I stand!" In an era when ecclesiastical doctrines and controversies dominated the intellectual world, the world verily stood on the threshold of a greatly enlivened theology.

Today here I stand, and I stand symbolically for each and every one of you. We stand on the threshold of a tremendous quickening of the inventive processes brought about by the conjoint effect of a

veritable flood of scientific information and a great increase in the use of electronic data processing.

In fact, if I may employ the usual manner of understatement of our British confreres, verily we stand on the threshold of many thresholds.

While I was preparing for this presentation I gave a great deal of thought as to whether or not I should limit myself to the patent implications of applications themselves, directed to electronic data processing. As I proceed, it will be obvious that these alone have great implications.

Now, quite some controversy has arisen with regard to one aspect of this, and that is the question of whether or not programs, per se, can be patented. I trust that you will not be too disappointed by my statement with regard to this matter, but in view of the published position of the United States Patent Office, which was published recently, I do not intend to discuss that particular subject.

However, as you all know, in the copyright field the wind has blown the other way, and my distinguished colleague Mr. Goldberg will deal with this extremely lively subject.

I would like to make clear that I am not here to speak softly, somnolence-inducing incantations. Rather, I would like to pour a wee bit of gasoline on the fire of controversy.

In fact, I would like to at least touch upon a subject during a part of this talk which some of you, and I hope not too many, believe is entirely in the realm of the impractical.

However, starting off, on this earth, and getting down to the patent implications of preparing a large and almost always difficult patent application directed to electronic data processing, there has been an evolution which is practically a revolution. We have evolved from what I know Mr. Burns remembers, as a single-sheet case, to patent applications literally involving hundreds of sheets of drawings, and thousands of sheets of specification.

If we pause just a moment, this very mass of material alone has implications. But when you consider how complex these inventions are, I believe that it is quite clear that the implications are tremendous.

The Patent Office in this regard has borne extremely heavy burdens. That they have handled this, to date, extremely well, I think is the consensus of opinion of all of us who have been close to the problem.

However, it is my understanding that we are gathered here today

to look to the future, and in the immediate future there will be some problems.

I have already pointed out how heavy and complicated patent applications directed to electronic data processing have become. Let us hope that to every action there is an equal and contrary reaction. Can electronic data processing, through the process of data retrieval, lighten the load of the United States Patent Office? The answer obviously is yes, but not necessarily in direct time sequence, which is most important.

It is often said that coming events cast their shadows before them. In a recent article in the *New York Times* of June 3, 1964 Dr. Stafford L. Warren promulgates the idea of a central gathering place for all scientific information in all fields. This is indeed a tremndous undertaking. There is also a quite vocal school which has up till now vigorously promulgated that we should gather this information, in areas, of science.

I do not take any position except I will try to take one that is practical.

It is quite obvious that before you can have data retrieval you must have means of producing categories of the subjects. As the Classification Division of the United States Patent Office and others who have struggled with this problem, know only too well, this is a tremendous undertaking, and what we get out of data retrieval will be no more than the buckets of sweat that we put into it.

I believe that I could pause right here and terminate my talk and make the point that there do exist patent implications of electronic data processing. However, I would like to touch upon the use of electronic data processing as an actual working tool in the preparation of these massive patent applications which in and of themselves can be directed to electronic data processing.

All of you, I believe, are familiar in some degree with the fact that electronic data processing has been employed to produce reports, analyses and to make predictions. The production of tables and explanatory matter in connection with preparing a patent application is one field in which electronic data processing readily lends itself.

First there is compiled a series of individual logical expressions. These are written in language which only the machine can understand. Then there must be prepared, in the English vernacular, the precise meaning of these logical expressions. These are compiled, stored, and, by what we call, a table lookup operation, in conjunction with other electronic data processing techniques, you can bring

forth a complete, accurate table, along with running comment, which can be employed as a part of your own patent application.

This is not, as some of you might at first blush think, merely a massive printing job. Massive printing is taken care of and this is particularly useful where you have to make a large number of copies. But to the patent practitioner, one copy would be sufficient. However, in the editing, in the deleting, in the revision, in the reassembling, this can be done in parts. Instead of a massive retyping or reprinting job, electronic data processing gives tremendous muscle power to bringing out at least portions of a complete specification.

I have spoken of muscle power. There is research going on at the present time where you have direct intercommunication between an electronic data processor and, let us say, for example, an attorney. By this direct intercommunication, the effective I.Q. of the attorney can be increased.

I do not say this in denigration, I assure you. I say it in sympathy for those who must face this tremendous problem.

With regard to another basic portion of the patent application I would like to invite your attention to the April 1964 issue of the *IBM Journal of Research and Development,* Volume VIII, No. 2, page 127, entitled "Solid Logic Design Automation." I merely refer to this as exemplary. There are many other excellent articles. This happened to be very timely.

And about the only point I wish to make here is this: that a reading of this article and similar articles points out the tremendous endeavor which must go into the programming of these electronic data processors in order to get out a really good, fine job.

I'd like to sum this up by stating that you can electronically pan the gravel of your information and come out with the pure gold of basic content, almost equal to that which can be produced by a skilled practitioner.

I would now like to throw out a couple of ideas which definitely look to the future.

At the present time, when a patent application is involved with another patent application or patent in an interference in the Patent Office, after the motion periods have taken place, each side submits a brief, and then under the guidance of the Patent Office a determination of priority is made.

This is not—at least I like to think it is not—an emotional process. It is governed by well established rules.

I would like to throw out the plausibility, of each side, instead of submitting a brief, submitting a program. This program would con-

tain all of their positions and respective arguments. Under the guidance of a program, prepared by the Examiner, these would be fed to an electronic data processor which would then determine priority as between the two inventors.

Let us say that we have some success with that in the Patent Office. If so, then after a certain number of years of trials and tribulations, by a similar process, under the guidance of a member of the judiciary, I believe that this might be extended to determinations of infringement.

I would like now to deviate from the direct implication of a patent application upon the patent system and go into the field of invention itself. Let us take what may be called a fairly routine situation. You develop a product. It's well designed. It's designed at a price that meets with popular approval. You have immense sales. However, it inevitably happens that among those, who could be buyers, are those who cannot use the device exactly as it stands.

If this be a large group, then by the process of electronic data processing you can redesign quickly and catch the public while it's still in the mood for that product, because, as you all know, there are moods for certain products.

But where the electronic data processing system really lends itself is where you have to tailor your device to almost each and every customer. Now, necessarily, this tailoring must be of small extent, but it must be done quickly and it must be done cheaply. And by the employment of electronic data processing techniques you can sometimes, within the cost boundary, re-tailor your device in time to catch a large number of individual customers.

Now, I have merely recited all this as background and foundation for the employment—and this exists today—of electronic data processing in the quickening of the inventive processes. An inventor can seek and gather together all of the facts which pertain to a particular problem which he intends to solve, naturally, by inventing something.

He must be careful that in gathering these facts he does not gather a large number of unnecessary facts. This is a danger which must be guarded against.

Having gathered all of these facts, by electronic data processing techniques, he can compile them. He can gather them together and he can get a complete picture of the entire field.

Sometimes—and I repeat "sometimes"—if you have all of the pertinent facts, the solution becomes almost immediately obvious. Sometimes, however, it merely shows what a difficult job you have.

But any problem, if it be solvable, is more readily solvable if you remove it from the miasma of doubt.

Not only does electronic data processing serve as a mirror for a man's thinking, it also serves as a periscope to lift him, out of the rut of his own channel of thinking.

Once an inventor has gathered together by means of electronic data processing all of the facts and he has his conception of how he is going to solve this problem, he can by techniques which are well known today simulate his conception. Not only can he simulate his one conception, as I said, he now has a periscope to lift him out of the rut of his own channel of thinking and he can simulate several possible conceptions. This is extremely important.

All of you know of some inventor who has conceived an invention and then in the course of reduction to practice has modified and remodified in order to meet the exigencies which have arisen. And then by the time he is through, either he himself or someone else comes out with a much better solution to the problem.

I believe that through the process of electronic data processing which gives him a complete panorama of the whole problem and enables him to try out, in effect, several conceptions, this tragedy can in some cases be avoided.

I do not know how my time is running, so I will merely touch upon two or three other aspects which I trust will be of great interest.

At present there exists a great controversy. There are some who envisage that by electronic data processing the thought processes of man can be simulated, sans emotion, and they then erroneously come to the conclusion that machine can emulate man.

There are those on the other side who heatedly deny that machine can ever emulate man.

In this controversy, like a well known parliamentarian, "I am on the side of the angels."

Why do I categorically state that even though a machine may simulate the thought processes of man it will never emulate man? My belief is this: No machine, but man only, is capable of compassion.

I would now like to really delve into the future. Some of you will think this extremely impractical. I hope all of you will think it stimulating.

It is an accepted fact that data processing has aided greatly in the penetration of outer space. We now do not aim merely at the moon. We aim at the planets where there may exist what has come to be called other forms of thinking beings.

You have all been regaled, I know, by far more thrilling episodes

than I can recite, of the clash when there is a meeting between these people from outer space and "earthlings," as we are referred to, I believe.

I wish to limit myself only to one aspect, and that is this: Never in the history of mankind have our thought processes been challenged, measured by and contrasted with thought processes of thinking beings who are evolved in an entirely different, I shall say, "atmosphere." To compile this thinking in an electronic data processing system, to compare it with ours, to join them together in the solution of some of our problems, I'd say, brings us to the threshold that makes thresholds obsolete.

Before terminating my talk, I must touch upon a very earthy problem, a very human aspect of this great, terrific speed with which we are progressing technically. Viewing with alarm is not exactly new, particularly in an election year. This world of ours has been buffeted for at least centuries, by manmade and natural cataclysms, so anyone who views with alarm has a very emotional audience. But the replacement of man by machine is something which we must consider.

From the time of the spinning jenny at least, major inventions have been thought of as monsters that devour human opportunity in the way of jobs. However, I venture to state that the almost complete removal of the buggy whip from our civilization has not brought catastrophe. And if we look around the world, not only in our own country, we see that technical progress has brought a standard of living to many which has never been heretofore achieved.

However, I would like to return to my basic concept of the difference between man and machine. This is the capability of compassion. With a compassionate attitude I sincerely feel that we can direct and guide and control this avalanche of progress in the technical arts to the benefit, bodily and spiritually, of the great mass of all of us.

I thank you.

(Applause)

MR. KAMINSTEIN: Thank you for a stimulating presentation.

The machine has come to the Patent Office. You now suggest it assist the courts. I suggest you go one step further and have it help us write our laws. To put it a little differently, look not to those who write our songs but to those who program or will program our laws.

