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II. PATENT COSTS

MR. BERRIER: To introduce the topic "Patent Costs," I would like to explain my understanding of the patent cost problem. You all have a packet of charts in front of you to help in that process. The first two charts show the total cradle-to-grave patent cost for patents covering a single invention in 52 countries. These costs were compiled by a member of IPO. The costs assume a chemical case, no drawings, 20 pages of specification, 10 claims, except in Japan, where 5 claims and a pre-1988 filing date are assumed. The cost build up is shown for each country in 5-year increments.

These charts point out several alarming issues. The first issue is that the total cost to protect a single invention is $472,000. So, if the company you represent, or your client, files a hundred patent applications a year, this would lead to an annual rate of $47 million for patent portfolio costs, which is an outrageous number.

The second alarming issue is that three of the top four countries, and five of the top eleven countries, are newcomers who just recently established patent systems. Ukraine, Thailand, Russia, Hungary, and Indonesia alone account for $86,000 or 18 percent of the total. If this is what we have to look forward to as countries modify their laws and *351 implement patent regimes to comply with TRIPs, we're in big trouble. As countries modify their laws or put into place patent systems to comply with TRIPs, we can expect them to look to the U.S. Patent Office, EPO, and the Japanese Patent Office for examples of the best practices to adopt.

So, what I'd like to do now is focus on those three patent offices to see what example is being set in the area of costs. Now, this is a different set of data. This data was compiled using a slightly different set of assumptions. We assumed September 1994 exchange rates, a 20-page application, two sheets of drawings, 10 claims, except in Japan, where we've also shown 2 claims and assume a post-1987 filing date. We also assume two office actions and two amendments. In the U.S. we include the costs of preparing the original patent application and two amendments, but to compensate, we don't include any translation fees. You can see that with those assumptions the total cost in Europe, in the EPO, is $134,000 compared to $30,000 in Japan for ten claims and $22,000 for two claims, and $14,000 in the U.S.

As we look at these numbers, we should keep in mind that the market or economic unit that is defined by the EPO is roughly about the same size as the U.S. in terms of Gross Domestic Product (GDP) and population, and it's about three times the size of Japan. Going back to total patent costs, we see that Europe (EPO) is from four to nine times more expensive than the U.S. for patents covering essentially the same size market.

Now, we'll break these total costs down into their various elements. Official fees are from filing through grant. The $10,800 cost for the EPO is more than five times the amount for Japan and the U.S. Translation costs are $15,000 in Europe versus $3,000 for Japan. Agent fees for Japan and the U.S. are about equal, and the EPO is about twice as expensive at $12,200. Then we get to maintenance fees. Here is the real killer-the taxes that we all have to pay to keep our patents alive. You can see in the EPO they're over $95,000 for all the countries. The total for the original ten EPO countries is $74,000. The total for France, Germany, Italy, the Netherlands, and the U.K. is $48,000. This compares to $19,500 in Japan for ten claims and $5,790 in the U.S.

If we look at costs on a per capita basis, the patent costs per million population in Europe is six and a half times higher than the U.S. *352 and Japan is three to four times higher. Patent costs per capita based on GDP in the EPO is eight times higher than the U.S., and Japan is four to five times higher than the U.S.

I'm very concerned that while we've made great progress with the TRIPs agreement, that as a practical matter, the world's patent offices are going to take away through pricing what they are required to provide to us by treaty. I think this is a serious problem for which we must find a solution.

MR. BENSON: Thanks, Bud. The floor is now open. If you haven't thought of your questions yet, I'll ask a question. As I understand, in the last fiscal year, the United States Patent Office made a profit of $55 million which was turned over to the general fund. What kinds of profits are these patent offices making that you are referring to here?

MR. BERRIER: I have no idea what profits they're making. You can run a lean organization, charge a high price, and make a large profit. You can run a terribly inefficient operation, pay large salaries, throw money around, charge high prices, and lose money.

MR. GHOLZ: There is a potential solution to this, I think. One thing that we've been talking about and that some members of the bar have been pushing very hard is what Hal Wegner calls work-sharing. There are various names for it, but the basic idea is that one would be able to file a patent application in any one of the three major patent offices. You then designate what countries you want that are served by those three major offices, so that in essence you could file in Europe and designate the U.S. and Japan. You could file in the U.S. and designate European countries, Japan, etc.

There are many arguments for efficiency that suggest that some day we will in fact go there, probably in the professional lifetimes of quite a few of us. If we do that and if you

don't have to file in your home country, if the Japanese could file in the U.S. and the Europeans could file in the U.S., we'd eat their lunch. Everybody would file in the U.S. Point one: competitively, it's cheapest to prosecute in the U.S. Point two: which we sometime shy away from saying, but which is nonetheless true, is that it is overwhelmingly easier to get a patent in the United States than it is in Europe or Japan.

*353 Hence, if you're a Japanese company or you're a European company thinking about getting protection for your home market, also elsewhere, it would make sense to file in the United States in order to save money on prosecution costs. This isn't going to help maintenance fees, I understand, but on prosecution costs and also on ease of getting a patent, we could run those other folks out of business.

MR. RINES: I would like to speak from my experience in a small patent law firm and representing relatively small high-technology companies in America and in the New England area particularly. Many of these companies have opted out for filing abroad and have enough to do to try to build and operate businesses in the United States. This picture that has been painted here for us makes it impossible.

I'd like to make a comment, first, that I have not found it easier in the technologies that I deal with to get a patent in the United States than it is in Europe and Japan. I don't think that's true at all, at least in my areas, anyhow. But that aside, I have to evolve a strategy for my clients to live now, not to sit here and debate what's going to happen and what's going to change in treaties and so forth.

So, I have a philosophy that I would like to share with you. In cases where we feel it would be economically essential for the other European countries to have to trade in the United Kingdom, we only file in the U.K. We don't use the EPO. If we have an invention in some European country where there would be a manufacturer, or wherever else it may be, it is likely that they can't exclude the U.K. as a market, in a practical matter, from their distribution. I feel that one patent is as valuable as filing in all of these countries. I may be wrong, but that's all my clients can afford. I wanted to share that strategy with you.

MR. BARDEHLE: The problem, I think, is the translation costs, not so much the other costs. We also made a survey about the costs for prosecution and found that the highest costs for prosecution are in Japan, followed by the United States and then Europe; pure prosecution costs. Now, what makes this difficult is the translation and the very high search and examination fee for the EPO. This problem is recognized I report to you. It would go beyond my time to speak in details, but the intention is proposed in Europe to the EPO, and for the EPO to reduce costs. The EPO does not want to lose clients. Many foreign applicants no longer *354 choose the European route, but go to the national route as you have already said. Many companies do that. For instance, in the motor car industry, it is not necessary to cover all of Europe if you have one important patent in one country. Due to the export of the motor cars, it is impossible for the motor car manufacturer to have different lines of production for different countries. It's all the same,

so one protection is normally sufficient. One can do that, but that doesn't solve the problem of costs.

The real problem is fees, and in many instances we need protection throughout Europe requiring translations. The proposal now is to shift the translation costs to the end of the procedure. When the applicant knows what he may get, when he has more or less the patent in his hands, then it is psychologically easier for him to pay the money for the translations. At the beginning of the EPO system, some countries renounced the translation. This was the case for the United Kingdom and Germany for a long time. Then, they were not satisfied with the existing system with only the claims in three languages. Later, they introduced the full translation, unfortunately. It may be that some countries will drop that requirement when they see these complaints. So, this is the only answer which I can give to you.

