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LECTURE: World Patent System Circa 20XX, A.D.

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LECTURE: World Patent System Circa 20XX, A.D.⁺

The Honorable Gerald J. Mossinghoff*

I. INTRODUCTION

With respect to intellectual property, I have good news and bad news. The good news is that it is probably the most active and growing area of law that exists today. People are keenly aware of the importance of intellectual property: to use a phrase from a high-level Japanese commission, this is the “knowledge era.”¹ An article in the Harvard Business Review pointed out that for generations, the wealthiest person in the world was associated with oil.² Now the wealthiest person in the world is a knowledge worker, and you’ve seen him on television, at depositions, and in other places. It’s just a sign of the times. So the good news is that people really appreciate intellectual property in all its forms, including patents, trademarks, trade secrets, and copyrights, which protect not only literary and artistic works, but also computer software. Trademarks, of course, ensure orderly commercial development and consumer protection. When you walk into a mall or a supermarket, you really do depend on trademarks to protect yourself and to assure that you will get quality in what you buy. In the area of trade secrets, there recently has been a major development in federal law -- the Economic Espionage Act³ -- that, for the first time, imposes very heavy criminal penalties for trade secret theft in the United States. In all of its forms, intellectual property is respected and at the cutting edge of human progress.

The bad news, as far as the patent system goes, is that the current system is becoming increasingly dysfunctional. I don’t mean that as a criticism of the U.S. Patent and Trademark Office, for we have the most highly-skilled, dedicated patent examiners in the world. Moreover, the patent bar has never been better able to serve its clients. There is, however, an inherent flaw in the current system. It is totally nationalistic: you have to get a U.S. patent, then you have to get a separate Canadian patent, then a separate Mexican patent, and so on. There is no such thing as a North American patent, so there is a large amount of redundancy which, in my opinion, must and will be eliminated as we move forward.

A year ago, I was asked to give a briefing on what I envisioned the world patent system to be in the future.⁴ I have chosen to call that system the World Patent System Circa 20XX, A.D. My thoughts

⁺ Edited transcript of remarks delivered to the Yale Law and Technology Society, Nov. 9, 1998.

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¹ Toward the Era of Intellectual Creation, Challenges for Breakthrough, Report of the Commission on Intellectual Property Rights in the Twenty-First Century to the Commissioner of the Japanese Patent Office (Apr. 7, 1997).

² Lester C. Thoreau, Needed: A New System of Intellectual Property Rights, HARV. BUS. REV. 95, 96 (1997).

³ 18 U.S.C.A. §§ 1831-1839 (West Supp. 1997).

⁴ This vision of a World Patent System Circa 20XX, A.D. was presented to the Giles Sutherland Rich American Inn of Court at the Court of Appeals for the Federal Circuit (May 20, 1997). It was also presented to the Japanese Institute of Intellectual Property in Tokyo, Japan on June 20, 1997 and published by that organization in 30 Forum 24 (1997).

have been published in *Idea*⁵ and in the *Journal of the Patent and Trademark Office Society*.⁶ With the help of a very dedicated and clever student of mine at the George Washington University Law School, I have broken down the *World Patent System* article into four major subjects: (1) patent treaties, (2) regional patent systems that exist today, (3) the essential characteristics of a world patent system, and (4) leadership toward that world patent system.

II. PATENT TREATIES

A. Fundamental Patent Treaties

The grandparent of all patent treaties is the Paris Convention,⁷ which was negotiated in 1880 and signed in 1884. The United States acceded to it in 1889, and it is still the operative overall umbrella agreement among nations, with virtually every nation in the world belonging to the Paris Convention. The first element of the Convention is that it guarantees national treatment in intellectual property rights. This means that when you go into a foreign patent office that is a member of the Paris Convention, you are entitled to the same rights as a natural citizen of that country. The second element of the Convention is priority. Once you file a patent application in any Paris Convention country, you have twelve months in which to file in another country, and you can go back and claim the original filing date. Typically, you would file in your own country and then have a twelve-month period to file abroad.