Our next speaker is Morton David Goldberg. of the firm of Foster, Ginsberg and Schwab in New York, and anyone who can digest his undergraduate work at Harvard and then take his law at Yale should have no difficulty with the complexities of copyright revision.

And this young man has been steeped very deeply in the revision program. He is the author of several articles and co-author of a Copyright Guide, and he will explain to us how the devil the Copyright Office got into the question of computer programs.

Mort.

MR. MORTON DAVID GOLDBERG: Thank you, Kami.

I don't think I can explain that fully, but I'll do my best.

The world of computers is, of course, a world of acronyms: ENIAC, BINAC and MANIAC–ILLIAC, RAMAC and UNIVAC–JOHNNIAC, RAYDAC and VIDIAC–and even the intelligentsia such as MOBIDIC, SAGE and PLATO.

But it's not only a world of acronyms. It's also–at least legally–a world of analogues–and I'm not referring to a type of computer.

So far as the software is concerned in the data processing field, the analogues are such things as sculptures of Balinese dancers, piano-rolls, phonograph records, answer books to physics texts, and so on. The patent and copyright aspects of software are relatively new, and to consider them it's necessary to use analogues from other areas in which patent and copyright problems have been resolved.

What are the patent and copyright questions involved in software?

Oversimplifying a bit, we are talking about the scope of legal protection for material that goes into the computer and material that comes out.

What I am calling loosely the "input" consists of essentially two parts, first the program and second the raw material, be it experimental data, inventory figures, weather statistics, or the poems of W. H. Auden.

The essential legal questions are these:

First, to what extent can you protect the program by patent or copyright?

Second, can you protect the output?

Third, if the raw material fed into the computer is copyrighted, are any rights in that material infringed by any of the steps in the computer operation?

There are no real answers, but let me be reckless enough to try to reify something which doesn't exist. I will first try to summarize the answers, and then fill in the details, to the extent time permits.

At present the answers appear to me to line up this way:

For programs as such, patent protection does not seem to be available, although copyright protection seems to be available to a limited extent.

As for the output, it would appear capable of protection to the

same extent—no more, no less—as any work produced directly by a human being. A directory, a table of codes, a translation, and of course such things as poetry and music, all these are copyrightable when produced without the intervention of a computer. And the mere fact that the computer is interposed between man and the end result shouldn't vary the legal result in these cases.

Likewise, one cannot copyright individual words or titles, simple charts or common tables, and having these produced by a computer again would not vary the legal result.

As for patent protection on the output, if the computer turns out the formulation for a new and useful process or composition of matter, for example, which—as Judge Rich emphasized last night—would have to be "non-obvious" to a person with ordinary skill in the art, etc., then that process or composition of matter I should think should be a patentable invention. If a man had formulated the invention without the aid of a computer, it would have been patentable, and, again, the interposition of a computer between the man and the invention should not make any difference.

The last question is a "toughie": does it infringe the rights in copyrighted materials to utilize them in the computer input? The answer to this depends on the *kind of use* that is being made by the computer, and I will come back to this.

Now, to fill in some of the details on the questions I have summarized.

On the patenting of programs, the Patent Office reports that it's rejecting a growing number of patent applications for computer programs. The rejections are based on the Patent Office position that the program itself consists of mathematics or that it's a creation "in the area of thought," (whatever that means—perhaps Mr. Federico may explain, I don't know).

Essentially, the Patent Office position appears to be that a program is not a machine, not an article of manufacture, not anything else that falls within the statutory listing of what can be patented.

The Copyright Office, on the other hand, as you know, has recently registered a copyright claim for a program, albeit as a "doubtful case." The Copyright Office was perhaps more inventive than the Patent Office, because the Copyright Office was able to squeeze computer programs into the statutory listing of copyrightable works: they registered the program as a "book." I think it must be conceded, however, that there *is* some difference between the nature of the listings under the Patent and Copyright Acts.

In order to secure copyright protection on a computer program,

there are both Constitutional and statutory requirements which you have to meet. The Constitution authorizes copyright protection only for "writings" of "authors." So you have to have both a "writing" and an "author." The Copyright Act requires for most copyrighted works that "copies" be published or deposited in the Copyright Office. And so you probably have to have a "copy" of the program—at least this is certainly the position that the Copyright Office has taken.

Is a program a "writing" in this Constitutional sense? Well, the courts have indicated that all sorts of things can be writings in this sense—photographs, circus posters, phonograph records, and probably even the sculpture of a Balinese dancer. So I think a program can be a "writing."

The requirement that there be an "author" for a computer program seems to be the least troublesome of the Constitutional requirements. I think that few would dispute that a program which represents little or no intellectual endeavor should not be copyrightable. I'm not a programmer, but perhaps a program which instructs the machine only to print out 4 when 2 and 2 are put in doesn't represent enough intellectual endeavor to constitute "authorship." As I say, I'm not a programmer, but that's the way it would appear to me.

On the other hand, if you have substantial effort devoted to the creation of a highly complex program, undoubtedly you'd satisfy the requirement that there be at least a *modicum* of "authorship."

Interestingly, when the Copyright Office announced its acceptance of a computer program claim for registration, *Variety**, the weekly of the entertainment field, summed it up this way:

"Networks: All those statistics coming out of your electronic monsters forecasting the total vote on early returns, analyzing how the Negro ballots went, et cetera can be copyrighted.

"The U. S. Copyright Office, with no law to go by concerning computers, has taken the official position that such statistics are copyrightable as long as enough literary expression is involved with them to constitute original authorship. This can be easily complied with by the blabbing of the commentator talking about the results out of the computer."

Well, it's not that simple, but I think you get the point.

The United States Supreme Court has said that the perforated music-rolls for the old player pianos were not "copies" of the music recorded on them. The Court said that even skilled persons couldn't

* May 27, 1964, p. 26, col. 2.

read the music-roll as a musical composition, and in this sense the perforations didn't constitute an intelligible form of notation.

So if you have a program that's a "writing" and has an "author," how do you get "copies," in the sense the Copyright Act uses that term? Well, the Copyright Office now says that to have "copies" the program must be "in a form perceptible or capable of being made perceptible to the human eye" and that the program must be "in a language intelligible to human beings."

I think we can assume that the Copyright Office (and ultimately the courts) won't be any more convinced about the skilled programmer's ability to read the holes on punched cards than was the Supreme Court about the ability of a skilled person to read the perforations on a music roll. Therefore, there appears to be a substantial question as to whether a deck of unprinted, punched cards containing a computer program constitutes a "copy" of that program, i.e., a copy which can be published or a copy which can be deposited for registration of a copyright claim.

It's not clear to me how far the Copyright Office requirement extends which says the program must be "in a language intelligible to human beings." My own opinion is that it should be sufficient if it's intelligible to *some* human beings. For instance, Fortran (or perhaps even machine language) might be intelligible to some, though certainly not to all. This shouldn't prevent a program in such a language from securing copyright.

Take our old-fashioned books. A treatise in the rarefied reaches of higher mathematics I think would probably be intelligible to very few, but this shouldn't bar it from copyright.

Labanotation is a system of dance notation. It's not intelligible to all, but nonetheless choreography written in Labanotation is copyrightable.

Bear in mind the difference between the nature of patent protection, and copyright protection, along the lines that Harry Henn mentioned before. If a program were to be patented, the patent owner could prevent another party from making, using or selling that program even though the other party had subsequently devised it independently. If a program is copyrighted, however, the copyright proprietor *cannot* stop anyone else from devising the same program independently and doing anything he wants with it. The copyright proprietor has a legal right only to stop someone else from *copying* his program—and perhaps—from using his program.

Going back now to the question of whether rights in copyrighted materials are infringed by utilizing them in computer input: As I

said before, this depends on the kind of use that's being made by the computer.

Let me explain. I think it likely that *at present*—and I have double-underlines under the words "at present" in my notes—because of the doctrine of fair use, there would be no infringement when you feed into a computer materials such as: a series of competitor's copyrighted catalogs to enable you merely to analyze his goods and prices, so as to plan your own market strategy or produce evidence for an antitrust suit; the collected copyrighted works of an author, for the sole purpose of a scholarly content analysis of his style; or brief abstracts, one each, from articles in copyrighted journals, for the sole purpose of being able to *locate* articles for researchers.

Things of that sort, as I say, at present, because of the doctrine of fair use, I think would not be infringements.

If an entire copyrighted work is fed into the computer and stored in its memory, the use of that stored material after it's stored can be *either* a copyright infringement or fair use. Certainly if the computer prints out the entire work in repeated copies for sale, it would be an infringement. Little question about that. If a very small excerpt is printed out, it would probably be fair use.

However—and this is an important "however," and I'm coming back to the double underlines when I referred to the doctrine of fair use "at present"—to the extent that the availability of this copyrighted work, either in whole or in part, in the memory of the computer cuts down the demand of purchasers for copies of that work, then to that extent you're less likely to have fair use. And the same may be true of the book or article that is not fed into the computer storage but is merely held in a central library or depository for the contents to be scanned by an optical scanner when works in that area are searched. This is a point which publishers of technical works, especially, are becoming more and more concerned about.

One of the functions of fair use certainly is to help the progress of science and learning, and this is something that computer people are wont to say. I think that statement cannot be denied. But if the use of copyrighted works by computers cuts down the demand for the journals and the books themselves to the extent that no economic incentive remains to publish them, there won't be any books, there won't be any journals, to feed into the computers.

Fair use is a flexible concept, and, as the technology and the practices change rapidly, what is fair use will change rapidly also.

Inasmuch as the Copyright Act is now in the process of being re-

vised, let's focus now on what it should say rather than what it does say.

The music-roll case in the Supreme Court is about 60 years old, and I think it's about time that a "writing" of an "author" should be protected if it's fixed in any tangible form from which you can perceive it. And I'm happy to say that this is what the Register of Copyrights has proposed for the revised Act. That, as I read it, would not require that the writing itself be in any intelligible language. So computer programs under a revised Act should be more easily capable of copyright protection.

Except to the extent that the fair use doctrine is applicable, I am inclined to feel that printing out a copyrighted work from a computer is now an infringement—as an infringing "copy," "transcription," "record" or "reproduction," as those terms are used in the present law. This is by no means clear. This is my own opinion. I think the revised Act should have the same effect.

Again, aside from the area where fair use is applicable, I think the present act makes it an infringement to feed an entire copyrighted work into a computer, probably not as an infringing "copy" but as an infringing "transcription or record" from which it may be "produced or reproduced."