I would suggest that you create pressure and mention your concerns to the EPO because this is decided by the Administrative Council organized by the member states, in which the member states are represented. They are now considering the reduction of costs in that way, shifting the translation costs to the end.

This is a solution, but here I would like to make one proposal. What we are doing with languages is not what sometimes is considered discriminatory against foreigners. Unfortunately, we live in an area where we have a great number of languages. When the Turks, Czechs, Hungarians, and Fins, all with very complex languages that are not understood outside their own country, join our patent organization,it will be impossible to manage, even in the commission in Brussels, all of these languages. A solution must be available. In my view, the only solution, but this is of course a vision for the future, is to use what is done already in practice; use English as one language, at least for the beginning and for a long time. Then maybe later, in any case for litigation, the translation may be necessary. But how often do we have litigation? In ten percent *355 of the cases possibly. So, there are solutions on the horizon. May I now make a proposal, if you permit me, and simplify the matter for you in a certain way. Could the United States, let me say it as a proposal, give up In re Hilmer? That's why I'm here, so permit me to speak openly and frankly to you as a group of friends. Consider giving up Hilmer as a bargain with translations costs. Isn't that what we are trying to do in the WIPO harmonization? Are you prepared in the United States to do away with something which we consider a discrimination? You may include this in proposals on how we can reduce these enormous costs in the EPO.

MR. KEEFAUVER: Without undercutting the main point, which I think I see and generally agree with, and having only a few minutes to look at these numbers, I wonder if they're not showing a worst case and making the problem seem worse than it really is. As I understand, these figures are all cradle-to-grave and assume that every application you file will mature into a patent that will be nationally prosecuted in each one of these countries and will be maintained until its term expires. In the real world, that just doesn't happen. So, I think it would be interesting if various companies' attorneys could look at a typical portfolio with which they are familiar and try to estimate what percentage of their

patents they hold to full term. Certainly when I was at AT&T, when we were looking at this whole issue of maintenance fees, we guessed that a very small percentage, maybe ten percent, would be maintained full term. Probably a third of the patents would only be maintained through ten years, and many would be dropped. So, I think because maintenance fees play such a big part in this compilation, that to be realistic and objective, we have to take out some of the maintenance fees. I don't think it destroys the shape of the curve. I think it brings it over to a slightly less hostile territory. Am I correct that this is a worst case scenario by making the assumption that everything is maintained forever?

MR. BERRIER: The maintenance fees are for the life of the patent. Translation costs occur when you go through the national phase. The filing fees and agent prosecution fees come earlier, so it depends on which chart or exactly what cost elements you're looking at. But, the total cost roll-up includes maintenance fees which are paid over the life of the patent.

MR. KLITZMAN: My comments are somewhat more in line with *356 Bill Keefauver's. If I remember correctly, one of the reasons you have high fees in smaller countries is to force patent owners to make a decision as to whether they want to maintain that patent because the data bases are getting bigger and bigger by leaps and bounds. It is a tremendous job to try and keep up with all the patented art that's out there. I know that years ago RCA made an investigation of their patents and found out how few they were actually using. It was such a ridiculously low number that it made you wonder about patenting some of the things they did patent. So, you can understand why some countries have a high fee and want you to work the patent in their country. If you don't work the patent because it is not worth it, or if you're not entitled to it, or whatever, countries feel they can put a high fee on the patent so that you won't maintain them. They're trying to lessen the number of patents they have to contend with.

MR. SMITH: One of the problems with being this far down the table is that most of the key comments have already been made. I wanted to follow up a little bit on what Bill and Maury said. The maintenance fees are a serious problem. I understand that one of the reasons they are a problem is that the EPO shares maintenance fees with the countries in which the patents are actually in force. It's true that you can prune. When I was managing IBM's intellectual property affairs, we spent a lot of time pruning to maintain the minimum number of patents; but I think that misses the point a little bit and that is that you're forced, as Maury points out, economically, to get rid of patent coverage in certain countries because you can't afford it. However, you're not forced to make those same choices in the United States, at least to the same extent, because of the cost difference. So, I think we really do need to attack the problem, not by getting rid of patents in high maintenance countries, but by attacking the maintenance fee problem in those countries. One of the problems that we've discovered over the years in trying to decide what patents not to maintain is that the crystal ball sometimes gets a little murky or the art takes bends that you don't expect it to take. You can find some terribly valuable property that you've allowed to lapse because you didn't think you needed it or couldn't afford to take the

chance to keep it. So, I think we need to deal with the problem head-on rather than by talking about getting rid of patents in high maintenance countries.

*357 MR. BALMER: My points are threefold. First, there's an awful lot of cost inefficiency in having a plurality of patent offices. This has been mentioned before. An examination in one patent office, an examination in another patent office, and a further examination in still another patent office, doesn't necessarily mean for every country that you are going to have a better patent. Obviously, some of the maintenance costs we're talking about get folded back into operating the plurality of examining patent offices, and we're supporting those inefficiencies.

I think the other side of the concern, and my second point, is what I call "Newtonizing" of the U.S. Patent Office. Right now, we have $55 million going back to the general fund, not into patent examining. It's going to be a source of vulnerability in the future when we urge efficiencies throughout the patent offices of the world. So, before we start throwing stones, we've got to make sure that we're able to control what we do here in the United States, lest we wind up in the same position as the Japan or the European patent system, where costs far exceed expenses for examining.

The last point I have is sort of picking up on Roger's policy discussion. We have a policy in the United States that I see does a lot to encourage the independent inventor and the small business. We have lower fees and an accessible and affordable system. When we look at what occurs internationally, the small business and the individual inventor are excluded from that "patenting" market. We should look at how the individual and small business in Japan or Europe survives in light of high patenting fees. Perhaps their policies are to force the multinational companies, such as General Electric, IBM, or Union Carbide, to drop patent properties and provide an open field for small business to enter, as opposed to the U.S. policy of encouraging invention and patenting by the small business.

MR. GOLDRIAN: I would like to say something in favor of the European Patent Office. If you look at their figures, you'll see that the time from filing a European patent application up to grant, is the time when you spend relatively less money than before when you had to file in several countries. For instance, the average number of designations is seven, seven European national patent offices, and seven applications. You had to spend much more money, and this is one of the reasons for *358 the success of the European patent organization, where you have decided to spend less money up to the grant. Then the truth comes out because the national countries will ask you for a maintenance fee, and they are absolutely free in setting that maintenance fee. It may be much too high for a small country. That's possible, but what could you do about that? I don't know. Also, you have to translate, as Heinz Bardehle said already. I would be glad to have any progress in this respect to avoid such translations, but I don't believe it. So, what you actually have is expenses that are much less up to grant, compared with the necessity to pay an average of seven national applications in European countries. You are happy to have a big country with one patent office and one language. In Europe we have many small countries where it still is necessary or advantageous to file patent

applications because in small countries like Sweden, Switzerland, and the Netherlands, there are companies which actually serve the world market. So, it seems for many companies necessary to file patent applications there, and if you do that the European way, you save money up to the grant, and then the truth comes out. So, I don't see actually a real possibility to decidedly lower the maintenance or translations fees. The only thing which we regularly do together with Heinz Bardehle and this Standing Advisory Committee, is to urge the European Patent Office to work more rationally than at present. You see what you can do in this respect is maybe to save $7,000 per application, but the basic difference will not be shaken.