The Patent Cooperation Treaty (PCT),⁸ which was negotiated in the late 60s to early 70s under U.S. leadership, lengthened that period to thirty months. This gives you thirty months to evaluate your invention; you do not have to incur the expense of filing abroad until you get a chance to test the success of your invention. This is very important, particularly with pharmaceuticals. Suppose you have a very promising chemical with great pharmacological interest. You file a patent application in one country for the chemical, but the chemical later does not pass early human clinical trials. Thirty months later, you would have a good idea of whether you want to proceed with patenting this chemical. The PCT protects your priority in patenting the chemical while allowing you sufficient time to ascertain whether you want to incur the expense of obtaining patents in other countries.

B. Intellectual Property Rights in Trade Agreements and European Conventions

The North American Free Trade Agreement (NAFTA),⁹ although a trade agreement, is also really an important breakthrough in intellectual property rights. Before NAFTA, there was a lot of frustration

⁵ Gerald J. Mossinghoff & Vivian S. Kuo, *World Patent System Circa 20XX, A.D.*, 38 *IDEA: J.L. & TECH.* 529 (1998).

⁶ Gerald J. Mossinghoff & Vivian S. Kuo, *World Patent System Circa 20XX, A.D.*, 80 *J. PAT. & TRADEMARK OFF. SOC'Y* 523 (1998).

⁷ Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, revised Stockholm, July 14, 1967, 21 U.S.T. 1629, T.I.A.S. No. 6923 [hereinafter Paris Convention]. The current text of the Paris Convention is reprinted in *SELECTED INTELLECTUAL PROPERTY AND UNFAIR COMPETITION STATUTES, REGULATIONS AND TREATIES* 805 (Roger E. Schechter ed., West 1997) [hereinafter *SELECTED INTELLECTUAL PROPERTY STATUTES*].

⁸ Portions of the Patent Cooperation Treaty of June 19, 1970 are reprinted in *SELECTED INTELLECTUAL PROPERTY STATUTES* 700.

⁹ 1992 WL 812400 (N.A.F.T.A.), Part 6, Ch. 17, Dec. 17, 1992.

during negotiations about intellectual property matters. As the U.S. ambassador to the diplomatic conference of the World Intellectual Property Organization (WIPO), I personally felt this frustration because I was representing the United States of America—the wealthiest, most powerful, biggest free market in the world—and I had just one vote. As a result, the Reagan Administration decided to move these intellectual property negotiations out of WIPO and into the trade world, then called GATT (General Agreement on Tariffs and Trade).¹⁰ The first trade agreement to deal with intellectual property issues was NAFTA. NAFTA was an agreement only among the United States, Canada, and Mexico, but what NAFTA did was to affirm that (1) intellectual property is a proper subject for trade agreements, and (2) intellectual property standards should be set at a very high level.

These developments in NAFTA occurred just before the agreement known as Trade-Related Aspects of Intellectual Property (TRIPs),¹¹ which was being negotiated by GATT at the same time. The TRIPs provisions are very similar to the NAFTA provisions because the three NAFTA countries were representative of countries at different stages of development and thus were quite influential during the negotiations about TRIPs. The U.S. pushed for TRIPs, while Mexico and Canada were able to draw the support of developing and smaller emerging countries.

TRIPs was finally agreed to, and it was a landmark agreement. It set an appropriately high level for IP standards. These included a patent period of twenty years from filing and a firm requirement of nondiscrimination by field of technology. That latter mandate was particularly important to the pharmaceutical and biotechnology industries, which had been discriminated against in many patent systems around the world. TRIPs was important to the U.S. because of its high standards and the fact that every nation wants to be a member of the World Trade Organization (formerly GATT). Furthermore, instead of negotiating in WIPO, where only intellectual property issues are negotiated, TRIPs broadened the scope of negotiations so that if the U.S. wanted to raise intellectual property standards, the U.S. could trade them for certain trade-related rights, such as textile quotas. Finally, there is an interesting development going on now under the Brussels Convention¹² and the European Patent Convention.¹³ Under these conventions, the court in the Hague is granting cross-border enforcement of patents, at least in Europe. Some of the cases before this court are discussed in several really good articles by Professor Jay Thomas at George Washington University.¹⁴ The subject of cross-jurisdictional patent enforcement leads directly into some of the things that I think ought to happen in the world patent system.