The Copyright Office proposal, with regard to what I am loosely calling the "input," would apparently make it an infringement under the revised Act to program a copyrighted work or reproduce it in an information storage and retrieval system.

Copyright proprietors as a group would probably prefer that the use of copyrighted works be controlled at the input stage rather than at the output stage, on the simple theory that if you can control what goes in you can license not only what goes out but what use of the material is made in the computer system itself.

There are several questions which require the attention of those who are concerned about the relationship between copyrights and computers, not only the matter of control over input versus control over output but also questions such as these—and these are only a few of the questions:

First, should the rights of copyright proprietors extend to both public and private uses or to public uses alone?

Perhaps some distinction might be drawn between uses by central libraries, depositories, subscription services, government and industry, all that on the one hand, and, on the other, uses by individuals on self-contained miniature computer systems, miniature information

storage and retrieval systems which ultimately we may have in our homes.

Second, should there be distinction between uses for profit and uses not for profit?

This distinction has been made in the present Copyright Act with respect to, for example, the performance of music for profit. Here you might have a distinction between industry on the one hand and schools and libraries on the other. Again, however, you must note that if extensive use by the computers of these nonprofit organizations substitutes for purchases from the publishers, the authors and publishers will be losing money and they'll go broke, et cetera.

Third, if we are to have, in effect, a right to "perform" a book or an article in a computer, is a performance right also to attach to a copyrighted program? Will the user of such a program have to pay a royalty every time he uses it? Should he?

I think there's been little discussion of this problem: The question of "performing rights," using this term in the broadest sense. There are performing rights societies such as ASCAP (American Society for Composers, Authors and Publishers) and BMI (Broadcast Music, Inc.), and they have for many years licensed performing rights in music on behalf of the composers and publishers affiliated with their organizations. Without these groups it would be a practical impossibility for broadcasters and others to seek out individual copyright owners to arrange for a license before each specific song could be performed.

In the information storage and retrieval area, a licensing organization analogous to ASCAP and BMI might be at least a partial solution. The operator of the computer, like the broadcaster, I don't think can really be expected to seek out the copyright proprietor for each and every article in a journal or encyclopedia, for each technical treatise, before the work can be utilized in the computer system.

And if it's not belaboring the obvious, I will point out the computer technology itself will probably be a substantial help in keeping track of the kind of uses of copyrighted works by the computers, quantity of works, which works are used, and so on.

As you know, there is an extensive program under way for overall revision of the Copyright Act. Since it's been more than half a century since we last fully revised the Act, we probably can't expect to have another overall revision in this century. If this is the case, I'd suggest that those who have an interest in the ramifications of computers should best make their views known now, and loud and strong —and, hopefully, loud and *clear*.

The Register of Copyrights has repeatedly welcomed suggestions and comments on all phases of the revision program. Perhaps he may want to add something on that point.

It is my own view that so far there has been a regrettable lack of communication between the publishing industry, the copyright industries generally, and the computer industry. Perhaps the publishers and other copyright proprietors are hypersensitive to the threat of the advancing computer technology. Perhaps the computer people aren't sufficiently sensitive to the problems which this technology presents for copyright people.

Certainly the technology can bring great benefits to society if properly handled. Let's hope that we can have the proper communication to bring this about.

Thank you.

(Applause)

MR. KAMINSTEIN: Thank you, Mort.

I would agree that there has been comparatively little communication between the two natural opponents in this field. Except for Mr. Lawlor, who began talking several years ago and has kept talking, there's been very little discussion of this important area in the law.

I think we have just a few minutes for comments from staff contributors of the Research Institute, and I would welcome any questions they have, if they will designate the panel speaker they would like to direct it to.

Completely stunned? (Laughter)

Pat Federico.

PART XIII — PANEL DISCUSSION AND QUESTION PERIOD

Invited Contributors
Research Institute Staff Contributors

MR. FEDERICO: That's what I will do.

The last speaker invited comments from the Patent Office. I can't speak as coming from the Patent Office because I haven't yet had any contact with any questions relating to computer programs in the Patent Office, so I will speak with two degrees of ignorance. That is the first one. The other one is the common ignorance of computer programs.

I have only had two contacts with computer programs. One is due to the fact that I have a daughter who is a professional mathematician and worked in the research department of one of the computer companies. But, sad to say, we lost all communication on these sub-

jects many years ago. (Laughter) And I've never been able to understand anything of what she talked about concerning what she was doing.

The other contact—and this is the only time that I have ever seen a computer program—was in going through a printed doctor's thesis of a person I know who was concerned with solving a particular mathematical problem. This was a problem that had existed for many years and had given many people many troubles. And he developed some theory and the manner of solving it by computer.

The thesis described the theory and gave bits of the different pieces of the operations that were to be performed in the sequences and it printed the program in full. This was about 50 pages of lines of writing with all kinds of indentations, perhaps about seven different indentations. Now and then a vertical line or two. Very few mathematical symbols, but entirely written in English words—no, not entirely, but primarily written in English words—but joined together in phrases, a line each, that individually were incomprehensible, and in sequence even more so. And now and then thrown in were some coined words, or at least coined as far as I could see because they never had any resemblance to any English word.

There were 50 pages of this. Presumably this was a set of instructions for all the sequences and repetitions and so forth that were to be gone through to end up with the answer to this problem.

The thesis pointed out that in working on the problem it required 32 hours of computer time, and I presume that that would represent so many million years of human calculations.

The thesis itself mentioned that this thing was written in ALGOL language but it had been modified by some other system the name of which escapes me, and that was that.

Now, from some of the legal problems involved, I can see no difficulty whatsoever in looking at these 50 printed pages as a writing. If somebody understood the description in the thesis and understood this peculiar language, he could follow that right through from beginning to end, I presume. Of course, the machine follows it right through from beginning to end in carrying out the sequences of operation.

So I can see no difficulty whatsoever in calling that a writing, and also no difficulty whatsoever in protection, if that same thing were incorporated as holes in punch cards. That involves merely appropriate language in the copyright statute as to various forms of reproductions.

There's no more difficulty there than in recognizing a phonograph

record which translates grooves on a plate into words or music and so on.

From the patent standpoint there are a number of other problems, and the last speaker said something about analogy. This is a field where you can only work by analogy. And I like to think of several extraordinarily important inventions that have occurred in history in this context and in the context of our present day patent and copyright laws.

I will refer first to the invention of logarithms, which was in 1614, by a Scotchman named Napier.

This was an invention. It is so referred to in histories of mathematics ,particularly Smith's *History of Mathematics;* even the encyclopedia refers to the event as an invention. And it was a great invention in our civilization, even though nowadays it is becoming partially obsolete due to this very subject we're concerned about.

The other great invention I like to think about is the invention of the calculus by Newton, and also by Leibniz some 50 or 60 years later. That is an invention too.

Going back to the logarithms, there was an improvement a year later by Briggs.

Now, let's think of these inventions in the context of modern patent and copyright laws. Napier produced a table of logarithms. Presumably that would be subject matter for copyright. But that would not prevent anybody else from computing their own table of logarithms by the same system, nor would it prohibit Briggs, who came a year later, from computing a table of logarithms by a different system. And still another system came up later.

Napier's system, incidentally, soon became obsolete with respect to the base used. Also with respect to calculus, you could write an explanation of the system and of the sequence of steps in solving a variety of problems, a calculus text. This would be subject matter for copyright. But that would have no effect whatsoever on anybody else writing his own description, and no effect on people solving problems by these methods.

The table of logarithms, or the copyright in it, would give no right to preclude anybody from using logarithms in their calculations.

Now let's think of these inventions as being patented. Perhaps you would have to think of them more as acts (methods) rather than things (machines and manufactures) because it is the acts being performed that are important here. Think of them as being patented. A patent for logarithms or using logarithms would give the right to prevent anybody else from using logarithms or carrying out calcula-

tions by logarithms; that would be the scope of what a patent would give. As to the calculus, the presentation of patent claims in appropriate form as a sequence of steps would involve no difficulties, and thereafter for the term of the patent no one could solve problems using calculus without getting a license from the patentee. Some of these same considerations arise now in connection with the present problems, because the fact that the sequence of operations is being carried out by a computer rather than mentally or by hand does not make any difference in the consideration.

Going back to these two inventions, assuming that they are patented in the sense we've been referring to, a further consideration arises which is entirely irrelevant but I will mention it. It would be quite a nuisance to sue everybody who used a table of logarithms to carry out multiplication or division or to sue everybody who used calculus to solve a problem. You couldn't go around suing everybody.

So the patent owners—I presume that they would have been assigned by this time—think up the neat idea of printing instructions and printing tables and then selling these, and anybody that bought the tables from the patent owner would automatically have a license to carry out calculations using these tables or using these instructions whereas those who did not purchase their materials from the patentees would be sued for infringement. Then some day the charge that the patentee is misusing his patent will get to the Supreme Court. Inventions like these cannot be patented today, and perhaps here is the analogy.

Thank you.

(Applause)

MR. KAMINSTEIN: Dr. Rossman.

DR. JOSEPH ROSSMAN: As a patent attorney, like so many of my colleagues, I occasionally do practice copyright law. I have always felt that the copyright system was greatly advanced in many ways as compared to our patent system. Professor Henn certainly pointed up some of the major differences.

I have always been envious of the copyright system. Imagine putting an infringer of a patent in jail, which you can do under the Copyright Act.

I envy the rare cases of invalidity that you get in copyright cases as compared in patent cases.

I have been very much interested in the proposed revision of the Copyright Act, but, frankly, sometimes I have wondered why they want to revise the Copyright Act. They have a wonderful act right now which is enforced by the courts, respected by the judges, as com-

pared with what happens to patents. Perhaps judges write books and collect royalties. That might be some explanation, and they don't make inventions. (Laughter)

Invention is so easy after the fact to many judges!

One more comment. Take economists, who have always looked down their noses on patents as being undesirable monopolies. You can count economists on your fingers who think patents are worthwhile. Yet these very men write textbooks on economics and collect very nice royalties.

I think at one of the sessions here two years ago one of the economics textbook writers was said to have collected three-quarters of a million dollars in royalties—but he does not think patents are very desirable.

I want to compliment the Copyright Office on making life so easy for us who may have to prosecute and file copyright applications. Mr. Kaminstein and his corps are doing a marvelous job. They give you free forms with marvellously clear instructions. If the copyright is rejected, they refund your filing fee. Just imagine getting filing fees back from the Patent Office. (Laughter)

You can go down to the Copyright Office and get helpful advice. They don't have elaborate rules of practice.

There are no requirements for restriction or division. You file a copyright for a book with hundreds of cuts in it, diagrams, charts, chapters, subchapters. One copyright covers everything. And you can bring an infringement action for one page, one chart, one picture —on anything in that book.