MR. KONKOL: I guess I'd like to say first of all, that I thought Bud Berrier wrote a superb article on global filing costs and that such an effort to effectively address this problem was long overdue. I think it's a very important subject that needs serious attention and our constructive thoughts, but let me say that, notwithstanding Chico's comments about work-sharing, I don't think that's a realistic solution right now. I think that the problem is so serious that we have to address the problem yesterday. Rather than work- sharing, where a patent office in another country could effectively grant a U.S. patent, I think a better route might be regional patent offices like in Europe. Something similar has gone on in North Africa, and perhaps we could have a regional patent office for the NAFTA countries. Something might be practical in the future. But I want to also mention that working in a business, we spend a lot of time on this issue, on cost cutting especially, and obtaining the most bang for *359 our buck in foreign filing. So, I can't say that this article is any revelation, but I'd have to say I think it's the best gathering of information on the subject that I've seen so far. I think maybe it's a wake- up call. It's very clear-headed thinking on a bottom-line issue, and, as Bud mentioned, I think there is an alarming trend here that we should nip in the bud, or costs may continue to unduly escalate.

I remember I did a study in du Pont's automotive business on the costs of foreign filing about three or four years ago, and we made filing lists for three types or classes of inventions. One was eureka inventions that we were going to file in 17 countries where we had the most sales. Then we had a B list and a C list. I remember that for that A list, the total cost was over a hundred thousand dollars for the life of one patent, and that was in 17 countries. Bud's figures were for 51 countries, I believe. Just recently, I went back over the figures for a new invention and did some more number crunching, and it was worse than ever. In this case there was a very important invention that the client wanted to file in 27 countries, and they wanted to know how much we would have to pay next year, the following year, and the first five years. We figured that for one patent it would be roughly $20,000 to $25,000 this year, the next year, the next year after that, and the next year. That's for the first few years. So, you're talking about $80,000 roughly for one patent within the first five years, and there were three patents covering this technology. So, I was staggered, and I said, "Have costs gotten worse than two or three years ago?" Now, I have a better idea why because I read this article. The only other reason for escalating filing costs is that the exchange rates might have become worse, which might have made it about 15 to 20 percent worse over the last three or four years. So, as I said, I

think we need to do something yesterday about this issue. We need to try to influence events in the future.

I guess my time is probably coming up, but I just wanted to add that I thought this issue tied into the other two issues. First, whether we need to reorganize the patent office, and I'd say looking at these figures, the U.S. Patent Office looks relatively efficient or economic compared to other patent offices. I don't know why the EPO figures are so expensive. I don't know if there are redundancies or whether they are making a huge profit or what, but I think it probably says something comparatively good about the U.S. Patent Office.

*360 Second, I think if you have a process patent, you may have to file in a lot more countries than if you have a product patent. I think that speaks to the adequacy of patent protection for process inventions world-wide. I think that will relate to the issue of prior user rights.

MR. BREMER: I'd like to bring up the university perspective on this because I'm the only one representing that group here. One of the fundamental points is that one has to go back and look at the background and find that the federal government with tax dollars supports basic research to the tune of about $4.6 billion a year. Most of the basic research, the true blue sky research, is done on university campuses. With that we try to get as much protection as we can, but there's very little discretionary money for doing any of those filings, any place, even in the U.S. Patent Office. So, the reliance has to be on finding a licensee among the larger companies, many of whom are represented here, to pick up the costs for doing those things. Keep in mind that in the university sector, there's the publish or perish syndrome. I always like to look at it as publish and perish because fundamentally that's really what happens. Since tax dollars are used to support basic research, you have to presume that those dollars are spent so the U.S. public will ultimately benefit. If you can't get proper protection on the results of the research, and it's an economic problem to get that proper protection, the only ones that are going to really benefit from the research results are the foreign companies and countries. They will have access to the technology through the publication, and there will be no protection to prevent them from using the technology free of charge. It's a fundamental problem because in any grant proposal, there are no discretionary funds for doing any patenting of any sort, even though we've often tried to earmark funds as part of a grant proposal for filing patent applications. The government never allows that sort of thing. So what we do, even in the U.S., if we are able to initially file applications, a few of the universities can do this because they have some discretionary money, is usually pay the maintenance fee in the U.S. at three and a half years. At seven and a half years we'll look at everything. Because most of the funds in support of research come from the NIH and the NSF, the research tends to be life science oriented and, as a consequence, we are often dealing with the pharmaceutical industry. In that circumstance you have to really consider if you even want to pay the maintenance fee, because you have to look at an average *361 of ten years from development of the invention to the marketplace. You can add on the extension time, but that's little consolation to a potential licensee at the point of making the commitment to development. So, really, the university sector will pay at three and a

half years and at seven and a halfyears; you are doubtful if it goes to eleven and a half years, as there will be a strong incentive to drop any patent that requires that maintenance fee. I just wanted to get that perspective before the group.

MR. COLEMAN: I want to second Chris's comments. The IP community has been aware of this problem, but this presentation certainly focuses a spotlight on some very specific areas that might not have been fully appreciated. Also, Chris and I both had similar thoughts in this proposal to encourage more regional offices, although there are political challenges. I'm not talking about regional in the sense of the EPO, which is really a regional prosecution agency. I'm talking about the long delayed community patent system. Perhaps Heinz might comment on how that's progressing or being encountered. I would propose that what should be encouraged is community or regional patent systems. In other words, one patent office, and each patent covering multiple states or countries. Regarding our present discussion, that perhaps would cut out a lot of the sharing of dollars along the way and might also significantly reduce maintenance fees. Although, I doubt it would reduce the translation fees.

MR. KONKOL: It could. Heinz's proposal does that.

MR. BENSON: It's interesting, Ed. The United States made that move 200 years ago. Imagine having 50 separate patent offices in the United States.

MR. ARMITAGE: I think I know what the problem is here. If we go back a few years ago, we could pay for foreign patent services in these dollar bills [holding up a one-dollar bill]. Then, you could get 240 yen for one of these dollars. Not too many months ago, you could have taken this same dollar, but to the Japanese, the dollar bill looked like this tiny little thing [folding it in thirds]. You could get only 80 yen. If you go to page 12 in your handout, and you think of a dollar as really being worth what the dollar was once worth, you'll see that keeping a Japanese patent application alive is almost exactly the same cost as it is in the United *362 States, if we hadn't taken and imploded our dollar by almost a factor of three relative to the yen. So, I think the solution to this problem is very simple. We need to stop running trade deficits with the rest of the world and make the dollar worth a dollar again.

Second point, I once did a cost calculation of U.S. versus Europe versus Japan, just counting official fees, not counting in patent agents' costs. I found something that was surprising to me. The United States was practically, these figures notwithstanding, the most expensive place in the world to get a patent, if you make a couple of simple assumptions. One assumption is that for the average invention, you're talking about perhaps a 12-year life span, not a 20-year life span. The second assumption is that for small businesses or other individuals seeking investment dollars, their cost of capital is high. Therefore, a more accurate way to do the calculation is by using an appropriately high discount rate or imputed interest rate and looking at present value dollar costs rather than taking the dollar you spend today and equating that equally to a dollar you might spend 15 or 20 years from now. When you do these two things together, you find out that some countries deload costs at the front end, such as the Japanese and the Europeans,

relative to other countries that have higher front-loaded costs, such as the United States. In the most unkind cut of all, some countries actually force you to prepay maintenance fees for a substantial part of the patent term. In fact, the country that is most notorious in this regard is the United States of America, where the annuities for years 12 through 17 of your patent term are paid at 11 years 6 months after the patent is granted. When you factor that in for the average 12-year patent, you will see that these numbers look quite different in present value terms, given a reasonable discount rate.

