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Karl F. Jorda
Franklin Pierce Law Center

JAPAN — WHAT AN EXAMPLE TO EMULATE!

"Japan shows the way"
Dr. Virgilio E. Da Costa Neto
Director & President, Bahia Research & Development Center (CEPED)
Salvador, Brazil

1) One of the most significant historical developments of the second half of the 20th century has been the phenomenal growth of Japanese economic strength. In the relatively short period of four decades, Japan has evolved from a modest economy to becoming the world's second greatest economic power. This growth was based not on acquisition of territory or natural resources, but on the wise incorporation and use of technology.

It was derived in large part through patent licensing agreements, principally between American companies as licensors and Japanese companies as licensees. Between 1950 and 1960, Japanese industry was completely transformed and modernized, and by 1965 a new generation of developments had emerged, particularly in the area of cameras and optical equipment, scientific instruments and, of course, automobiles.

Throughout the last 10 years we have been witness to the progressive change in royalty income and balance of payments in Japan, thanks to that country's own international licensing programs, which work through three conventional methods: subsidiary companies, joint ventures, and direct licensing.

2) More than other cultures, Japan has been characterized as a great borrower of foreign ideas. Its ideographic writing, its style of painting, and its religion originated in foreign lands and were then adapted to and developed within the Japanese context. Probably its most notable foreign acquisition since the restoration of the Meiji has been that of Western technology, which was originally obtained in large measure through reverse engineering, and later through patent licensing.

Japanese dependence upon foreign technology was so great during the post-war period that the whole world thought that Japan was merely an imitative country incapable of producing original work. Nevertheless, the Japanese position as a borrower of ideas and technology was not unique: borrowing seems to be a common mechanism for the obtention of national scientific and technological capabilities. For example, the technological dominance of the U.S. in the first half of the 20th century was in a significant way built upon science and technology borrowed directly and indirectly from Europe, including the transfer of technology through immigration.

3) The technological process and industrialization cannot, of course, be built in one day. When Japan passed its patent law of 1885, the technological level of that country was very underdeveloped in comparison with Western nations. In 1945, the year in which the second World War ended, this difference was still notable. Presently, Japan's technological development is, in many areas, on an equal footing with the Western countries. It is obvious that Japan has traveled a long road in a very short time. This is even more surprising when taking into account that between 1721 and 1871, there was a law in that country which rigorously prohibited the invention, production, and sale of new products.

For over a century now, Japan has maintained an efficient system of patents, a system which has always been in keeping with the principles of the Paris Convention. After the second World War, Japan opened its doors to any party interested in obtaining patent registrations that had been previously solicited abroad, but not in Japan, due to the war. It is true that technological innovation and industrialization cannot be reached without the existence of a system of patents, but is also true that a considerable period of time is required to reduce the gap existing between the developed and the developing nations.

4) Normally, a considerable period of time is required to develop new technologies. This period is substantially reduced, however, when these technologies are imported. It can be said that this is one of the most efficient ways to attain the indicated aim, and is precisely the road chosen by Japan after the second World War, when the country still found itself behind. As a point of reference, during the post-war period between 1950 and 1981, Japan imported enormous amounts of technology (38,072) from U.S. and European firms. Japan continues to import great quantities of technology despite the fact that it finds itself on an equal footing with the advanced countries. And Japan pays out $2 billion a year in terms of royalties; this figure is at least three times greater than that for royalties received.

The Japanese formula consists of the import of technological knowledge, which is later used in its own most advance technology. "I definitely dare say," said Mr. Shoji Matsui, legal advisor to the Japanese company Takeda, some years ago at a seminar in Tokyo, "that the import of foreign technology has been one of the most important factors in the development of post-war Japanese industry. The success of technological transfer to Japan resides in a system of patents applied equitably to foreign and native inventors, and in the fact that the protection offered to the patents in Japan have been very attractive to foreign inventors and businesses."

5) In effect, the developed countries resort constantly to the transfer of technology. This has brought with it a considerable degree of technological interchange and international cooperation.

Without a doubt, the transfer of technology from developed countries to developing countries is more necessary than that between industrialized nations; but the difficulty is that negotiations with developing countries frequently encounter obstacles and take more time. One of the reasons for this is that the supplier of the technology feels insufficiently protected with regard to licensed technology, which is its most valuable resource. It should be pointed out that within this context the exporters of technology fear that upon transmitting the "know-how," technological secrets may be divulged.