I'm just simply envious of the copyright system. (Laughter)

They give no rejections based on improper claims. You don't have to define what you're copyrighting. The copyright system has gone forward. It recognizes and protects intellectual property. And yet where you have tremendous pains, labor, investment and effort in making even simple inventions, the courts don't hesitate to invalidate patents as being obvious or lacking invention under today's Patent Act.

I simply say that we in the patent field have a great deal to learn from the copyright profession.

Thank you.

(Applause)

MR. KAMINSTEIN: Dr. Rossman, join us in "Alice in Copyrightland." (Laughter)

Dr. Bright.

DR. HAROLD F. BRIGHT: I seem to be a rare bird in this group.

I'll admit to being a programmer. As a matter of fact, programming has taken the place in my life that chess used to occupy.

But there are one or two things I'd like to comment on. First the problem of copyrighting programs. Enforcement would be so difficult that—the whole notion appalls me.

In my particular computer setup I have students working from one o'clock to six in the morning quite frequently. I am there a good many times at those hours, but I'd hate to think I'd have to be there every night in order to decide whether any of them were using copyrighted programs.

In addition, I think I would be willing to undertake to devise a program which would rewrite any program. That is, given a copyrighted program, it shouldn't be difficult to write a program to duplicate the results of that program using other procedures. I doubt that a copyright on a program would have much force insofar as the typical programmer is concerned.

A second point I want to comment on is the use of data processing equipment in the Patent Office. I have been doing a good deal of reading on this lately, and I have been greatly impressed with the level of work that's been done there. There's been a tremendous amount of intelligence expended on the use of this type of equipment, and on computerized patent search. The major problem here is that very much greater effort is needed and that there is need for basic research.

Some of the major problems are problems of linguistics and, an unlikely companion of linguistics, Boolean algebra. It seems to me there are a great many people in the United States who are missing a chance to do some really important basic research in the matters necessary as groundwork for the data-processing handling of patent search and related matters.

Thank you.

(Applause)

MR. KAMINSTEIN: Dr. Siegel.

DR. IRVING H. SIEGEL: My remarks today complement those I made yesterday in the session on *Employer-Employee Stakes in Invention.* These remarks bear again on individual and joint invention, but they refer especially to computer-related technology.

The individual patentee as I reported yesterday remains dominant in the modern corporate setting and on the frontiers of advanced technology, even though teamwork has become more common, and even though many experimental instruments actually have to be manned nowadays by groups of technical people.

This dominance largely reflects, of course, the verifiable importance of individual inventors even in a group context. To the extent, however, that single individuals who are members of teams can be somewhat arbitrarily singled out or overcredited, there is obviously a special opportunity for creative administration to use the patent system effectively. To maintain or increase incentives, it seems important to distribute credit equally among colleagues who make more or less equivalent identifiable contributions to joint inventive efforts.

I want to refer again to the experience of IBM. Yesterday I cited this experience, noting that 68.9 percent of the IBM patents recorded in the *IBM Journal of Research and Development* from January 1957, the first issue ,through January 1964, were contributed by individuals.

If I take account also of the April 1964 issue, the one mentioned by Mr. Etienne, I find a somewhat similar distribution for the increment of 80 patents reported there. Indeed, 70 percent of the patents listed in the April issue were contributed by individual inventors.

Figures for Western Electric, another company that is heavily engaged in electronic work related to computer technology, show 67.7 per cent of recent patents attributed to individual inventors.

Mr. Weinberg, who will speak after me, and I have recently spent some enjoyable afternoons in the Patent Office looking over patents for computer-related technology. An analysis of 165 patents in Class 235, subclasses 160 to 164, shows again roughly two-thirds of the patents credited to single individuals.

It is interesting that the proportion for computer-related technology is in the neighborhood of two-thirds. For atomic energy patents the ratio is a little over one-half. For chemical patents, according to a brief analysis that I reported in the Summer 1962 issue of *The Patent, Trademark and Copyright Journal of Research and Education,* the ratio is nearly one-half. In that issue, I showed a figure of 48 percent for a very small sampling of chemical patents.

I want to add a few observations on distribution patterns. I have fitted a formula to the IBM experience. If any of you are interested in it, it's a very simple logarithmic progression which has the happy faculty of adding to 1, just like a frequency distribution should. You may want to look at the Spring 1964 *Journal* for that formula. Knowing that single inventors contribute about 69 percent of IBM patents, one may readily compute, without additional information, fair estimates of the proportions for 2 inventors, 3 inventors, et cetera.

This adventure in curve-fitting has a place in a long tradition of inquiry into similar types of distributions in social statistics. Asym-

metrical distributions are typically encountered in research on strikes, catastrophes, personal incomes, and many other social phenomena—including the ability of professors to play billiards. (Laughter) Distributions for many phenomena follow the same general contour—a sharply declining curve, in the case of patents, a curve which is not only highly skewed but shaped like a reverse "J". The names of many investigators of such curves come to mind—e.g., Davis, Kendall, Lotka, Pareto, Simon, Yule, and Zipf.

Any of you who are interested may wish to talk to me further or consult additional articles on the subject that will doubtless appear subsequently in the *Journal.*

Thank you.

(Applause)

MR. KAMINSTEIN: Mr. Weinberg.

MR. EDGAR WEINBERG: I have a few brief notes that I prepared in advance, but I think they supplement what Mr. Etienne had to say. They pertain to a research project that is being conducted in collaboration with Dr. Siegel on the role of patents in the growth of established firms.

One of the most striking chapters in recent industrial history is the phenomenal expansion of EDP. The dimensions of this revolutionary innovation are certainly impressive.

I have just three points I'd like to bring out on that.

The first computer was introduced commercially in 1953. The total in mid-1963 unofficially was estimated at 12,000 installations, and many more were on order. The value of shipments in 1963 was about $750 million.

The second point about this revolutionary development is that a wide diversity of markets have been penetrated. Its versatility is really striking. It's in use in science and defense work, but it is also an important piece of capital equipment in insurance, government, banking—an old established industry—manufacturing, and, as has been brought out this morning, it's being applied in professional work—law, medicine, and patent litigation.

There have been major changes in the technology, which I don't have to go into, but there is a steady flow of innovation and development.

Now, in view of this background and tremendous change, one of the impressive things about the field of electronic computers is that it's dominated by one company. It is unofficially estimated that over 70 percent of all installations are attributed to this one company,

the IBM Corporation. And this rate has been maintained for at least a decade. This leadership has been asserted in competition with 24 other companies at least.

The question inevitably arises: How do we explain this company's phenomenal success? A deep discussion obviously is beyond the boundaries of our conference, but I'd like to just consider two factors that are important.

In the first place, despite the fact that the major patent in this field was not assigned to this company, IBM has, nevertheless, contributed substantially to computer technology. This major patent, as you know, was granted to J. P. Eckert and John Mauchly for the ENIAC. A period of 17 years elapsed from the filing to the granting on February 4, 1964. This patent covers 148 claims, and, as somebody says, it's as thick as a telephone book.

Now, Dr. Siegel and I have examined the subclass into which the Eckert-Mauchly patent falls. This is a file of 79 patents, of which 18 were assigned to the IBM Corporation, and these 18 patents covered over 200 claims.

So, in short, while not the pioneer in this field, the IBM Corporation has been active in the realm of research in this field.

A second contributing factor, well known to both users and producers, is that IBM gives a great amount of attention not only to the manufacture of a piece of equipment but also to the education, training and engineering assistance for the user. It is often said, with some validity, that this company sells ideas, plans and services rather than only computers.

Now, this many-sided approach might be described as an organizational innovation of the first order, as Peter Drucker in one of his recent books has pointed out. Supporting it requires a large staff of engineers, scientists, sales force, and management experts relative to the production workers.

Thus, the experience of this corporation on the frontiers of technology suggests that a company's activities in research, education and service has become important for continuing business success in the modern economy.

This experience seems to have significance well beyond the context of one business organization or of business in general. For it indicates a major direction, I think, in which we shall have to move as a nation to provide a sufficient number and appropriate assortment of jobs to meet the needs of our growing manpower supply.

After this Conference I go back to my regular job at the Depart-

ment of Labor, where we are trying to grapple with some of the problems Mr. Etienne described.

Thank you.

(Applause)

MR. KAMINSTEIN: I should like to thank the panel members and the staff. It's almost high noon both for this Conference and for the copyright law.

Are there any questions?

Yes? Would you come to the microphone?

QUESTION: I had a question for Mr. Etienne. Does IBM have any plans for patenting their software which they distribute to their customers?

MR. ETIENNE: This will probably sound like evasion but at the present time I don't think it would be timely for me to say anything in that particular matter. But I am sure before too long you will receive at least a partial answer to your question, sir.

MR. KAMINSTEIN: Yes?

QUESTION: Like Dr. Rossman, I was much impressed by the long terms and easy treatment that authors get under the copyright law. And I am also concerned about the proposals to extend the copyright term. I wanted to ask Professor Henn if he would comment on the possible constitutionality of any extended terms.

As I understand the constitutional purpose to grant an exclusive right for a limited time to authors, it contemplates some public enjoyment after the conclusion of that term. And it seems to me that very few copyrightable works have any economic value at the end of 56 years.

And certainly if we talk about life plus 50 years, there would be a very minimum remaining for the public.

I'd also like to comment on the proposal about life plus 50 years. That may be all right in Europe, but, as I understand our constitutional provision, the exclusive right is to be given to the author. And if it were to be given for life plus 50 years it would be inherently granting a right to some people other than the author, because he would be dead 50 years before its expiration.

PROFESSOR HENN: I do not think that you would get very far on the constitutional argument. I would think life plus 50 years or a term of 75 years would be "for limited times".

I think basically the question is one of policy. As a matter of fact, the 1909 Act calls for 28 years plus 28 years even if the author is

dead and has no surviving spouse and has no surviving child. So far as I know, that has never been attacked constitutionally.

Personally, I think you should have a term which provides for the author while he is alive, for his surviving spouse, and at least for his dependent children. This suggests a rather moderate term and not the terms currently proposed.

MR. KAMINSTEIN: Are there any other questions?

Mr. Shaeffer.

MR. SHAEFFER: Mr. Chairman, my name is Morton Shaeffer of Chicago. I can't help but comment on the remarks by Dr. Rossman in which he attacks rather facetiously the position of the copyright lawyer. It is apparent that he hasn't tried any cases in copyright where they have to prove access.