Third point, I think if the United States wishes to sell to the rest of the world cheaper patent costs and elimination of redundancy, it needs to do two things. First, it needs to be the best patent office in the world. It needs to be able to do a patent examination that it can then take outside the United States and say to foreign patent offices, "It adds no value to repeat this. It's been done once here. We don't need to do it again and again and again and again." Now to do that, you probably need to have the Patent Office fundamentally restructured, perhaps as a government corporation with more managerial flexibility. We'll get to *363 that later in the day. Second, you need a domestic patent law that really does the job once for the rest of the world. We frankly are not able to do that with the current system in the United States, with its peculiarities of relying on invention dates rather than filing dates. So, perhaps sometime we'll get into a serious discussion on the harmonization driven changes that we need in the United States in order to really be the world's best patent office.

Fourth point, we need to take the lead in international cooperation. When the United States ratified the PCT, for example, it was a very progressive step. We took almost every single reservation you could ever take including as to Chapter 2, including as to our 35 U.S.C. § 102(e) and including as to publication of pending applications. We need to unreserve ourselves under the PCT and say, "Look, the PCT is a great cost deferring vehicle in international patenting." Perhaps, if we can't do the so-called "work-sharing" immediately, to use that phrase, we could at least make the PCT a vehicle for completing examination in at least one office by providing a longer international stage than 30 months.

Finally, we need to set a model for the rest of the world on how patent offices are and are not financed. Until the United States exclusively uses patent user fees for the patent offices' own work, it seems to me that it will be very difficult to convince European countries that that's the way that they ought to operate. So, I think as soon as we fix everything at home, perhaps we will be in a position to deal with fixing the numerical costs that we see seemingly out of control outside the United States.

MR. GRISWOLD: My points really relate to costs and access to the system. We believe that costs and access to the patent system around the world are the most critical issues. There's a lot of talk about the 20-year term, but costs and access are really the critical issue to everyone that's in the system or not in the system, including independent inventors. I think that's where the focus ought to be. Bud's paper is very pertinent. The first question when you look at costs is why are the costs what they are, and is this

because of what it costs to maintain a patent office, or is this some revenue-generating system for a particular country. I think our position should be that the applicant's costs in the patent system should be based on what it costs to run the system itself. Now, the maintenance fees under that kind of system are just fees to pay for the cost of running *364 the system, and maybe they work out appropriately. If indeed the costs relate to what it cost to maintain a system, then the best thing, with a large system, is to make them smaller or fewer.

So, in my view, we're better off if somehow we can get down to a position where we have very few patent offices in the world, and you get full faith and credit from one to the other. In fact, you should be able to get a world patent by prosecuting the patent application in one country and having it applicable around the world. I think that should be the vision that we seek as we work through this process. If patent costs are based on what it costs to run the patent offices, and we reduce the number of offices based on giving full faith and credit, and we have world patents, then we'll be better off. So, that's the basic tenet, and I think that cost is a major issue. It does lead to heavy portfolio management in large companies, and it leads to no portfolio establishment with small companies and independent inventors. I think it is the most critical issue in the patent system today.

MS. LINCK: First, I'd like to say I'm not sure that there is as big a problem as has been stated by some, although some have questioned it. I'm always skeptical of statistics. I think the story is: there's lies, damn lies, and then there's statistics. So, I think we have to be careful of numbers. That's not saying they're wrong, but I think we have to look at them with a questioning eye. A number of people have said, you know, where's the money going. Don't we know at this point? We've been critical for years. Is it wasteful? Is there a big profit in the European Patent Office? I don't know. I know how expensive it is to keep an office running now. I have heard the European examiners are very happy with their work and that they stay. We have a big problem in our office keeping good people. It is almost impossible to keep lawyers. I think our examiners are underpaid. I don't think the facilities are very good for them. Perhaps we need to up our fees so that we can keep good people in our office. This is my own view, not the Commissioner's, and I don't want you running out and saying, "Nancy Linck says the Office is going to raise fees," because I haven't heard that message. I just raise that as an issue to think about. But assuming there is a problem, what is the solution? I've heard only a couple of people offer solutions. Well, I absolutely agree with what Bob said, and I'm going to be a little bit repetitious. Work-sharing, that's a possibility. I believe Hal Wegner *365 proposed that at a time when we were moving forward in the harmonization area. Regional offices, I don't know if we can do that until we harmonize our laws. The Commissioner is trying very hard to get the Europeans to get down the costs, but we are at a time when we are thumbing our nose at harmonization. We're backing off in every single area that would harmonize our laws; 20-year term and 18-month publication are getting resistance, and even expanded reexamination is now getting resistance. We have a handful of people in this country that absolutely do not want to harmonize with the rest of the world. They will not sit back. They will not recognize that we cannot compete in a global economy without harmonizing our laws, and we have to do that. The balance of

trade can't be corrected until we become a competitor in the global market. I think that's just a major problem. Therefore, I think maybe we have a problem. Maybe the article is right, but we're starting at the wrong place. We've got big, big problems in this country right now. We are further away from harmonizing than we were when I first became involved in these discussions back in 1987. We need to move back into the area of harmonizing our laws, and then maybe the Europeans will work with us. Bruce Lehman cannot work with the Europeans when we're telling them we're not interested in playing the international game.

MR. GOLDSTEIN: I agree with Gary's comments. The issue here, being one of cost and access, is really one that we need to consider carefully. Having spent many years working for a large international company, and then moving to private practice, has really focused the issue for me. In a large company there are many ways you can deal, at least in the stopgap way, with patent filing cost issues. Some of them have been discussed this morning: PCT filing to push filing costs as far into the future as possible, putting your applications in the best possible claim structure form for each country, and weeding your patent portfolios to eliminate patents of little commercial value. The bottom line is that for large companies the cost issue means that they file in 15 countries instead of 20 countries or do not maintain patentsof dubious commercial value after 5 years rather than keep them for their full length. This, of course, will differ based upon the particular technologies involved. A lot of what we've spoken about this morning, in terms of weeding patent portfolios, is based on the experiences of electronics and computer *366 companies. In pharmaceutical technologies you frequently don't have that kind of flexibility. The last years of a pharmaceutical patent may well be more important commercially than the initial years of that patent. For many kinds of clients, medium companies, small companies, independent inventors, and universities, high patent costs represent an issue of getting in the door at all. We have many, many clients who come up with interesting technology, scrape together the money to get the U.S. patent, and then dedicate the rest of the world to the public because they can't afford foreign filings. That can't be a good situation. I think that Mr. Berrier's paper is very interesting in that it really focuses the issue. It ought to be the start of a lot of discussion because it raises some important questions. For example, why has there been such a clear increase over the past few years in total patent costs? What is going on? What would the effect of market forces be on this situation? On Mr. Berrier's list I see a lot of high-cost countries like Ukraine, Russia, Norway, and Finland, where I think many companies just wouldn't bother filing because they wouldn't get value for their money. Would such market forces cause an eventual lowering of costs? Other issues like the interaction between harmonization and patent costs need to be considered. Why harmonize patent laws when costs will keep most inventors out of the system? The bottom line is that cost isn't an independent issue. I believe that the cost issue must be carefully studied in this larger context.