¹⁰ Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, LEGAL INSTRUMENTS: RESULTS OF THE URUGUAY ROUND vol. 1 (1994), 33 I.L.M. 1125 (1994).

¹¹ The Agreement on Trade-Related Aspects of Intellectual Property Rights, including Trade in Counterfeit Goods (“TRIPs”), reprinted in SELECTED INTELLECTUAL PROPERTY STATUTES, supra note 8, at 847. TRIPs required the United States to further amend 35 U.S.C. § 104 to permit an inventor to prove acts in all World Trade Organization (formerly GATT) member countries in an attempt to establish priority of invention.

¹² The Brussels Convention on Jurisdiction and Enforcement of Judgments, 1972 O.J. (L 299) 32, reprinted in 29 I.L.M. 1417 [hereinafter Brussels Convention].

¹³ European Patent Convention, Oct. 7, 1977, art. 4(1)-(2), 13 I.L.M. 268.

¹⁴ See, e.g., John R. Thomas, Litigation Beyond the Technological Frontier: Comparative Approaches to Multinational Patent Enforcement, 27 LAW & POLY INT’L BUS. 277, 304 (1996).

III. CURRENT REGIONAL PATENT SYSTEMS

A. European Regional Patent Systems

There are now several regional patent systems, some more on paper than real. The major one is the European Patent Convention (EPC) adopted by nineteen European countries.¹⁵ In two or three years, the European Patent Convention will cover as many as thirty countries, including the entire former Eastern block of Poland, Hungary, the Czech Republic, the Slovak Republic, and Bulgaria. Founded in 1975, the EPC is the preferred way to get patents in Europe.

You only need to file a single application in one of three official languages: English, French, or German. Then you have it examined and published by very skilled examiners. Being an examiner at the European Patent Office is a very high privilege. They take the best of the best practicing attorneys; offering someone a job as an examiner in a European patent office is almost like offering someone a district court judgeship in the United States. It is a very prestigious lifetime appointment and the patent examiners do a very good job. The European Patent Office does not grant a single European patent, but rather, it in effect grants a bundle of national patents. So if you want protection in the U.K., Spain, and Italy, the Office will grant those patents to you, but you are then on your own in those countries. Your patents would be enforced like any other U.K., Italian, or Spanish patent, so these multinational “patents” only go halfway. That is, all the pre-grant matters have been harmonized across borders while post-grant enforcement remains at the national level.

The European Community Patent Convention was an effort to create a single European patent.¹⁶ This undertaking began at about the same time as the European Patent Convention, in the mid-70s, but the European Community Patent Convention still has not come into effect, largely because of problems with enforcement and translations necessary for a single patent. Of course, there is also the problem of Switzerland and other countries that are major players in the European Patent Convention not being members of the European Union. Although the Community Patent Convention has not come into effect yet, there is renewed effort in Europe to breathe life into it, and I think it will probably succeed.

B. African Regional Patent Systems

The African Industrial Property Convention (OAPI) and the African Regional Industrial Property Organization (ARIPO) are the two African systems being used today. The African Industrial Property Convention, or the Organisation Africaine de la Propriete Intellectuelle, is the system of the twelve former francophone states of West Africa.¹⁷ ARIPO is the system of the English-

¹⁵ The 19 member nations are Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Hellenic Republic, Ireland, Italy, Lichtenstein, Luxembourg, Monaco, Netherlands, Portugal, Spain, Sweden, Switzerland, and United Kingdom. See <<http://www.european-patent-office.org/epo/members.htm>>.

¹⁶ The as-yet unenacted European Community Patent Convention would provide for a single patent effective throughout Europe. See 1976 O.J. (L 17) 1.