So that we have the problems of the patent lawyer as well. And you don't have to prove access (Laughter)

Coming back to the question of the duration of copyright, I want to point out that originality is one of the things. In fact, it's the greatest asset, I think, in the copyright law. It is work of the human mind and hand producing literature, music and art. Patents don't have the same attribute and are more economically involved. There can be billions of dollars involved in a patent. But I doubt whether our copyright proprietors or even artists come anywhere near that particular point.

And this being an original creation, the man, or the author, is entitled to a greater length of protection.

Furthermore, there being the law in Europe and most of the world of life and 50 years, we find often that our works are lost in the European countries, and we ourselves have great trouble over there because of the fact that we are not in conformity.

If it's going to produce for the American author a greater length of earning, a greater time for him to enjoy what he has, it seems to me that life and 50 years should be the minimum. I mean I would be willing to compromise for some period after life. But I don't think we should cut it down to the point of where his family or whoever it might be wouldn't have some benefit from his works.

MR. KAMINSTEIN: For those who wish to read and run, the House Committee of the Judiciary has issued Part II which contains the comments on our report and the discussions, and we hope they will shortly bring out Part III and eventually Part IV.

Are there any other questions?

(No response)

The Director of the Institute has warned me that the meeting is not closed. This particular meeting may be when we finish, but you have other business to attend to. Thank you.

(Applause)

(Whereupon, a brief recess was taken.)

LATE FRIDAY MORNING SESSION

FOUNDERS' PANEL

PART XIV – LOOKING FORWARD TO THE SECOND DECADE

PROFESSOR S. CHESTERFIELD OPPENHEIM: Gentlemen, may I ask your indulgence to be seated? And I hope that you will remain for this final panel.

You know, I really have a sense of trepidation about this, because we knew that with the very interesting array of topics on the Conference program that when we came to the last item, toward departure time, we might not have anyone present except the Founders' Panel itself.

It reminds me of a situation where the next to the last speaker exceeded his time limit so much that by the time he was ready to finish most of the audience had departed.

There was just one gentleman, the last speaker, sitting in the first row, and after he saw all of these departing members of the audience, the next to the last speaker said to this young man, who was sitting there intently looking at him, "I want to tell you how grateful I am to you for having remained here. If it weren't for you I would be talking just to the chairs."

"Oh," he said, "oh sir, you see I'm the next speaker." (Laughter)

This panel is designed to give you a perspective on the Institute's genesis, its infancy stage, and its progression in the first decade.

Some of you may recall that Justice Holmes once said—and I will paraphrase—that a page of history is worth more than a volume of logic. We hope that this backdrop of the Institute, as this panel group recalls its founding, will serve to reaffirm the goals that were perceived and to reinforce the determination of the Institute's supporters to enlarge and implement the means of accomplishing in fuller measure the Institute's objectives.

We are not here today, as I understand the purpose of this panel, to just tell you about the history of the founding. History teaches. Yet I'm hopeful that perhaps this occasion may also help all of us to get some inspiration about what was thought about and how it looks today, so that those of you who have been so generous in giv-

ing us your moral and mental support, as well as financial support, can renew your faith in what we are doing.

This interest descends from centuries of recognition of industrial and intellectual property rights. As far back as the Renaissance period, innovators were rewarded for their creations. In England, as all of you know, in 1623 the inventor was given a limited time exclusivity of patent rights in his invention. In the United States the founders of our Constitution in the convention adopted without debate the Constitutional provision on patents and copyrights. And in 1790 Congress passed the first patent statute and the first Copyright act.

I had the opportunity of supervising the doctoral thesis of a professor of history at the University of Michigan on the colonial background of the Constitutional provision. One of the things that impressed me so much was that for the first time he made it perfectly plain to me—after studying the archives in the various states of the original thirteen states and what was recorded there as to the attitude toward industrial property and intellectual property—why this provision was adopted without debate.

It was because the founders were so convinced that this infant nation could not hope to prosper, could not hope to be a nation with its own image, unless there were these incentives for bringing into this country the arts and at that time the science. Science was really intended to refer to literature, to the literary property, intellectual property, what is now part of the copyright system.

In the common law we also find protection of trademarks, and this blossomed into broad remedies, today remedies broad enough to prevent misappropriation of trade values that are originated by someone and that someone else tries to appropriate when the harvest is ready, even though he didn't sow the seed.

It is thus evident that when the Institute was conceived the group of persons who are honored with this cognomen of "founders"—I know it sounds very sonorous, and we don't want to have you think that we think we are the Founding Fathers in the sense of the great Founding Fathers of the Constitutional Convention—saw in perspective these systems, the framework and the superstructure of the patent, trademark and copyright systems, built by many architects in the legislative branch and interpreted by the judicial branch of the governments here and abroad.

It fell to my lot to be privileged to take part in the genesis of this Institute. I can't help introducing a personal reference to make plain why I had this fortunate privilege.

At the time my specialty at The George Washington University

Law School was antitrust and trade regulation law. That burned into me a deep concern about the premises of these systems. I realized that there was great questioning of the basic premises and that the theoretical concepts and the history alone would not be adequate to provide the information that the public should know about the actual functioning of these bodies of law, which are designed to encourage innovation for the advancement or economic, technical and cultural products.

And in my mind at that time—this was in the late '30's, the early 1940's—was the governmental and private questioning of the basic precepts underlying the incentives and the rewards these three systems seek to foster.

I remember how concerned I felt about Walton Hamilton's monograph on "Patents and Free Enterprise" which I made the subject of seminar discussions many times in my work at George Washington.

Actually, no matter what the shades of thinking and the controversies among my students happened to be, I was assured to find that, whether they were labeled liberal or conservative or centrist, or whatever you want to call them, almost to a student they felt that the Hamilton thesis was really a thesis about corporate organization, that he was concerned about the growth of corporations, corporate bigness, and associated that with patent bigness. He saw many evils or abuses which he associated with patent rights that today we put under the category of patent misuse and antitrust abuse.

The TNEC hearings and a spate of government and private suits in the Thurman Arnold period involving patents and antitrust reached a crescendo that threatened to depict these systems as breeding grounds of evils that outweighed public benefits of private endeavors.

So with this brooding omnipresence, and with the atmosphere suffused with what I feared was perhaps a distortion of what these systems meant to the American economy and to our cultural society, one day into my office, when I was Acting Dean—and I want to say I was just acting like a dean, I really wasn't a dean (Laughter)—walked Conder Henry, a former Assistant Commissioner of Patents, who was then teaching patent law, or, more accurately, one of the Judges of the Patent Practice Court. The custom was to come into the dean's office to robe for the bench.

And when Conder came in, with this brooding about what was happening, I engaged him in a discussion, and before he left I conveyed to him my belief that never since the Oldfield hearings in 1912 had the Patent System been under such severe attack.

You know in the Oldfield hearings the same sort of thing happened. The evils of the patent system were bruited about. Congress was in a mood to do something to correct these evils.

I raised a series of questions, and here were the ones I mentioned.

Was not the patent bar, I asked, being thrown almost completely on the defensive?

How could the factual merits of the controversial issues be independently and systematically explored and presented in positive fashion for public dissemination?

Should not this be done, I said, under the aegis of university research and educational projects to command acceptance as dispassionate fact-finding and evaluation?

I said that valuable and commendable as the research by private groups having private economic interests at stake may be, was not a university-sponsored nonprofit organization a need not heretofore met for probing into the broad economic, industrial and social aspects as well as the technical aspects of the patent system?

And do not the related copyright and trademark systems also need such studies?

I said that I personally had read and studied, and felt greatly helped and illuminated by, studies that were being made by the National Association of Manufacturers Committee on Patents, the APLA, the Patent, Trademark and Copyright Section of the ABA—in fact, all of the activities that you gentlemen know so well in the patent bar.

And yet I felt that, even when those studies are as meritorious as anything that could be done from an objective viewpoint, they just did not gain general acceptance. Human nature being what it is, there is always a suspicion that this comes from special interests.

Well, Conder Henry's response to my questions was affirmative. As a man disciplined to act, he said that he would present this core idea to the APLA, the American Patent Law Association Board, with the thought that perhaps they might be interested in this idea of having a university nonprofit educational organization aimed at enlightening the various segments of the public concerning the goals and operations of these systems.

So, on February 15, 1945, the APLA took action. I'm leaving that to Bob Watson, who will tell you in more detail what happened. He was a leading supporter in the founding of this Institute.

I also leave to a prominent patent law attorney whom you all know so well, Virgil Woodcock, his reminiscences about that phase.

I apprised the President of the University, who was then Cloyd Heck Marvin, of the APLA resolution about which you will hear, and I

stressed that the APLA understood and would accept without question the indispensable condition that the University, acting through its Board of Trustees, would always have unfettered discretion to carry out the objectives of this projected Institute under a Declaration of Trust that assured the independence and integrity of scholarly studies carrying the imprimatur of an educational institution.

And, gentlemen, the first decade has not changed one whit the paramount significance of that one concept, which we need always to have your help in effectuating.

President Marvin appointed a University committee to draft a Declaration of Trust. The Director of the Institute, who was then Dean of the Law School, now Provost Colclough, will fill in the highlights of those events that led finally to the Declaration of Trust in consummated form and to the actual launching of the undertaking.

And then Executive Director Lou Harris will tell you about the initial problems that were faced in inaugurating and planning the Institute's program.

When these persons, each of whom has played a leading role, have concluded their initial presentations, we will have a little round-robin panel discussion of the first decade, what was expected, what has been fulfilled, what remains to be enlarged and further fulfilled.

So at this point we continue with the origins. There may be something comparable to an interference proceeding: Who was the first inventor of this idea? You know, ideas are always born with some heritage of the past. I'm not standing here to say that because I sparked this off with Conder Henry that I could claim complete fathership of this. In fact, a small man like I shouldn't make any such grandiose claims.

But, at any rate, I will say this: That all of these things are ultimately joint ventures, that no man can claim to be the originator of anything full blown from the brow of Minerva.

So if you hear other accounts of how this thing happened, please understand that the founders who are talking here today realize that they were joint fathers or joint authors, that one contributed a little here and the other contributed a little there.

In all of my 40 years of teaching—more than 40, but that's enough for any confession—(Laughter)—I have never been a moderator or chaired anything without having some kind of biographical introductions. I don't think that this morning I need any. I think the greatest compliment I can pay to the members of this panel is to recognize that you know them so well.

You know the President of the United States never gets any other

kind of an introduction than, "Ladies and Gentlemen, the President of the United States."

These are modest men. Don't think I'm doing more than making an analogy here. But when I introduce them, all I have to do is mention their name.