MR. LOWIN: Bud Berrier's paper has a sentence in it that reads, "Harmonization should provide speed and predictability and lower costs." This bears some relationship to the foundations that were laid for the Court of Appeals for the Federal Circuit (CAFC). I've recently been advised with respect to harmonization, however, that since we have the GATT implemented, that it's no longer a topic of discussion. I couldn't disagree with that

more. The progress that we have made to date has been primarily procedural. While that's truly noteworthy, and it has made many accomplishments toward making the system better, from the comments that Mr. Berrier made and based on the international associates' fees that I pay, we have not accomplished the cost goals nor have we accomplished the predictability and speed goals. In terms of costs, we've been talking about the cost of filing, but in my mind, the biggest cost of the international patent system as it exists today is uncertainty, *367 which is also something the CAFC was set up to deal with. I don't know what subject matter my client can get a patent on around the world. Every place it's different. I don't know what specification I have to file in order to satisfy the requirements of all of the different patent offices around the world or how they're going to apply art, and that's just the beginning. Once I get that patent, the way it gets enforced in all of these different countries is a regular nightmare. Substantive inconsistency is a major, major cost in the international patent system. I think a great step in accomplishing these goals would be a world patent system. It's not going to be popular with the existing patent business, both the patent business from the side of practitioners and the patent offices. After all, if we do move to regional or world patent offices, it's going to threaten to take money out of all of our pockets. There won't be as much to do. Every time you file an application, you won't have to go to 50 associates in 50 countries and pay the 50 fees to them. Perhaps a world patent system can be set up as an alternative, allowing the existing patent systems to coexist with it and giving the people a choice. Let the market determine what system is the best. Perhaps it can be set up so that the individual patent offices still maintain an important role in managing records, taking care of oppositions, handling prosecution, and filing the applications that originate in their countries. We could accomplish standardization, both in prosecution and in enforcement, through a world court of appeals for patents.

MR. KLINE: I think Bill Keefauver made a very good point. As you look at these charts and analyze them, maybe the problem is not as big as it initially seems. Bob and Gary made very pertinent comments. As Heinz said, a number of items relate to the filing, prosecution, and maintenance of an EPO case. When you look at it in terms of the number of European countries involved, are the numbers really that shocking to you?

MR. WAMSLEY: Let me add just a comment or two to what has already been said about the concept of a world patent. Bud Berrier's statistics tell me there is a problem here. You have to pay $472,000 to get protection in the world's global economy when you make an invention. The reason you have to pay $472,000- that's for 52 countries and we have more than 100 countries in the world today- is *368 that each one of those 52 countries thinks it has to be a money collector, and a great many of those 52 countries are taking the opportunity to make some profit when they collect the money. We have a long, long way to go to get to the world patent, but as Gary Griswold said, what we need ultimately is world-wide patent protection, protection in all countries that is automatic. When we get to that point-and we may be talking about the 22nd century-but when we get to that world patent, we shouldn't charge people according to the number of countries in which they are protected. That's the wrong concept. We should be charging whatever it takes to do one thorough, comprehensive examination and to issue a patent. It may be that the world patent will have to coexist, as was mentioned, with national patent

systems. Maybe that's the way to get competition. I think one of the great fears of setting up a world bureaucracy is that it will be even more bureaucratic than the national bureaucracies. If you can set it up so that it competes with the national systems, then maybe it would work.

MR. BENSON: Were you talking only about the prosecution in obtaining the patents or also the enforcement?

MR. WAMSLEY: I was thinking primarily about obtaining the patents. World- wide enforcement is a tougher nut to crack. Maybe that's the 23rd century.

MR. WELCH: This is my first conference. I realize you've got to get in early or you're going to get superseded, but I do have a couple of comments about the PCT in the world patent costs. Not only are countries not allowing full faith and credit to PCT preliminary examinations, but the U.S. Patent Office has a practice of actually charging you more money for a case entering the national phase after a preliminary examination has been conducted in Europe. This seems to have no justification. In other words, we're not even recognizing the value of having a search and preliminary examination done by another office, not necessarily giving you full faith and credit, but giving it some value. Instead, they charge you more money for that. So, I think that's something that could be done now to recognize the value that you're already getting from other offices. Another aspect here that may have a positive impact on costs is the idea of having fixed fee schedules for associates in countries. Does it make any sense that it's 165,000 yen to *369 file a case in Japan whether it's 10 pages or 400 pages? Shouldn't we have some value of competition in that realm? So, we haven't really talked about that aspect, but I think the value of competition and getting away from the idea of having fixed fee schedules would be helpful. I think it also works in the area of translations. I know there have been articles written suggesting that depending on how the translations are done for the grant phase of the European patent, that you can save a lot of money by using other translations services. Issues there, of course, concern requirements of whether you have to proceed through an attorney to do that and also the quality of those translations. I think those are other components of cost that we need to look at in this equation.

MR. BUDINGER: I'd like to pick up on Bob and Nancy's theme of putting our own house in order first. It strikes me as ironic that we spend, according to Howard, $4.6 billion of American tax payers' money to encourage research and create new ideas. Yet we then turn around and levy a tax on the very seed of innovation, the patent process! It strikes me as very bad economics that we should be willing to spend so much money on the one hand to encourage research and then sabotage that effort by placing a tax disincentive at the most vulnerable point in the process. The craziness is made worse because the tax yields only a few tens of millions of dollars, which is what happens when taxes are levied on the seeds instead of the harvest.

The second concern is the high cost of foreign patent protection. I'm a small company who has withdrawn this year a number of patents because we couldn't afford to pay the foreign maintenance fees on them. We're starting to get some serious bills for

maintenance fees on our existing foreign patents. So, more and more we elect to eschew patent protection and go into the battle naked, without patents. Given the cost of foreign patent protection, the trade secret becomes a preferable route. Even Bob Rines's idea, which is a good one, that we only patent in the countries that are significant, does not solve the problem. After enough of those "significant countries," it still adds up to an intolerable burden.

But what is really important is a low entry fee to get on board the patent system quickly, expeditiously, and as cheaply as possible. This is what encourages innovation. The problem is how to fund the Patent Office. I've heard some proposals at other gatherings that the Patent Office could be funded by a royalty on successful patents. The theory is *370 that inventors who are successful owe something back to the patent system. In a way, it strikes me that's what the maintenance fees in effect do. I'm told that in the U.S., at the 11 years 6 months point, 70 percent of the patents have dropped out. Only 30 percent pay that final fee. These numbers suggest that those remaining patents, upon which the final fee is paid, must be yielding returns to the owners. In effect, the maintenance fees are royalties on successful inventions. Similarly, inventors who elect to abandon their patents rather than pay the fees open up the field to others who might find a way to more successfully use the technology. So, perhaps another way we could look at maintenance fees, particularly the ones that are very low at the front end and then escalate further on as the patent ages, is that those maintenance fees are a kind of royalty that returns some value of that invention to the patent system. This interpretation works so long as those fees pay for the patent system and stay out of the National Treasury.