¹⁷ PATENTS THROUGHOUT THE WORLD E-21 (Elizabeth Hanellin, 4th ed. 1998).

speaking African countries.¹⁸ The pharmaceutical industry is one of the most aggressive in getting international protection, and they use both OAPI and ARIPO. Other industries do not particularly use those systems, because enforcement in Africa is spotty, and the markets are still unstable.

C. Eurasian Regional Patent System

When the Soviet Union dissolved and Russia became Russia again, the new countries formed the Eurasian Patent Office in Moscow.¹⁹ Russian is the only language used, and there really is not enough experience with it given the problems that Russia has. Not many people are banking on the system, but again, many of the pharmaceutical companies and biotech companies are filing in Moscow because there could be a decent sized market in that part of the world. This Eurasian system encompasses only the former Soviet Union, so many of the countries do not have big markets.

Thus, the largest regional system in existence today remains the European Patent Convention.

IV. ESSENTIAL CHARACTERISTICS OF A WORLD PATENT SYSTEM

The U.S. Court of Appeals for the Federal Circuit is a very unusual court. A lot of people think that our court is just a patent court, but actually we have more government personnel cases than patent cases. We also hear cases involving veterans' benefits and contracts between private parties and the U.S. government involving everything from aircraft carriers to pencils. So contracts are a good part of our work. And, we hear all appeals from the Court of Federal Claims, which itself has jurisdiction over a bewildering variety of claims, including mineral and water rights cases on Indian reservations and tax and takings cases, just to give you an example. Hence, we are a patent court because we have exclusive jurisdiction over all Patent and Trademark Office and district court patent decisions, but we are not solely a patent court.

A. Unitary Patents

Being an academician, I had the luxury of sitting down like a king without a parliament and imagining what would be the ideal World Patent System. First, I would have a unitary patent granted by regional patent offices of the World Patent System. This would be a world, or global, patent granted by one of the regional offices around the world.

B. First-to-File Priority System

There would also be a first-to-file priority system. That is, if two true originators come up with the same invention, the one who first undertakes to use the patent system to disclose the invention and secure property rights would be the one who gets the patent. The first-to-file priority idea is going to be very controversial in the U.S. In 1997, there were two countries in the world, the Philippines and

¹⁸ See *id.*

¹⁹ Eurasian Patent Convention, 36 INDUS. PROP. & COPYRIGHT 30 (1997). The members are Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Kyrgyzstan, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. See PATENTS THROUGHOUT THE WORLD, *supra* note 17, at app. B-433.

the U.S., that had a first-to-invent system as opposed to a first-to-file system.²⁰ The Philippines switched to a first-to-file regime effective January 1, 1998, leaving the U.S. the only nation still using the first-to-invent system. In the U.S., when two people claim the same invention, the U.S. Patent Office utilizes an arcane process to determine if there has been interference with the existing patent. Statistically, only one tenth of one percent of all U.S. cases end up in interferences, and of those, the junior claimant—the one filing second—wins only one third of the time.²¹ So except for the one third of one tenth of one percent of cases in which the later claimant overrides the previously filed patent, we have a first-to-file system. The difference is that we have covered our system with arcane rules instead of adopting a first-to-file regime outright.

C. Provisional Applications

The third essential element of a world patent system would be provisional applications.²² For a nominal fee of \$75.00, an inventor can file a provisional application—a full technical disclosure of the invention without patent formalities.

All that needs to be provided if you have an electronic invention, for example, is simply a circuit diagram and a few words on how it works. If you have synthesized a new chemical, the provisional application just needs to contain the chemical structure and how it works. By not requiring a technical description written by a professional patent attorney, the provisional application saves time and secures international priority until an inventor can perfect his or her invention and file a professionally drafted patent application. The provisional application has worked very well in the U.S., and so the world patent system should also have provisional applications.

D. One-Year Grace Period

The fourth component of a world patent system would be a one-year grace period so that an inventor can publish or commercialize his or her invention and still have one year in which to file a patent without having the inventor's own work be used against him or her.²³ Several years ago, we entered into talks that had as their goals for the U.S. to switch to a first-to-file system if Europe and Japan would adopt a one-year grace period. Then the Clinton Administration decided that it would not support a first-to-file system. That, in effect, pulled out the centerpiece of the negotiations.

