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THE ROLE OF THE JAPANESE PATENT SYSTEM IN JAPANESE INDUSTRY

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I. INTRODUCTION

Differences between the Japanese and American patent systems have been largely responsible for the miracle of Japanese industrial development. Part II of this commentary discusses the different approaches inherent in these systems and Part III explores how Japanese corporations use the Japanese patent system to develop their inventions. Finally, Part IV examines how patent claims are interpreted in both systems and how non-Japanese countries are changing the face of the Japanese patent system.

II. PATENT POLICY

Both Japanese patent law and American patent law aim to promote innovation. However, the two patent systems emphasize different approaches to attain this goal. The United States emphasizes protection of the inventor's rights. The United States Constitution governs U.S. patent policy by stating that the goal of promoting innovation is to be attained by securing, for a limited time, an inventor's exclusive rights to the invention.¹ This clause guarantees an inventor's rights but does not mention any public rights. One way it protects the inventor's rights is by keeping the content of the invention secret until a patent is granted.

In contrast, Article 1 of Japan's Patent Law, which mentions neither inventor's rights nor exclusive rights, simply states that its goal is to promote industrial development by encouraging the protection and exploitation of inventions.² Japanese patent law provides very little protection of an inventor's rights, but it provides extensive protection of a patent applicant's rights. The Jap-

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1. U.S. CONST. art I, § 8, cl. 8.

2. Tokkyo Hō [Patent Law], Law No. 121 of 1959, art. 1 (Japan).

anese patent system presumes that most inventions are made by industry rather than by individuals, and indeed that is the case. Figure 1 indicates the proportion of Japanese patent applications made by corporations and individuals. More than half of all Japanese patent applications are filed by the country's top one hundred corporations, while less than three percent of the applications are filed by individuals.

The exploitation of inventions cited in the Japanese Patent Code includes not only exploitation by patent owners, but also exploitation by the public. To enable the public to make use of the ideas behind the inventions, the contents of patent applications are open to the public even before a patent is granted. Thus, Japanese patent policy guarantees the inventor's interests as well as the public's interests.

FIGURE 1
NUMBER OF PATENT AND UTILITY MODEL
APPLICANTS (×10,000)

Type of Applicant	Year		
	1980	1990	1991
Japanese corporations	31.3 (81.8%)	44.3 (87.6%)	42.7 (88.2%)
Japanese individuals	4.1 (10.6%)	2.6 (5.1%)	2.2 (4.4%)
Government	0.2 (0.6%)	0.1 (0.3%)	0.1 (0.3%)
Foreigner	2.7 (7.0%)	3.6 (7.0%)	3.5 (7.2%)
Total	38.3 (100%)	50.6 (100%)	48.4 (100%)

III. THE EXPLOITATION OF INVENTIONS THROUGH THE PRE-GRANT PUBLICATION SYSTEM

In Japan, the exploitation-of-the-invention approach is very successful because of the pre-grant publication system. Japanese patent applications are laid open to the public twice before a patent is granted. The first publication is made eighteen months from the filing date.³ All patent applications are laid open to the public regardless of the progress of examination. The second publication is made when the examiner finds the invention patentable.⁴ The purpose of this second publication is to allow the public to oppose the patent. Anyone can file an opposition by citing reasons to reject patentability.

This publication system is not unique to Japan. All major European and Asian countries have a similar system. However, Japanese industry is unique in its effective use of the information made available through the pre-grant publication system.

3. *Id.* art. 65^{bis}(1-2).

4. *Id.* art. 51.

A. FIRST PUBLICATION

Major Japanese companies oriented toward research and development ("R&D") have created a system to effectively use the information in these publications. There is a cooperative relationship between a corporation's patent department and its R&D and manufacturing departments. The patent departments of major Japanese companies have staff dedicated to inspecting patent publications. When they find patent applications relating to their own products and R&D projects, they provide this information to the R&D and manufacturing departments. Those departments then evaluate the information and submit their feedback to the patent department.

Japanese companies use the first publication information in two ways. First, they use the information defensively, to prepare oppositions that are filed after the second publication. Japanese companies collect the information regarding the value of the published inventions to see whether they are using the inventions via the feedback from the R&D and manufacturing departments.