MR. MACKEY: It occurs to me that the harmonization effort over these many years has dealt with many matters that never seem to me to be terribly important. One time I was asked by my general counsel what was the purpose of the whole harmonization effort. The purpose, as I described it to him, was to arrive at a patent system throughout the world that would provide a fair degree of protection at a minimum cost, a matter that certainly can't be solved today, but I think is worth considering. Consider a world-wide patent which would consist of a registration system alone. If a party desired an examination, it could get an examination atany one of three offices. Those would be the only offices that one would seek an examination in.

Now to the issue of enforcement. My experience has been primarily in the U.S., but also abroad in some parts of the world. When you come to the point of enforcement, the whole job of the examination has to be done over again. My bottom line then is: Would we not be better off in many, many instances with a registration system and a world-wide patent?

MR. BERRIER: I think it's clear what drives the world's patent costs. It's redundancy, and it's governments raising money, taxing in effect. One possible solution to this cost problem would be to treat official fees, filing fees, maintenance fees, whatever the fees are, as a tax, *371 as a tariff, and to limit the tariff that can be charged. Once we do that, if we can do that, through our trade representatives working with Europe and Japan, just like TRIPs was done, then I think we will force the world's patent offices or countries to

make the right decisions. Then, we can get to a registration system. If a country realizes that the most that it can collect for a patent is X dollars, then they're less likely to put up a Taj Mahal patent office and hire thousands of examiners to duplicate the very same work that was already done in three or four other countries. They'll register. Look at what happened in Singapore. We used to be able to register U.K. patents. It was very inexpensive. Now they've put in a patent office, and they're going to examine, and the costs are going to skyrocket. But we can't tell Singapore they can't do that. We can't tell countries, "You shouldn't examine patents. You should let us do that for you." No country is going to accept that. But if all countries live by the same rules, if no country can collect more than X dollars through the life of a patent in official fees, then countries will make rational decisions. Then a country may decide, "Well, maybe we ought to just take the money and register this patent that was examined in the EPO." So, I think that treating patent costs as a trade issue, as a tariff issue might be one solution. But before we can really press that solution-I mean it has to be pressed by a combination of the U.S., Europe, and Japan as a practical matter- before we can do that, we have to get our house in order. If Europe, Japan, and the U.S. don't have patent costs down to the threshold that we are talking about, we can't tell others that they should have low patent costs. So, first we have to try to get Europe to pull their belts in, and then I think we have to work the issue as a world trade issue, as a tariff or a tax on the very inventions that fuel the world's economy, that fuel jobs. That is one possible solution.

MR. GHOLZ: The question has been asked whether the European Office and the Japanese Office run at a tremendous profit. Probably not. It's like any closely held corporation. They never turn a profit. They never turn a profit because the money goes out to the people that control the company, and you make sure that it doesn't turn a profit, or as little as possible. The European examiners appear to live much better than the U.S. examiners. The impression one gets is that they are much more highly paid. That, of course, has a great benefit. They don't have the turnover that Nancy was referring to, but there's *372 where the money appears to be going.

Second, there has been a lot of hand wringing and a lot of suggestions that may be beneficial in the long run, but are not likely to make a change immediately. Getting our trade deficit down is not something a bunch of patent attorneys in Concord, New Hampshire have a lot of control over. But Heinz had a suggestion that we might have some control over and might work. That is trading In re Hilmer for an agreement on a country-by-country basis: first Europe, then Japan, then anywhere else. The deal would be that we could file in English, prosecute in English, get our patents in English, and only do translations, if ever, when it comes time to litigate the patent. Now, that's the sort of deal the U.S. Patent Office can propose in the trilateral negotiations. It strikes me as one hell of a good deal. In fact, such a good deal that I wonder whether Europeans would really buy on to that. Hilmer has its advantages. We all benefit from Hilmer from time to time, but I'd sell Hilmer for that kind of deal.

MR. RINES: I'd like to call to your attention, and I hate to do this because I'm no "Japanophile," if there is such a word. I think Japan has a great idea in the deferred examination for seven years. In effect, this is a registration system. You protect yourself

by filing in Japan. You don't have to do a darn thing for seven years. Any time during that period that you want to request the examination, you can; and indeed there are circumstances where somebody else can provoke it for you if it's important, somewhat like in our reexamination. You are protected. It's there, and unless there's some economic reason why you have to get your patent right away, it's deferred. I hate to say it, I think it's great.

MR. BARDEHLE: There were a few questions. The first was on the community patent. The community patent sounds logical in the common market. The comparison in Europe is always the United States. Since you have a common market with a common patent, why shouldn't we have the same thing? However, I must say the community patent has no chance because it would make things even worse because of the obligation to translate in all languages of the community. So, you can forget the community patent because of the language problem.

The second issue is maintenance fees. The theory of maintenance fees is that they subsidize the costly examination in order to make *373 the entrance fees, the entering into the system, as cheap as possible. Unfortunately, I must say that the EPO makes a surplus. They make money, which is against the convention because the convention stipulates that they should require fees only to maintain the system. They are now considering to reduce the application fee, which is now I think 600 marks to 300 marks. That is something, but not very much. What would be much better is another proposal to shift the payment of the designation fees to the end of the procedure, not at the beginning. You pay these high fees for the designation at the beginning, and you never know whether you get anything. These fees are easier to be paid at the end, when you know what you get. Then you can make a real decision and are not too shocked by the entrance fees. This is the situation which we have with regard to the entrance fees.

Now with regard to the idea of work-sharing and extension of protection to other countries, this idea was, as far as I remember, discussed or proposed in the first PCT draft. I remember that because I was a member of a delegation at that time. The PCT's first draft included the idea that when something had been done, it could be extended to other countries. The response was an uproar from the national delegations because nobody wants to lose money for the work of the national patent office, but the times have changed. I think the idea for exchanging of work, at least among the three big patent offices, has been discussed in the trilateral negotiations already and also to a certain extent in the Standing Advisory Committee of which Hans Goldrian has just spoken. It has in my view a certain reality, and there's a great advantage of that. We have a certain competition among patent offices, essentially among the big ones. We have that effect of competition among patent offices in Germany. The competition between the EPO and the German Patent Office also stimulates to a certain extent the examiners. They know they may lose clients, and they don't want that. Competition is always good, even in the patent system. There is a chance to bring that idea forward, and the basis for the discussion in a forum could be the trilateral cooperation. However, the problem for the EPO President is that he has no mandate for it. Yes, he can talk about it, but he has no mandate to make these proposals. The national countries in Europe are very anxious to see that their rights

are reserved, but if there's pressure on them from your side, from Japan, and from other sides, then I can *374 imagine they would be more open to discuss that possibility to have the extension of work that has been done already in one reasonable patent office. I agree with you that this requires more harmonization. Let's go back to harmonization.

MR. KEEFAUVER: First, a comment on Howard's well taken observation that there's something wrong if we allocate money at the federal level for basic research, but not for protecting it. I think that signals to me a call to begin some political pressure on the Science and Technology Committees in Congress, who might not be unresponsive to this. To take that into account, while perhaps of no probative value, the Department of Defense at one time allowed patent costs under cost-plus, fixed-fee contracts. So, it wouldn't be the first time that the government took some recognition of the importance of protecting the fruits of this research.