We had been convincing enough, however, that the Europeans will probably adopt a grace period on their own. The grace period really makes a lot of sense. Many patents are defeated because inventors are not smart enough to know that they cannot talk about their inventions publicly before they file for patents in Europe. They can do that in the U.S. because the U.S. has a grace period. In

²⁰ The U.S.'s first-to-invent system is set forth in 35 U.S.C.A. § 102 (West Supp. 1998).

²¹ Ian A. Calvert & Michael Sofocleous, *Interference Statistics for Fiscal Years 1992 to 1994*, 77 J. PAT. & TRADEMARK OFF. SOC'Y 417 (1995).

²² See 35 U.S.C. § 111(b) (1994). For a detailed description of the requirements and benefits of a provisional application, see Charles E. Van Horn, *Practicalities and Potential Pitfalls When Using Provisional Patent Applications*, 22 AM. INTELL. PROP. L. ASS'N Q.J. 259 (1994).

²³ For a European view of the advantages of adopting a grace period, see H. Bardehle, *The WIPO Harmonization Treaty and the Grace Period*, 30 INDUS. PROP. 372 (1991).

contrast, Europe will grant patents only if the invention is absolutely novel, so if you give a public speech about your invention and have not filed in Europe, you will lose your rights.

E. English as the Official Language

The fifth characteristic of my proposal is quite controversial, but sensible--using English as the universal language for the examination and enforcement of patents. Two of the biggest pharmaceutical companies estimated that the cost of securing decent protection for a chemical ranges from \$ 600,000 to a million dollars. That is too expensive, and much of the expense is due to the cost of translations. Currently, if you elect to get patent protection in all the countries of the European Patent Commission, you have to obtain ten translations. When you add the other countries that will soon join the European Patent Commission and the other important nations of the world, the problem resembles the Tower of Babel. We really do have to settle on English. I will let somebody else convince the French, for example, to agree to using English, but in reality, this has already happened. While the European Patent Office currently uses three official languages, about 60% of the cases are filed in English, less than 10% in French, and the remainder in German. All patent examiners of the European Patent Office, the Japanese Office, and the China Patent Office, are required to be fluent in English. More than 75% of all technical literature is published in English first, and almost 90% of all technical information on the Internet is in English. English, de facto, is the language of science and technology. At a hearing in 1997, we were able to get a French industrialist--a respected member of the Legion d'Honneur--to suggest to the European Union that English be the official language.

F. Electronic Database of Prior Art

Another important element of a world patent system is a single electronic database of prior art, cataloguing what has been done and published before. This is referred to as Commissioner Bruce Lehman's "Wire the World" proposal.

Once we agree on the content and standards for digital libraries, we can start operating a database of existing patents. Digital libraries really are happening now, with the IBM library going up on the Internet and the Patent and Trademark Office putting its database on the Internet. In a year or two, there will be a general consensus on what a digital library should look like, and everyone will be using that same library.

G. World Patent Court

Finally, a world patent court will be essential to a world patent system. Since the world patent will be in English, the world patent court should also operate in English. That is not to say that if you, for example, go to Germany, you would not have German jurists hearing the case. You would still have panels of jurists from various nations around the world, just like you do in the United Nations system, so you would have a true worldwide system of enforcing patent rights. Without question, the world patent court proposal will generate controversy in the U.S., just as international criminal courts cause various nationalistic concerns. However, I really believe that there is a large difference

between a world patent court and an international criminal tribunal. When we talk about intellectual property, we are really talking about protecting investments and science and technology. We are not talking about religious mores or criminal mores. We are talking about technology, which is as universal as you can get in human progress.

There are eight very clear candidates for where you would have regional circuits of the world patent court—the U.S., Europe, Japan, Latin America, Africa, Eurasia, East Africa, and China. China has a relatively new patent office, having just begun on April 1, 1985. Nevertheless, considering its population, China surely ought to have a regional circuit of the world patent court. I might also add that twice as many people are studying English in China as speak it in the United States. So there would be a regional branch of the court in China. The important point is that the world patent system should not be viewed as a U.S. system or as a European system. In order to succeed, it has to be viewed as a global system that serves not just the industrialized countries but also the developing countries. A worldwide patent system can serve developing countries by stimulating indigenous research development and encouraging the transfer of technology into these developing countries.