But in introducing Bob Watson I just simply have to say that in my experience, friendship and privileged associations with the patent bar he is one person who I think all of you could say comes as close as anyone to being revered.

That may be a strong word, and Bob may not like it. I'm not talking about qualifications. I'm talking about the man. A patriarch, a senior statesman in the patent field. And one who is esteemed, respected, and I say as far as I'm concerned I'm willing to say I revere him.

I give you Bob Watson. (Applause)

MR. ROBERT C. WATSON: Mr. Director, Ladies and Gentlemen: I'm not a patriarch. I'm just a young fellow trying to get along in the world. (Laughter)

The dissertation which you have just heard shouldn't lead up to any interference in fact, any motions for dissolution, concessions of priority or otherwise. The knowledge which I personally have of the manner in which this Institute, formerly the Foundation, was brought into being is not inconsistent in its nature with any information which Oppie has just given you.

It was not my privilege to know of any correspondence or cooperation between Oppie and Conder Henry prior to the time of a meeting which was attended by Mr. Virgil Woodcock and myself at the offices of the American Patent Law Association. We were then both members of its Board of Managers.

Mr. Conder Henry put in an appearance and made the suggestion, which was then quite new to us, that there should be somewhere established a chair or a foundation to deal with the subject of industrial property, particularly patents.

I think most of you have known Mr. Henry. He was a career employee of the Patent Office, entering as a young man, doing very well. I used to present cases to him when he was head of a division. And then he became Acting Commissioner of Patents for a while after the resignation of Mr. Coe. And I think probably his experiences as Acting Commissioner made him a more enthusiastic proponent for the creation of a body such as that which we have created and have kept going very well for the last ten years. The position held by one who is charged with the need to secure appropriations for the Patent

Office is quite a little bit different from that which is occupied by any person on the outside.

I can well remember—to wander off just a little—when I first went to the Patent Office that Mr. Eisenhower, who was President, engineered a deal which resulted in a Patent Office budgetary request which was $1 million short of the preceding year's request, which immediately threw us into a tailspin. And I did my best to show that that was an improvident maneuver, not in the public interest, thoroughly undesirable, and that if we were cut to that extent 5,000 patents would not issue, which patents would issue were our appropriation not cut.

Well, the question arose in my mind at the time: How valuable are 5,000 patents? What value can you put on 5,000 patents? And I couldn't put a single dollar's worth of value on them on the basis of statistical analysis of any kind.

I think that then, for the first time, I realized the absolute need for research in this area.

Now, some day, when a Commissioner is clipped in that fashion, he will simply pick up a volume of the *Journal* and he will say, "Now, it's been shown statistically by research of the Institute that, of 5,000 patents, X number will result in the establishment of new industries never before known, the patents being shields for the accumulation of capital and the employment of persons; Y number will go to corporations or bodies already in existence and will improve the economy by the supply of new products by those corporations; and Z patents will have no clear effect on industry but they will be very happy disclosures of things of interest to all of us."

To come back to the history of the founding, Mr. Henry came to the meeting of our APLA Board and made these suggestions which I have just described to you. That was on January 7, 1949. He gave out the thought that at least a million dollars was necessary to implement and supply the breath of life to this device, to this new project.

Now, at that time APLA was about half as large as it is now, and a million dollars to both Virgil and myself seemed to be a rather large sum. We didn't have very much money to spend. But the theory was that the APLA should get behind it and get the money.

And that was such an extraordinary suggestion that it might have fallen flat—you know how bar associations meet and how many suggestions go by the board—had it not been for the vigorous support of Mr. Virgil Woodcock, who immediately rose and moved that the

APLA establish a long-term planning committee and that the proposal of Mr. Henry be given earnest consideration.

And the committee was immediately appointed, the resolution being passed unanimously.

Then at a special meeting of the Board of Managers on January 31, 1949 we met, or a committee met, with Dr. Marvin and Professor Oppenheim, and those gentlemen were said, in the APLA minutes which are kept in the imperishable records down there, to have shown interest in the proposition.

Now, no doubt Mr. Henry got his idea from Professor Oppenheim in the first instance.

And, by the way, I just happened to go down to the Board room of the APLA several months ago, and Mr. Henry was seated there, so we engaged in a discussion and persuaded the executive director of the Association to go back over all the minutes and to supply photostatic copies of each of the minutes in which there was reference to the establishment of this Institute. And at the Advisory Council meeting a short time back I turned those over to Executive Director Harris, and they are now part of the imperishable records here, so some future historian can resort to them to obtain knowledge of the transactions which took place at that time.

Then it was thought not politic to simply have the Board of Managers approve, and the entire membership of the Association was polled by a referendum ballot and put the question as to whether or not such an organization was to be created with the support of APLA, and, if so, where was it to be established. And the membership voted that it should be created and it should be established at George Washington.

On February 11, 1954 the Trustees acted, and the Foundation was placed in operation.

Now, there is quite a lapse of time between February 15, 1949 and February 11, 1954, which was devoted to efforts to which our Director I think will make reference when he comes to speak.

I have taken too long by far and will depart forthwith.

(Applause)

PROFESSOR OPPENHEIM: Thank you, Bob.

The next member of this group of founders is Virgil Woodcock. Again, his qualifications need no elaboration here. But I never miss an opportunity to claim a former student. I thrive on it. And Virgil was in my classes as one of the distinguished students with excellence.

One thing about Virgil, that I think those who know him well will recognize at once, is that he's never been content to be just a spe-

cialist in patent law practice. All through his professional life he has always shown interest in educational endeavors, in broadening his horizons. And I think that this was the real stimulus that made him one of the supporters of this project.

So I now call upon him to supplement, if you don't mind even a little repetition, with his own reminiscenses about these first steps.

Virgil.

MR. VIRGIL E. WOODCOCK: Professor Oppenheim, Ladies and Gentlemen: You all know we're proud to have studied under Oppie, and we continue to get inspiration from him.

My recollections on the Foundation can be documented in part, and I have tried to do so. I like to deal in personalities, people, and can name some names.

Although I cannot be certain as to the exact date Conder C. Henry invited me to lunch prior to a board meeting of the American Patent Law Association, I still have a vivid recollection that—as we walked toward the National Press Building—he asked me what I thought of the idea of a patent foundation to develop facts concerning the patent system. I thoroughly approved of his proposal and mentioned that Laurence B. Dodds had come up with the same idea, and that the Board of the Chicago Patent Law Association had approved it. However, after John Anderson of the National Patent Council argued to the Board that it would represent a duplication of effort, the approval was withdrawn.

Thereafter, Mr. Henry presented his proposal to the Board; and I joined in urging the Board to lend its full support to the proposal.

I am not sure whether Mr. Dodds was first in his idea; whether John Anderson could claim priority; or whether Ralph B. Stewart, Chairman of a "Special Committee on Bush Recommendations" would give Dr. Vannevar Bush credit as the originator of the idea found in his address before the American Patent Law Association of April 25, 1946.

At any rate, Ralph Stewart quoted Dr. Bush's first recommendation as follows: "The first would be to attempt to educate the general public as to the true facts. If this is to be undertaken it must include all of the facts, for a partial story would be worse than none at all. Nevertheless there is an opportunity without doubt to bring to bear on the beneficial aspects of the system an equally strong light compared to the one which now plays upon its defects and aberrations."

To carry out this first recommendation the Committee said: "After careful consideration of Dr. Bush's first recommendation for under-

taking an educational program to inform the public of the true facts concerning the operation of the patent system, your committee has reached the conclusion that an educational program adequate for carrying out Dr. Bush's first recommendation could not be carried on at a cost less than $100,000 per year. A program of this nature would require the employment of a staff of trained personnel to carry on the necessary research for collecting the facts and information, the preparation of appropriate educational material, and the distribution of such material through various educational and publicity channels. We believe the educational program should be one which would make a permanent contribution to an understanding of the patent system and which would enlighten members of the public from one end to the other, and particularly, we believe the program should include study courses for engineers, executives, lawyers and others during their college training period. The foregoing is merely suggestive of the scope of the program which, unfortunately, we are compelled to report the American Patent Law Association is not equipped to carry out."

So you see at the time Conder Henry brought the message from Oppie there had been work in Chicago and Dr. Bush had noted the need of it. In retrospect, it seems clear that when outstanding men come up with concurrent recognition of pressing problems to be solved, the time is ripe for action. The time was then ripe for the creation of a Patent, Trademark and Copyright Research Institute.

Apparently Mr. Henry felt an urgency about the matter. He did not wait for the Board of Managers of the APLA to initiate action. Instead, Mr. Henry, at a meeting of the American Patent Law Association, offered a resolution for the establishment of the Foundation on February 15, 1949. The resolution, after amendment and additions calling for a referendum, was unanimously adopted.

The Board then added its agreement with the resolution and recommended that the seat of the Foundation should be at The George Washington University. The resolution itself accompanied a referendum ballot which included nine questions formulated by the Board to sound out thoroughly the views of the membership on the proposal.

The referendum ballot was mailed on March 15, 1949, to the entire membership, 1093, of the American Patent Law Association. Of the 403 voting members, 358 favored the creation of a Patent Research and Educational Foundation. The participation of APLA in the solicitation of funds was favored by 295; there were 355 who voted that the seat of the Foundation should be a university, and 348 thought it should be in the District of Columbia.

Watts T. Estabrook was then President of the APLA, and Donald E. Lane was Secretary.

The Board then appointed a "Drafting Committee" to consider the comments received and to draft a trust agreement or other appropriate instrument setting up the Foundation.

That Committee had the following members:

Henry R. Ashton, New York

John A. Dienner, Chicago

Conder C. Henry, Washington, D.C.

Robert C. Watson, Washington, D. C.

Virgil E. Woodcock, Philadelphia, Chairman.

You can imagine my pleasure some 15 years ago to be chairman of a committee that had as its membership Henry Ashton, who was to be the next President of the Association, a man whose genius in working with patent law associations brought unanimity on the endorsement of the 1952 Patent Act, John Dienner of Chicago, Conder Henry, and Bob Watson.

We were to draft a Declaration of Trust. At that time The George Washington University had been selected as the outstanding institution for this Foundation. Some thought we should have some very strict rules to be sure George Washington would fulfill the objectives.

So we had problems. And George Washington wanted to have freedom from this group of dictating patent lawyers. (Laughter)

There were ground rules to be established. What I am about to refer to did not find its way into the Declaration. These were the guiding rules for our committee.

"There should be discussions between eminent leaders in the fields involved as to the adequacy of the studies made." Has this been carried out?

"The Foundation will not press its findings upon Congress, nor will it oppose or propose legislation."

"The Foundation will make available to the best of its ability an unassailable case on each subject investigated."