Second, and more or less a footnote on the early observation that TRIPs may force developing companies to adopt systems which they then tax at such a high rate that they are of relative little value. In the Advisory Committee in the TRIPs process, we worried about that and talked to our negotiators. A decision was made that there was no realistic way to write language in TRIPs that would prevent them from instituting exorbitant fees. A decision was made to let that lie with the disputes resolution process, and I mention that because it's fairly new. WTO is new. We don't know how all this is going to work. It would be advisable to start to put together a story based on Bud's interesting numbers and get them in front of our USTR people, or whoever in government will be responsible for deciding whether to institute a disputes challenge, because under the GATT, you can cross-retaliate. In other words, you can have a problem in fishing, which you solve with agriculture. So, if these people have a laundry list of grievances, they may be able to trade tariffs on cedar shingles for lower patent fees. So, I call to your attention a relatively new lever on which to pull. It may not work, but I think it's not too soon to start to bring to the attention of our trade people issues like this that they can have in front of them when they sit down with their counterparts in WTO and start to haggle over some of the rough edges of GATT.

MR. BALMER: The comment that patent offices are in competition *375 has me a little bit concerned. I'm not sure what they are in competition for and how you measure who's winning. If it's who grants the most number of patents, I am very concerned.

We have inappropriately been focusing on what the costs are to get that piece of paper, the patent. I'm sure to a General Electric or IBM or Union Carbide a patent is but a piece of paper. One has to look at what one can do with that piece of paper and how much it's going to cost. I harp back to what Len said early on, maybe a registration system is viable, because ultimately you're out there reexamining every time you go into litigation. Let me add two more dimensions to that. Yes, you are reexamining every time you go into that litigation, but you're also looking at the cost of that litigation. Hopefully, the cost is minor in comparison to the benefit that can be obtained. If there's not an adequate remedy for patent infringement or if it takes too long to get the remedy, that patent is not

worth anything. So, when we start balancing costs, we need to find out what is the certainty of return from that piece of paper.

MR. KONKOL: A few miscellaneous comments. I'm not sure I fully agree with those who are trying to down play the cost problem here. I think their thinking was that "well, you can weed out these patents because these inventions aren't really any good after all. So, therefore, you only have to pay $472,000 when you have a good invention." I think that might not be a complete answer to the problem.

The other thing I wanted to say was that delaying costs for that first five years is very important, and I think nobody has mentioned that the Patent Cooperation Treaty was a great idea that really helps reduce global filing costs. Just think of how much worse it would be without the PCT. Whoever was involved in that treaty deserves a lot of credit, using our hindsight today. Another constructive suggestion would be to get all the countries in the world to be members of PCT because there are still quite a number of countries in Asia and the Third World who are not members. You have to file nationally in those countries within your first year when often you really don't know how good an invention is really going to be. A lot of times you need two or three years, and then maybe you can get financing from somebody else if you license or don't have enough money right away. I think delaying translation costs was a constructive suggestion by Heinz. If you don't have to translate in ten *376 languages in the first five years, that would certainly save a lot of money. Maybe you should only have to translate the claims and abstract. Why should the inventor have to pay to translate 50 examples? Why is the patentee penalized for disclosing more information? That seems to be counter-productive.

One other issue is this proposed publication of applications. I think that's going to worsen the cost problem because if you require publication at 18 months, people are going to be forced to foreign file within 18 months or lose their global rights. Right now, with average dependencies and CIPs, an inventor can pass the convention date and wait a couple of years before they invest the money in foreign filings. So, I think we might want to consider alternatives such as voluntary publication or publication later than 18 months. Automatic publication at 18 months would be OK, however, if the application claims priority to an application that has already been published or issued here or abroad. I just throw that out to consider perhaps.

MR. ARMITAGE: I'd like to begin by commenting that I know of no one who passes up the convention year, except in the most extraordinary cases to file an application out of convention. The rest of the world uses an absolute novelty standard. I failed to give my true feelings on translations, and I'd like to do that now. For most, if not all, major technologies, the language of technology is the English language. No matter what the native tongue is, the publications take place in English. The scientific conferences take place in English and only in English. The only thing that a translation of technical subject matter typically does is degrade its value as technical subject mater. A scientist working in a foreign language probably will not read the translated patent in her native tongue because she will know that if she wants to understand the technological disclosure, she ought to look at what was originally published in English. Europe manages to waste

about one-half a billion dollars a year on meaningless documents translated into foreign languages. It is not a cultural question. It is not a literary question. No one mistakes patent specifications for literature or manifestations of culture. Therefore, I submit that we shouldn't be talking about deferring these translations or finding special circumstances on which they should be made. They just shouldn't happen at all, ever, ever, period. This doesn't mean that we can't have a Community Patent Convention. What it *377 means is when we do have a Community Patent Convention, that each and every one of the countries who are members of that convention need to agree that there will be no translations if the original document is in English.

MS. LINCK: Yes, I'd like to make three points. I believe they're all in rebuttal. The first point is that an 18-month publication is absolutely essential if we're going to keep down costs and keep up quality in this country. With art exploding like it is, we need input from the private sector. We must go forward with 18-month publication, not only in the interest of harmonization, but also in the interest of the quality of our system and our survival in the global economy by putting the art in our inventors hands.

Second point, I know of no evidence that we're in competition with other offices. We are as much of an advocate for harmonization and working toward work-sharing and cutting down costs as anyone in the private sector. I didn't like hearing that message.

The third point is in response to Larry Welch's comment about an illogical charge in the Office. Our fees are not rationally related to the services that the public gets. I think you all know that. We don't set our own fees. Congress sets our fees. We would like our fees to be more rationally related. For instance, one fourth of our examiners, or almost one fourth of our judges, spend all of their time on interferences. The rest of the system is subsidizing interference practice in the Office. Is that right? I don't think so. I don't know what you people think. We are going to talk this afternoon about a bill to make us a corporation. That bill leaves the control of fees in the hands of Congress. That is a mistake. The control of fees and how they're allocated should be in the hands of the PTO.

MR. LOWIN: Let me clarify what I meant by "competition." I did not mean to suggest that there is an existing competition among patent offices with business or who issues the greatest number of patents. What I referred to is the practical aspect; that is, the resistance that a world patent office might receive if it appeared likely that all of the other patent offices would be put out of business. In that case I think that resistance would be an expected reaction. Nobody wants to be put out of business, and therefore, it would be a mistake to propose a *378 completely alternative organization that would damage what's already in place. That was the limit of why I talked about competition.

In turn, a very brief note on 18-month publication. I agree that it's desirable. However, I am not sure that it's constitutional in the United States. The enabling language of Article 1, Section 8, Clause 8, says that "The Congress shall have 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." This clause

has consistently been interpreted as providing Congress with the power to grant exclusive rights in exchange for the public disclosure of ideas and inventions. I don't know whether this "in exchange" concept mandates that some right be granted before we go and disclose people's applications to the world.

Additionally, in terms of something that can be done internationally to achieve a better economy, I think we could do something about restriction practice. The carving up of patent applications into multiple patents with multiple prosecutions and multiple fees is a tremendous economic burden on the system.

Finally, in terms of getting our own act together before we deal with international harmonization, I don't think we have that much time even if we're going to wait until the 23rd century. The United States has a lot of work to do on its patent system. I don't know that we're ever going to get to the point where we will get this many people sitting in a room, and we'll all agree, "Okay, the United States patent system is now in perfect shape, now let's deal with the rest of the world." So, it will be essential to proceed in parallel with international substantive harmonization.