V. AGREEMENT ON OTHER MATTERS

There are additional issues that need to be addressed and resolved before an effective global patent system can be established, and experts working together will be able to solve every one of these. First, there needs to be agreement on what will be patentable subject matter. The main issue here concerns software, which clearly is patentable in the U.S. but not so clearly patentable in other countries. The patentability of transgenic plants and animals also presents a problem. If I were running a diplomatic conference and the animal issue got contentious, I would put it off for the time being.

The next issue is the “best mode” requirement. The U.S. has a requirement that an inventor must disclose his or her best mode of operating the invention. The requirement makes a lot of sense, but the question is what is the best mode and who has to know it. Most countries want no part of litigating over what the best mode is, so all they require for a valid patent is that you simply have to disclose enough to enable a skilled person to use the invention. Whether you have a best mode or second-best mode is not something any country in the world worries about.

Another issue is reexamination or opposition proceedings. The U.S. has a post-grant procedure for reexamining applications if someone claims they are invalid. Germany, the European Convention, and Japan have more complex opposition procedures that cost a lot of money. When the U.S. enacted its reexamination mechanism in 1980, it decided it did not want an opposition procedure, so the different countries will have to harmonize their reexamination and/or opposition procedures.

The doctrine of equivalents is another area that currently differs among nations. The U.S. Supreme Court has stated that there is a doctrine of equivalents in the United States, but I will not go into the details. Japan has agreed that it has a doctrine of equivalents, at least in the chemical and pharmacological areas, but it is not clear whether other countries have or would want to use the doctrine of equivalents.

Many countries have criminal sanctions for knowingly infringing a patent. I do not think criminal sanctions are appropriate in an international patent system, but countries will have to agree on that subject.

Finally, the nature of patent claims must be made uniform. The U.S. and Germany have different systems of describing inventions in the abstract. Most nations are leaning toward the U.S. system and that is the system we should use. These are important details, but given a month-long diplomatic conference and enough political will, these details can all be ironed out.

VI. TOWARD A WORLD LEADERSHIP

Leadership toward the world system is coming from three places--Japan and Europe are the real leaders, and although the U.S. is also a leader, we are behind the times.

Japan is proposing a plan to achieve a global patent system by first establishing a trilateral patent system covering Europe, the United States, and Japan. They have agreed that English will be the official language. Under a current pilot program, if you file in more than one area, you can designate that on your application and one of the trilateral offices will do a search of prior art and then share the search results with the other two offices. The second step would be examination--determining whether something is patentable. The final step would be to issue a trilateral patent, respected by the three participating parties. The U.S., Japan, and Europe would negotiate a convention to set up the trilateral system, but other countries would be permitted to join this system. This would be a very practical and sound way of moving toward a world patent system.

Europe already has an effective front-end system--the European Patent Convention, which grants a bundle of crossborder patents. The U.S. has not agreed to the first-to-file system, but many people, particularly those in Silicon Valley, are trying to convince the current Administration and future leaders to agree to a first-to-file system. At the same time, the U.S. is taking a leadership role in wiring the world, to use Bruce Lehman's metaphor, in setting up a digital database.

I give myself flexibility by referring to the World Patent System circa 20XX, A.D. Will the system be in effect by 2004? No, not a chance. Will it be in effect at the end of the century? Without a doubt. My own guess is that "XX" is less than 20. I think sometime between now and the year 2020, we will see nations actually moving toward a global system, although the national systems will be retained for decades or more to operate in parallel with a global system. We should keep the national systems in place, as they are in Europe despite the European Patent Convention, so that inventors can go to their individual countries if they want patent protection in only one country. The world patent system, however, is a system whose time has come, and I believe that we are moving in the right direction.

Thank you for this opportunity.