More importantly, Japanese companies use the system to aggressively develop R&D policy. The scope of the grace period under the first-to-file system is very narrow. In Europe, for example, there is no grace period for a printed publication or for presentations at science meetings.⁵ Under these circumstances inventors in industry have little incentive to publish a paper except through the patent system. Figure 2 indicates the proportion of R&D expenditures from industry compared to total expenditures. The proportion of expenditures by industry in all selected countries exceeds fifty percent of the total expenditure, and the proportion spent by Japanese industry is much higher than that of other countries. In short, information made available through the patent system includes the most recent and practical information needed to develop new products and improve manufacturing methods. Japanese companies know the value of this information and extensively use the information to monitor trends in R&D and to avoid duplicating investments for the same developments.

Of course, Japanese companies also use this information to further improve their own published inventions.⁶ As Professors Rosen and Usui point out in their paper, the continuous efforts of the Japanese to develop improvements are well known to American competitors, who define this as a "patent flooding"

5. Convention on the Grant of European Patents (European Patent Convention), Oct. 5, 1973, art. 55.d, 13 I.L.M. 270, at 286.

6. For patent management in a Japanese company, see KOSHIRO MATSUOKA, FUJITSU NO TOKKYO KANRI [PATENT MANAGEMENT IN FUJITSU] (1985).

problem.⁷ However, this "inventing around" and "surrounding by improvements" effort is a significant reason for the miraculous development of Japanese industry. Admittedly, all inventions are to some extent based on existing technology. No patent system, including the American patent system, punishes "inventing around" activities unless the inventions resulting from the activities do not meet the inventive step standard.

FIGURE 2
APPROXIMATE PROPORTION OF R&D
EXPENDITURES BY INDUSTRY

Country	Year					
	1985	1986	1987	1988	1989	1990
Japan	79%	78.5%	78%	80%	81%	82%
Germany	61%	62%	64%	65%	67%	n/a
U.K.	57%	61%	60.5%	62%	n/a	n/a
U.S.	53%	53.5%	52%	53%	53.5%	54%
France	46%	46.5%	47%	49%	51%	n/a

B. SECOND PUBLICATION FOR OPPOSITION

Japanese companies take advantage of the second publication to file oppositions and effectively prevent competitors from obtaining patents that are too broad or invalid. The second publication serves to guarantee these competitors' rights to continue to exploit technology in the public domain. In a Government Accounting Office report, an American company complained of difficulty in obtaining patents once Japanese companies began to compete in the field of its invention.⁸ It also complained of being unable to obtain patents for inventions that had already been patented in other countries. These difficulties are not surprising. Japanese companies are very competitive and aggressive in filing oppositions, and do not allow competitors to obtain too broad or invalid patents.

Japanese competitors file oppositions against 7% to 8% of all published European and Japanese patent applications.⁹ Although 7% may seem insignificant, when one considers that most granted patents are never exploited, this amount may indicate the proportion of patents thought important enough to warrant opposition. Among such important patents, more than 35%

7. Dan Rosen & Chikako Usui, *The Social Structure of Japanese Intellectual Property Law*, 13 UCLA PAC. BASIN L.J. 32 (1994).

8. UNITED STATES GENERAL ACCOUNTING OFFICE, *INTELLECTUAL PROPERTY: U.S. COMPANIES' PATENT EXPERIENCES IN JAPAN* (1993).

9. European Patent Office, *Annual Report*, 82 (1993); Japanese Patent Office, *Annual Report*, 17 (1993).

of granted European and Japanese published patent applications are struck down by opposition, and another 35% are amended to narrower claims to avoid the prior art found by opponents.¹⁰ Accordingly, without such opposition proceedings, one may estimate that 70% of significant American patents, or 5% of the total number of issued American patents, may be overbroad and prevent competitors from using technology which rightfully should be in the public domain. In short, the goal attained by exploiting inventions is the free dissemination of information and the guarantee of competitors' rights to "invent around" published inventions and exploit technology in the public domain.

IV. PROTECTION OF INVENTION: CLAIM INTERPRETATION

Compared to the exploitation approach, the approach of invention protection has not been as successful with respect to promoting industrial development. Japanese patent claim interpretation is notorious for its narrow scope.¹¹ The major reason for narrow interpretation is that Japanese courts cannot declare patent invalidity. This forces the courts to limit improperly broad claims to embodiments in the specification in order to avoid unreasonable results caused by the enforcement of invalid patents. Despite this, there are a number of Japanese court decisions limiting patent claims to less than the literally interpreted patent scope, as well as cases refusing to apply the doctrine of equivalents.