It was proposed that the Foundation should prepare material with respect to patents, trademarks and copyrights to be disseminated to all the schools and universities.

Now, what kind of research projects would George Washington be willing to undertake?

"Surveys of small business and the effects of patents."

"The growth of companies."

"Study of acquirement by the public of useful inventions. What do they do with them?"

Do these sound familiar in accomplishment?

"A study of the elements necessary to the suppression of the patented invention. Case histories. What the prior art discloses. What did the defendant use? What rules were applied by the courts? Are patents declared invalid because of pertinent prior art not found or because of different standards of invention?"

"The economic aspects of marginal patents."

"A study of several industrial communities with particular reference to the effect of social, economic and general welfare of patents on the community."

"The national benefits of the system."

"The results of research programs as measured by patented inventions of selected companies."

"To the extent that funds should be made available by a sponsor to undertake designated projects within the purposes and scope of the Foundation."

I have read these because some emanated from a group of patent lawyers who have sometimes been classed as a group not quite broad enough in their thinking.

We soon had a meeting on the first draft of the trust instrument. There were two meetings with Dr. Marvin. Then Admiral Colclough was placed in charge of the negotiations.

It took about 15 minutes for us to establish a friendly spirit of mutual trust and understanding and ease of communication. At our first meeting on the merits, of the points then under discussion, we had reached agreements in principle.

The APLA advisory committee was then expanded to include Fulton Flick, Martin Hogan, John Malley, and all of the other members who had previously served.

The House of Delegates in 1951 adopted a lengthy resolution, which is unusual for the American Bar Association, to approve the Foundation and its purposes. By June 1951 the Patent Committee of the Columbus Bar Association and the Boston, New York, Philadelphia, Toledo, Cleveland, Pittsburgh, New Jersey, Milwaukee, San Francisco, Los Angeles and Minnesota Patent Law Associations had approved the Foundation.

There are many more details, including contributions of Merwin Ashley and others. There were two persons, later to receive the Kettering Award, who at the time the Foundation was created said, "There are too many questions remaining unanswered about it." And, "What audiences are you going to reach; how are you going to edu-

cate the judges and the legislators who are in the greatest need of acquirement of facts on the patent system?"

Those are the only questions I leave for the audience.

(Applause)

PROFESSOR OPPENHEIM: I realize the clock is running. I want to make it clear that what is not said here orally will be incorporated in the Conference proceedings, and these gentlemen understand that they can condense what they have to say, and then later it will be published in fuller form.

Now we come to that other series of first steps with which Provost Colclough, the Director of the Institute, was associated.

Again I only need to mention that he is our Director and has been for the past ten years. Here is a man with many splendid talents, a man who got to the high rank of a Vice Admiral in the Navy, who became an educator. And I can tell you some very interesting history about how that happened.

When he was in command of the submarine base in Hawaii, and at the suggestion of a number of persons who believed in his great talent, we suggested to the President of the University that we had a Dean of the Law School, and we told him it was Admiral Colclough.

And he said, "An admiral becoming a dean of a law school?"

"Well," I said, "let's tell you something about him."

To make it short, he telephoned him in Hawaii, and on the other end of the phone was Admiral Colclough being asked by the President of the University whether he would be interested in becoming Dean of The George Washington University Law School?

A long way from submarines. And it's to our great good fortune that he accepted.

I present to you the Director of the Institute.

DIRECTOR COLCLOUGH: Thank you, Oppie.

I'm like Virgil Woodcock. One of my fondest memories is being a student of Oppie's in law school.

I will speak briefly, because you have been well informed by the people who were here in Washington when the Foundation, now the Institute, was conceived, which I was not because I arrived at George Washington University Law School on the first of December 1949, and, as you have been told, the decision to do this was made in the previous winter and spring.

But I did have the job of working with them in drafting a Declaration of Trust which would be acceptable to the Board of Trustees of the University. And I hold it here in my hand, a copy of it.

A lot of people worked with us on this, but particularly right

there in the Dean's office it was Oppie, Virgil, Bob, and Henry Ashton who assisted me in doing this, which I could not have done by myself.

I just want to refer to it briefly.

The Declaration of Trust begins by citing in a "Whereas" Article I, section 8 of the Constitution. The second "Whereas" is brief, and I will read it:

"Whereas, The George Washington University recognizes the importance of continuously advancing education, research, knowledge and understanding among the people of the United States of America in and of the operations under such laws, particularly as they affect the promotion of the progress of science and the useful arts;"

And under the objectives, which are too long to read, I will just refer to one or two, or several of them, but very briefly.

The Board of Trustees establish as an objective of the Foundation to expend the funds that could be received for research and education and to increase the understanding and knowledge of the people of the United States of America of the nature and value of the incentives granted under the Constitution to authors and inventors.

"To promote, conduct and foster research, education, training, instruction, knowledge and publication in the field of patent, trademark, and copyright laws and systems of the various nations, but particularly those of the United States of America. . .

"To publicize the findings and results of the work done by or under the supervision of the Foundation by all appropriate means. . .

"To conduct seminars and institutes for practicing lawyers relating to patents, trademarks, and copyrights. . .

"To prepare material with respect to patents, trademarks, and copyrights for use in schools, colleges, and universities, and to promote and organize material relating to these subjects suitable for establishment of courses of instruction therein."

And this is a very important one because, as we know, in our democratic society the success of our social and economic systems depends upon the representatives in our Congress who are representing the people and who will be guided, in the final analysis, by what those people want:

"To present to the American public facts and information which will enable it better to understand the contributions and the potential contributions of the United States Patent, Trademark, and Copyright systems to the economic welfare of the country and the role played by such systems in technological progress, industrial development, employment, and social advancement.

There are a number of other objectives, but I think those are the broad ones.

Here is the key to which Virgil was referring, one of the aspects we had to work out between us. Article IV of the Trust is entitled "Freedom of Action."

"The purposes and objects of the Foundation shall be promoted and carried on without regard to, and independently of, the special interests of any group or body politic, whether political, legal, social, or economic.

"The University declares that in administering the Foundation it will be guided by the principle that the political and economic structure of this country rests upon the Constitution of the United States of America, and that the laws designed to protect the rights of authors and inventors in and to their respective 'Writings and Discoveries' are integral parts of such structure."

In that connection, just to refer to one episode during this period, (Bob Watson was there) and I think you were there, were you not, Judge, when we had that hearing up on the Hill? The Judge helped me a lot. I went to New York and talked to Judge Rich during this period. I was asked by that Joint Committee of the House and the Senate—and sitting beside me was that eminent Judge, Learned Hand—whether we could do this research, looking into the systems; or whether it didn't have to be done by committees of Congress because the committees of Congress had the power of subpoena.

JUDGE RICH: I read it two days ago.

DIRECTOR COLCLOUGH: And the question was being put to me: Could we get to the facts?

Well, gentlemen, I think our record will show that we could.

And I believe so much of our research depends upon acquiring the facts from business and industry and the bar, the profession, that the freedom of action provision I just read is what has given us this tremendous cooperation by the whole gamut of our society.

Now, I will have to offer a little practical note here. The Declaration of Trust was adopted by the Board of Trustees, presented by Dr. Marvin, on the third day of August, One Thousand Nine Hundred and Fifty. And here's what the Board said:

"After execution hereof, the Foundation shall be deemed in existence and operation only when, in the judgment of the Board, sufficient funds shall have been received and accepted by the said Board within three years after the date of execution hereof to give reasonable assurance that the Foundation will be established on a sound

financial basis so as to enable the Board to undertake the attainment of the purposes and objects of the Foundation."

Well, the next couple of years were a hectic period of going out and finding the funds that would satisfy the Board we could be put in operation. We did it in two and a half years.

I was helped immeasurably during that period by "Boss Kett" and the Alfred P. Sloan Foundation. And I think you would all understand that they would be two men, Alfred P. Sloan and "Boss" Kettering, who would be tremendously interested.

I sat beside his bed when he was in his last days and wasn't allowed to have any visitors. They "snuck" me in the back door of the hospital in Dayton, Ohio, and Kett was so happy that we were getting on the road.

On February 11, 1954 the Board of Trustees, after a report from me, decided that we were in a financial situation which would permit them to put us in operation.

The last ten years we believe have been productive. But I have to say to you frankly, gentlemen, more and more as time has passed we have been aware that we needed to expand our operations and to have them greater in depth, and we can't do that in the next decade without more money.

PROFESSOR OPPENHEIM: Thank you, Oz.

Our time is running short, and there's no one who could profitably take more time to enlighten you about the initial difficulties in launching the research program than our Executive Director, Lou Harris.

Lou worries me about only one thing. In the years that I have watched him work, he's one of the few persons that I would really feel sincere in calling "dedicated."

You know that's a word you can't bandy around.

What worries me is I know Lou must have had hobbies years ago, but since I have watched him he eats, drinks, sleeps the Institute. He told me he's almost neurotic about it, which is, you know, a very nice neurosis which even a psychiatrist wouldn't worry about.

So I'm giving you really a dedicated Executive Director who will tell you briefly—and again it will be expanded in the record—about those initial problems of launching the research programs.

EXECUTIVE DIRECTOR HARRIS: Thank you, Oppie.

I am going to speak very briefly. I would like to make a few remarks relating to some of the practical problems we encountered, and I think the Provost led right into these remarks.

I'm sure that none of us here thinks that the bare conception of

a foundation is all that is really needed and that it only remains for us to pick up the idea and use it.

I'm also quite sure that, except for those who actually participated in the actual overall planning of the Foundation, you are not aware of the many problems, the blood, sweat and tears, that go into the design of such a program, the intense study required to formulate and to execute this disciplined attack on the areas of ignorance.

There have been previous attacks, as Oppie has mentioned, but those studies have not been systematic. They were important for us to know about, and it was also important for us to know about the people who were involved in those studies.

But even before the program phase, as Provost Colclough mentioned, it was necessary to raise funds, and during this formative period I remember this important object of bringing the story of the Foundation to the country. I traveled around the country and visited numerous cities and industrial areas and personally contacted key industrial, foundation, association executives, et cetera, interviewing them and making speeches and laying the groundwork, so to speak, for the regional committeees that we had in these various cities.

I'm not going to burden you with the trials and tribulations that we had in fund raising, especially the difficult problems of raising funds for an idea, albeit what was a magnificent idea, because there really wasn't any evidence at that time to demonstrate the feasibility of the Foundation.

One of the most important problems that we faced in setting up the program was that we were expected to produce before we even began, and, our support coming largely from the business community, we were sensitive to those expectations.