But the Japanese experience has shown that the most effective form for the transmission of technology can be the drawing-up of contracts that include a package of patents and "know-how." In fact, the transfer of technology in the form of patent licenses is almost always more efficient when accompanied by "know-how." The tendency of governments upon regulating the transfer of technology is to limit the duration of the licensing contracts that include "know-how," something that holds little attraction for the supplier.

6) Last year I had the opportunity of attending the Ninth National Seminar on Industrial Property, organized by the Brazilian Association of Industrial Property (ABPI) and held in Salvador, Bahia. I couldn't believe my ears: The Brazilians themselves discussing patents and technology transfer in terms that you would expect to hear from representatives of developed countries.

For example, Dr. Virgilio E. Da Costa Neto, Director and President of the Bahia Research and Development Center (CEPED), expressed wistfully that Japan was a marvelous example to imitate in terms of technological development and patenting. "Japan shows the way," he said.

With regard to that country, he referred to the giant electronics firm Sony, which arose after the last World War as a small family business with

a single patent based on a good idea.

Dr. Costa Neto referred also to other interesting concepts: "The acquisition of patents," he said, "is good business...patents help at the negotiating table...and it is only through patents that a businessman or woman or a small company can stand up to competition from the giants."

He also lamented the fact that, despite having a staff of over 100 persons in his research and development department, sufficient funding, and considerable technological development, he hasn't received a single request to patent something.

Similar views were also expressed by Professor Eloisa Biasotto Mano, Director of the Macromolecular Institute of the Federal University of Rio de Janeiro.

Moreover, it was shown that in a recent year Brazil payed out $3 million dollars in terms of royalties, while interest on its foreign debt rose to more than $14 billion dollars; the first figure here is clearly insignificant in comparison to the last.

This is all very interesting, but at the same time, very regrettable.

7) *Business Week* magazine asked the following question last year (8/28/89, p.16): How is it that other recently industrialized Asian countries, that is, the "four tigers" of Korea, Taiwan, Hong Kong, and Singapore, have become models of rapid growth, whereas a great part of Latin America has become a case of economic wasteland? This, in truth, is a very interesting question. Its answer was the following: the astounding success of the recently industrialized countries of Eastern Asia can be attributed to factors such as high national savings and investment indices, conservative fiscal policies, export-oriented commercial strategies, rapid and flexible response to external economic shakeups, and to the example set by their nearby neighbor, Japan. I repeat: to the example set by their nearby neighbor, Japan.

8) In my opinion, it is time to return to the basic premise of the Venetians of 500 years ago: patents are a tool for the introduction of

technology into a local economy. The primary system of patents in Venice, and later in Renaissance England and other regions, was designed from a very selfish point of view: in order to introduce businesses or technology into the country, the expert artisan would be given a monopoly for a specified number of years. Since then, the national strength for over 500 years has been the promotion of the entry of technology.

No country has better used the patent system as a tool for introducing technology than Japan in this century, and especially in the last 40 years. Japan has spent large amounts of money "licensing" the best technology that Europe and the U.S. were willing to sell.

The licensing of technology, even at high prices, is the best investment a developing country can make.

9) There should be no doubt that the experience has shown us the licensing of foreign technology in a given country usually serves as a catalyst for encouraging local inventive activity. In addition, the experience also demonstrates that once a country sets up a solid and effective system of patents, the flow of transferred technology toward that country increases, as does its access to the most advanced technologies. An effective system of patents ensures a simpler transfer, greater access, and lower costs. The above become even more beneficial when taking into account that the technology received is generally accompanied by considerable quantities of foreign capital and investment. In addition, the importing of technology leads, or may lead, not only to the export of products manufactured by the introduced technology, but also the export of modified and improved technology.

10) To summarize, the progress achieved by Japan since the second World War is due to its system of patents and to its policy of openness to the licensing of technology. These have been very attractive to foreign suppliers. Likewise, the most rapid method of achieving the industrialization of a country is through the import of foreign technology and the adequate protection of intellectual property.

Karl F. Jorda
David Rines Professor
of Intellectual Property Law & Industrial Innovation
Franklin Pierce Law Center
2 White Street
Concord, NH 03301

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