The leading cause of the limited success of the American protection approach is that Japanese companies do not need strong protection or broad patent scope because they seldom sue their competitors. Japanese company sizes are similar, and hence they tend to be more competitive. This implies that the level of technical sophistication among Japanese companies is also similar. Under such circumstances, Japanese companies cannot sue their competitors without risking the possibility that they will be counter-sued for infringing their competitors' patents.

The limited amount of patent litigation in Japanese industry has often been explained by the theory that Japan has a less competitive culture. In fact, it is the competitive nature of Japanese industry that drives Japan's limited patent litigation. This competitive nature is indicated by the high rate of oppositions by Jap-

10. See sources cited *supra* note 9.

11. For a general discussion of claim interpretation in Japanese courts, see Toshiko Takenaka, *A Comparative Study: Patent Claim Interpretation in the United States, Germany and Japan* (1992) (unpublished Ph.D. dissertation, University of Washington School of Law).

anese companies, which is as high as that of European companies. In such a competitive environment, no Japanese company can safely sue a competitor without the possibility of being counter-sued for infringement of the competitor's patents. Thus, because Japanese companies cannot enforce patents against Japanese competitors, they do not need strong enforcement and broad patent scope.

In addition, Japanese technological developments have been oriented toward applied technology, rather than basic technology. Japanese companies do not need a broad scope of invention unity to cover the ideas of basic inventions and file them on one application. The narrow extent of invention, in addition to the traditional single claim scheme, make it possible to effectively cover the idea of improvements or applied technology. This traditional, narrow scope in the definition of invention in the granting procedure inevitably results in the narrow scope of protection in enforcement procedures.

Another reason for a narrow scope is that judges are still not accustomed to evaluating an invention as a technical idea. It is easy for judges to compare examples in the specification, but it is more difficult to derive intangible ideas from claim language which refers to the specification and compare this with allegedly infringing devices. Thus, courts may resort to finding non-infringement whenever the infringing device involves some degree of modification.

Without placing too much blame on the Japanese courts, we need to look back to U.S. history. Before the Federal Circuit was created as a special patent court, U.S. courts also faced similar problems and showed hostile attitudes to patent owners by declaring more than fifty percent of issued patents invalid in patent infringement litigation.¹² The Japanese courts' transition toward strong patent enforcement has only just begun; and the courts need more training in claim interpretation. Although the Japanese court system includes a special intellectual property section in each Tokyo High Court and Tokyo and Osaka district courts, judges assigned to these sections stay there only for two or three years. Perhaps the Japanese patent system would benefit from a patent court like the U.S. Federal Circuit so that judges could acquire special knowledge in intellectual property as well as science and technology.

The tendency toward less rather than more protection for patents is about to change. First, suits by non-Japanese competitors are forcing Japanese companies to negotiate cross-licenses of

12. DONALD S. CHISUM, *PATENTS*, § 5.02[3] (1978 & Supp. 1994). For a general discussion of historical development of claim interpretation, see also § 18.02.

Japanese and foreign patents with their foreign competitors. Since they naturally have more Japanese patents than American or European patents, Japanese companies need strong enforcement and broader patents in Japan to meet the enforcement needs of competitors' patents in their home countries if Japanese companies are to increase their bargaining power. Second, infringing products from Asian countries have pressured Japanese companies to seek strong protection for themselves. With the slight possibility of being counter-sued, Japanese companies do not fear suing companies whose technology falls far behind their own.

Further, the Ministry of International Trade and Industry ("MITI"), the Office of Science and Technology, and other R&D policy-related government agencies have recently published their policies pertaining to basic research activities. To protect inventions resulting from research activities, the Japanese patent system needs to restructure the concept of "extent of invention." The recent patent law revision, which adopted the multi-claim system and revised the unity-of-invention concept, indicates the start of this restructuring. In short, the Japanese patent system is undergoing a major transition to put more emphasis on the protection-of-invention approach.

V. CONCLUSION

The Japanese patent system was essential to the miracle of Japanese industrial success. Japanese companies made this miracle possible by extensively taking advantage of the exploitation-of-invention scheme guaranteed by the Japanese patent publication system. In the past, Japanese companies paid little attention to the protection-of-invention scheme ostensibly guaranteed by the U.S. patent system. However, non-Japanese competitors have introduced a major change in market conditions affecting Japanese industry. As a result, the role of the patent system in Japanese industry is certain to undergo a major reorientation toward stronger patent enforcement to accommodate this change.