At any rate, after the Foundation was placed in operation in 1954 and we were constructing an overall program, this plan of investigation was decided on—to carry out studies by means of pilots. Facts were to be collected on a limited basis to determine what information was available and how to develop methods for extending the study to larger areas where feasible. And as we completed the projects, we would make this information public.

I'm not going to go into the history of how we set up our assumptions and how we constantly examined and reexamined our hypotheses. But I do want to make this point, and I think this is quite important: That to understand the wide implications of industrial property it was necessary to establish a community of information, to employ expertise from various areas so that our research would not reflect only the experience of a single specialty.

This type of single-discipline observation would, of course, lack balance, and our experts trained in a certain specialty would only see it from their point of view.

We found it was necessary to cut across conventionally recognized boundaries to bring different sets of experiences and trainings together. And in this way we did what we considered a true multidisciplinary job of research.

There is a history of various reports as we developed, but I want to simply say that ultimately the studies resolved themselves into people. To ascertain the intrinsic worth of the industrial property in its environment we considered first, among other factors, how it directly or indirectly motivated people.

Our task at the outset consisted of putting together the resources of studies, educational programs and men, and at that time there were many studies to be done and a real need for sound educational programs. We were also fortunate in interesting a goodly number of researchers. However, our financial support was modest, and finances remain our most pressing problem even to this day.

We have three types of funding problems:

One, to develop an adequate *level* of contributions;

Two, to maintain the *continuity* of our contributions;

And, three, to accomplish a *variety* in our sources of support.

Ironically—I just want to add this—we are often asked for services by representatives of government, government agencies and other organizations and people who do not regard themselves as liable. They do not realize that they are among our most eligible contributors. Many of these people think that since we are located in a university we do not have a financial problem and that we are in a position to dispense free goods.

Let me take this opportunity to inform these people that the service they ask for, the obligations they ask us to undertake cost hard-won money and that their financial support would be most welcome.

Thank you.

(Applause)

PROFESSOR OPPENHEIM: I want to say that we can't possibly do justice in giving you further recollections and also to talk about accomplishments. We don't want to make just self-serving declarations. But before we finish I would just like to mention some of the things that might have been said that no doubt could appear in the record.

I want to give you one shining example of my own feeling about the worth of this Institute. I remember when I started teaching antitrust and the patent system problems in 1931, that continually I was as-

sailed with allegations about suppression of patented inventions. I want to give you one shining example of this Institute which to my mind, if nothing else had happened in the first decade, would have justified its existence. And that's the Institute studies that have been made on patent utilization.

I owe it to Judge Rich to be corrected when we talk about non-use of patents. He properly warned us that we should talk about non-use of patented inventions. Last night in his superb and classic Kettering Award Address, he told us that invention really is a confusing word. He has made a great contribution talking about patentability and nonobviousness instead of the concept of invention. Well, in that way he has corrected something. Well, we corrected something in lack of knowledge about patent utilization. To this day no government or private source has come forward to refute or question the validity, the authenticity, and the reliability from the standpoint of scientific method in sampling from a universe the studies that the Institute has made on patent utilization.

I think you know that it wasn't so many years ago that one of the greatest sources of misinformation, was the idea that only a minimal percentage of issued patents were actually utilized.

Well, in a general way, the Institute study showed that 50 to 60 per cent of issued patents, with variables, of course, depending on whether they are assigned or otherwise, were utilized. This substituted facts for opinion evidence. And when it was in the realm of opinion evidence, even Conway Coe, an eminent former Commissioner of Patents, said that he estimated that maybe ten percent of the patents issued were actually utilized.

I say that these patent utilization studies were worth all of the investment of time and money.

There are other studies of the same nature. Our study on government patent policy. How can we trace the causation of that?

But I personally think that when the late President Kennedy issued a statement about that question, the controversy of government taking title or not taking title, somebody in that White House advisory group must have read our Institute report because there were emanations that I recognized in the Report that warned against oversimplification and overgeneralization.

If Executive Director Harris had time, he could have told you about our *Journal of Research and Education.* He could have told us about our hope we can get into more trademark and copyright aspects.

This Conference really for the first time had a segment on copyright problems.

And as for trademarks, when I started teaching unfair trade and trademarks, I asked the students to try to put an estimate on the asset value of Coca-Cola. Billions? A "Pause that Refreshes" whether you're in Africa or Southeast Asia! Wherever you go on the desert you have "Coca-Cola Pause That Refreshes," even if it isn't in an oasis.

How do you put a value on Edwin H. Land's patented inventions in connection with Polaroid Corporation? Would they have gone into the commercial markets with those inventions if their value had been dissipated by confusion of source as to the trademark "Polaroid"?

So we hope to do more on trademarks.

And the Institute's patent antitrust studies demolished the idea you can oversimplify and overgeneralize by saying compulsory licensing of patents will always pry the markets open to competition and will change the market position of the companies in an industry.

Our patent antitrust studies showed with a very cautious generalization that in the concrete block and parking meter industries at least this didn't happen. The leading firm, Besser, remained the leading firm—because of the executive management of that firm, and not because the other firms couldn't have access to patents. They did.

In the parking meter industry the leading firm became that firm without even accepting the opportunity to use those compulsory-licensed patents.

Another highlight in the first decade was a demonstration that in order to obtain consent of educators for the dissemination of educational materials in schools offering courses in social science, the school administrators made it clear that they would not permit this unless the educational material was prepared by a source which is a non-profit educational enterprise, such as our Institute. The result was that for the first time the Institute was able to place in the hands of high school students, and in the other levels of education, our educational pamphlets on the "Patent System All Around You." This does not mean that if such material had been prepared by patent law associations, for example, they would not have been equally accurate and trustworthy in factual integrity, but the hard fact remains that the school administrators would not order copies and make them available to students if the materials were from sources that they thought had special interests to promote, even though that assumption really had no validity as far as the content of the educational material would be concerned.

I think this also stresses the vital point that there was a need which this Institute filled for a non-profit educational organization, whose re-

search and education can gain acceptance, because of the human element that is apt to suspect even equally good material when it comes from a source that is unjustifiably labeled as a special interest group.

There is so much to be said, but I have been imposing on your time, so now I am going to express appreciation to you for having remained here. I feel that we have some stalwarts here who believe in us or you wouldn't have stayed to hear just history. And I hope that we all have had some renewal of faith in a system that is imperfect.

You see, the whole point is we have an imperfect patent system. We have an imperfect competitive system. We have an imperfect society. And we have imperfect human behavior.

We start with the premises of the patent, trademark and copyright system as a *prima facie* basis for our studies. How could we have a Patent, Trademark, and Copyright Institute if we didn't have the three systems? Why should anyone think we were founded to liquidate them?

To paraphrase a Winston Churchill remark, we weren't conceived and founded to preside over the liquidation of these systems.

But when we have faith in the premises, we test them against facts. And if the facts, the chips of truth show imperfections, we're ready to publish that.

But I think that those who shuddered about giving a university a free, independent discretion to go where the facts led need not after ten years shudder so much. Those who had so little faith to think that subjecting the system to the crucible of truth might hurt it, even though we had no prejudgment, could hardly say that so far the total picture presented by the Institute's objective research has been unfavorable.

One shouldn't be called an advocate because he believes in institutional arrangements that have centuries back of them. There must be some reason why they persisted and survived in 1964.

As I said, centuries look down upon these systems, and it isn't surprising that somewhere there will be benefits and that there wouldn't be just all evil.

Now I turn the meeting back, with thanks to all of you and to the panel, to the Director of the Institute to close this Public Conference.

DIRECTOR COLCLOUGH: I also thank you for staying, and I'm going to see several of you at lunch.

I want to pay my respects now to the staff which has done this research, to which Oppie so ably refers, under considerable handicap due to our lack of resources. You have listened to many of them here during this Conference. And we are deeply indebted to you.

On the question of the next decade and increased support, we are most fortunate in having Earl Stevenson, who is sitting over there, as Chairman of our Advisory Council. He and several other members of the Advisory Council are really going to work. You'll be hearing from them.

So now I would like to close on the—

MR. E. BURKE WILFORD: May I say a word?

DIRECTOR COLCLOUGH: Yes, sir.

MR. WILFORD: I, of course, represent the inventor, and the garret inventor, and I have two ideas which I think would be a great help to the Institute.

No. 1, the promotion of a prize of at least $50,000 for the best invention of the year, and a second prize of $25,000 for the patent lawyer who does the most for the inventor, not the system but for the inventor.

And, third, the American Society of Inventors have now a code which we hope will take the "Rube Goldberg" slurs off the inventor. In fact, this code will be very useful to the Institute because if we don't behave you can say, "You're not living up to the code."

DIRECTOR COLCLOUGH: Thank you.

He's going to give us the $75,000. (Laughter)

MR. WILFORD: I might.

DIRECTOR COLCLOUGH: I want to close on a little lighter note perhaps. Through a Conference like this we are so often aware of the machine on the one hand and the man on the other. As a matter of fact, one speaker this morning referred to it directly—asked the question: Can machines emulate man?

He took the negative position.

So I hope you will find this sort of humorous, but bearing on that subject.

This is a seagoing story, by the way.

An old sea captain, so the story goes, had an infallible system of navigation. A veteran of a coastwise steamship line, he had spent most of his life piloting ships up and down the Atlantic Coast, never losing or damaging a ship.

His system was this: In the night he would go out on the bridge and listen for the roar of the breakers on the distant shore and feel the sea breezes blowing on his face and take a long look at the stars. Then he knew exactly where he was.

After many years at sea, the veteran pilot almost became the victim of bureaucracy and rigidity in the shipping business. It was prescribed by the rules on adequate standards that certain educational

qualifications were required to command a ship. In checking the records, the company discovered that, horror of horrors, their trusted pilot had never had so much as an introductory course in navigation.

And so it was obvious what had to be done. He must go to navigation school or be retired from the sea.

Swallowing his pride, because of his love for the sea, the captain went to school. He learned all about sextants and gyro compasses and chronometers and self-synchronous alidade bearing repeaters and sonic depth finders.

Upon graduation he could navigate. Now he could be trusted on the run.

So he sailed the Atlantic Coast again. Now, he would shoot the stars with a sextant, check the various instruments, sit down with his charts and make calculations of latitude and longitude in degrees and minutes and seconds.

Then he would go out on the bridge and listen for the roar of the breakers on the distant shore, feel the sea breezes blowing in his face, take a long look at the stars, and then go back and correct his calculations. (Laughter)

The Eighth Annual Conference is adjourned, and we thank you sincerely.

(Applause)

(Whereupon, at 1:10 p.m., the Conference was adjourned.)

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