MR. WELCH: I'd just like to make two comments. One, I appreciate Nancy's comment about the illogic of the fees. I agree that we probably should have the fees more rationally related to the services provided. But it leads right on to what David just said about unity of invention. The explanation that I had heard in the past why that particular fee, the entry into the national phase in the U.S. after the EPO preliminary examination, was so much higher was because of broader unity requirements under the EPO. If the EPO patents are broader and you have to get less of them to cover all of your invention, then the higher fees might be justified. I don't know if anybody has any data on *379 whether in the end to cover all your subject matter, you need to get more U.S. patents versus more EPO patents.

MR. C. BENSON: I have one comment or question. We talked about what we can do in the future. What do we do right now? What do we do to protect our investment in our technology right now? I have had this problem for a small client and a medium-size company. What I've done is try to "lay" the foreign prosecution fees and maintenance fees on our business partners in Japan and in Europe. That's one practical approach to this. If anybody else has a comment, I'd like to hear it.

MR. BREMER: Just a side bar to what Bob said about the language situation. I gave a paper at the Patinnova '94 Conference in Denmark, and there were two elements, one dealing with the language and one dealing with the competition factor. The language element was interesting. Over three days, only twice did I have to get simultaneous translation. Everything else was given in English. Whatever country was represented, it was all done in English. On the competition, the opening remarks by the chairman of the conference was that the European Commission is extremely worried that Europe is lagging on innovation very badly as compared to the United States and Japan. That was one of the fundamental concepts of going ahead with the conference, to see what other people were doing in invention and innovation.

MR. SHAW: Just a comment with respect to what Dave Lowin said about the restriction practice. It's not a big part of that practice, but it's there, and with this inventorship thing that was written into the recent changes in the law, I think people are going to start out with reinventors in a situation where you have medicine, material, a process that may be the method you're using. They are going to end up with different inventors for each of these things. In addition to everything else, people are going to get into trouble on this inventorship issue. They're going to get litigation. They're going to find out that the people that they call the inventors are not in fact the inventors, and they're going to lose their patents. I mean this is just that type of thing that is built into the system, and it will be very expensive in litigation. That is something we should avoid.

MR. MACKEY: In response to Chris Benson's question with regard to the foreign partners, it is certainly very common practice to lay the *380 foreign patent costs off on the foreign partner or at least as an expense of the joint venture that is being set up.

MR. RINES: I think the record ought to reflect the other side of this 18-month publication in the United States. I personally have never heard one argument that has convinced me that the ceiling is going to fall down if we don't have 18-month publication. About 75 percent of all the patent applications filed in the United States, many of which are not from American companies or American inventors, and many of which are from large multinationals, are published abroad in 18 months anyhow. Seventy-five percent of the inventions filed in the United States are already published in 18 months. I think there ought to be some concern; and that's why, Mr. Chairman, I'd like to put it on this record, that over 95 percent of the independent inventors, small companies, and universities, from our studies at the PTC and the Academy of Applied Science, do not generally do any foreign filing or do so very selectively. Therefore, those people will now have their infant ideas exposed to the world, and particularly Japan and Europe, that have wonderful capabilities. Before they even know if they're going to get a patent, before they have a chance to modify with continuation and continuation-in-parts or whatever it may be, they're giving away the failures as well the strengths of their ideas. You're taking away from this prodigious group the opportunity to abandon their application and go the burgeoning route of trade secret, if they want. This is a great penalty on this particular group, and where 75 percent of the technology is already published in 18 months anyhow. I'm waiting for the first sensible explanation about why we need it and why particularly we're determined to work such a hardship on the independent inventor, the small people, and the university who do not want this invention published that early.

As for the absurd statement that 18-month publication is designed to prevent "submarine" patents, Europe, and not the United States, invented the 18-month publication, and there never could be a "submarine" patent under their first-to-file system.

MR. MYRICK: I've enjoyed this discussion very much, but I guess I'm a little troubled that there is so little consensus around the room. We've got lots of wonderful ideas, but some of them come at each other from different angles and some of them are

straight on. The concern I *381 have is that as we look at the data that Bud has put together, and I think it's excellent data, it makes two points, depending upon how you look at it: the rest of the world is expensive or the U.S. is cheap. And in an environment in which $55 million is already being taken out; I've heard that number today. I don't know whether it's correct or not, but $55 million is already being taken out by the General Treasury. In an environment where the Administration is looking to balance budgets, one wonders if our prices may not go up as a result of this effort. So, I think one has to be very careful. I particularly liked the comment that Bob made in regard to the present value analysis. I think we have to be very careful about the statistics we put out, that they've been viewed from both sets of angles, from the money makers' viewpoints as well as the cost cutters' viewpoints. We can end up making the case that our patent office is so cheap, and it's a source of revenue for the General Treasury, and prices should be in fact raised by the Congress who still has the power to set those fees, even into the new corporate forum.

MR. ARMITAGE: I wanted to make a couple of comments to make sure the record is complete on the issue of 18-month publication. For many inventors right now in the United States, the ceiling is falling down. It's falling down because if indeed it takes a significant amount of time to issue a patent, say four or five years, which only a very small percentage of patents do take that long to issue in the United States, that may exactly coincide with the commercial life span of the invention. In many high-technology fields five years may be two generations. Eighteen-month publication with provisional rights at least gives you a way, if you can't get rid of your competitors, to make sure you get a reasonable royalty from them.

More importantly, we have in our patent statute 35 U.S.C. § 102(e) that says eventually what issues with an earlier filing date is prior art, and there is no way to have a complete patent examination in the United States with all the prior art present unless it all gets out in time, in real time, to be part of the examination process. As we see from interference statistics, the PTO not infrequently issues the later filed patent first, indicating to me that we have the ceiling falling down on the entire examination process. We also have about 75 percent of domestically filedapplications actually issuing at about 18 months. However, 45 percent of our patent system is derived from foreign-origin patent *382 applications. Exactly zero percent of those applications are issued within 18 months from the foreign priority date. The huge advantage, therefore, for us publishing at 18 months is that it forces the publication and divulgence of anything foreigners are putting in a patent office at about six months after the U.S. filing date.

Further, the idea that publishing at 18 months somehow frustrates the ability to use CIP practice is a peculiar one. Most inventions can't be commercialized, can't be put in commerce, can't be put to any public use, and can't be put on sale without triggering a 35 U.S.C. § 102(b) bar. Most inventions made by any estimation can't be kept as trade secrets once they're commercialized. So, unless you have an inventor who is not commercializing anything and, therefore, is contributing nothing to the progress of the useful arts, what really prevents CIP practice is the inevitable commercialization itself. The only thing 18-month publication would do is to promote the progress of science in

the useful arts by allowing folks to avoid that soon-to-be- patented technology or design around or the like. So, if there was one thing we could do to our patent system to make the patent office run cheaper and better and the patent system itself work more efficiently, it would be to introduce a system of 18-month publication.

MR. BENSON: Okay, thank you. I'm going to cut this discussion off. We've got to get on to the other topics. Heinz, you'll remember this, but approximately 25 years ago we had meetings like this, and we discussed many of the same issues because at that time we were preparing to negotiate a patent cooperation treaty, which was a radical idea. I happened to be on the U.S. delegation, and Heinz was on the German delegation, and we fought vigorously over many of these same issues: make it easy for people to get into a world- wide patent system, cut down on the number of different kinds of prosecution, reduce costs, and defer costs until the patents were demonstrated to be commercially viable. So, it does sound like a repeat of history, but I think the discussion is very good, and it did allow me to reminisce a little bit about what went on a few years ago.