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## International and Comparative Law Perspectives on Internet Patents

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COMMENTARY

**INTERNATIONAL AND COMPARATIVE  
LAW PERSPECTIVES  
ON INTERNET PATENTS**

*Toshiko Takenaka, Ph.D.\**

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INTRODUCTION

The Internet and e-commerce have created a borderless market. Goods and services sold on the Internet are subject to the patent statutes and regulations of all countries in which customers have access. Because the presence or absence of patent protection—or variations in that protection—hinders the movement of goods and services throughout the Internet, it is necessary to harmonize the protection afforded by Internet patents in their early stages of development. Among the three papers, however, only Professor Chiappetta touched upon the problem of compliance with the provisions in TRIPS. None of the papers paid attention to the feasibility of harmonizing their proposal with the patent systems of America's important trade partners: the EU and Japan.

This commentary will focus on the participants' proposals relative to the laws of other countries. Particularly, assuming that the same proposals were to be made in an international negotiation, my commentary reflects potential reactions and responses from Japanese and European delegates.

I. PROFESSOR CHIAPPETTA'S PROPOSAL

In general, I agree with Professor Chiappetta that the "competitive arts" are not proper patentable subject matter. That is, claims directed solely to pure competitive arts without computer implementation should not be patentable. His proposal to exclude pure competitive arts from

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patent eligible subject matter is in line with the current practice under the Japanese Patent Law and the European Patent Convention. For example, Japanese Patent Law defines an invention—patent-eligible subject matter—as an advanced technological idea using a law of nature.<sup>1</sup> In other words, the statutory definition includes two important elements: (1) the claimed subject matter must relate to technological art; and (2) the claimed subject matter must result from an application or utilization of a law of nature, instead of such law itself.<sup>2</sup> Thus, pure competitive arts, which have no technological nature, do not meet the first element.

This clear definition of patent-eligible subject matter, in theory, should prevent confusion among the Japanese patent community with respect to the question whether claims regarding software, or including a mathematical formula, are patent-eligible subject matter. Since software is not a law of nature itself, insofar as it utilizes the physical resources of computer hardware it should undoubtedly be patent-eligible subject matter. That being said, inclusion of a mathematical formula should not influence the patentability of a claim as long as the claim was directed to the application of a mathematical formula.

U.S. case law, however, introduced significant confusion into the Japanese patent community—leading to extensive debate surrounding the patentability of computer software. Early examination guidelines published by the Japanese Patent Office (“JPO”) clearly reflected this confusion imported from the United States.<sup>3</sup> The JPO, however, resolved the confusion early on by focusing on the statutory definition. The JPO’s 1993 Examination Guidelines gave a clear interpretation of “the application of a law of nature” in the computer software context.<sup>4</sup> It would seem that the definitions and examples included in the JPO examination guidelines could help the U.S. legal community understand the proper scope of subject matter patents; not only for software but for Internet applications as well.

For example, the JPO guidelines deem proper a data processing software claim when the data processing is executed on the basis of the physical and technical nature of an object (including its structural prop-

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1. Japanese Patent Law, Art. 2, ¶ 2.

2. *Id.*

3. JAPANESE PATENT OFFICE, EXAMINATION GUIDELINES FOR COMPUTER PROGRAM No. 1 (1975); JAPANESE PATENT OFFICE, EXAMINATION ADMINISTRATIVE DIRECTIONS FOR MICRO-COMPUTER APPLICATION TECHNOLOGY RELATED INVENTIONS (1982); JAPANESE PATENT OFFICE, DRAFT EXAMINATION PROPOSAL FOR COMPUTER SOFTWARE RELATED INVENTIONS (1988).

4. JAPANESE PATENT OFFICE, EXAMINATION GUIDELINES FOR PATENT AND UTILITY MODEL IN JAPAN VIII 3 (1993) [hereinafter 1993 JPO Guidelines].

erty). Thus, the type of claims disputed in *Alappat*<sup>5</sup> would have been clearly patentable under the Japanese Patent Law. Claims disputed in *State Street Bank*,<sup>6</sup> moreover, would have been patentable. In fact, the 1993 Examination Guidelines included an example of claims similar to the claims disputed in *Alappat*; concluding that those sorts of claims were clearly patent-eligible subject matter.<sup>7</sup> The 1997 Implementation Guidelines for Software Related Inventions also included an example similar to the claims disputed in *State Street Bank* and concluded that they were directed to patent eligible subject matter.<sup>8</sup>

Likewise, European countries have suffered from the confusion introduced by U.S. case law. The influence of U.S. case law on the European Patent Convention is clear.<sup>9</sup> Provisions defining a list of unpatentable inventions reflect the U.S. case law doctrines from the 1970s, when the Convention was executed.<sup>10</sup> This list is miserably outdated because the U.S. Supreme Court has since clarified, in more recent decisions, that its list includes only three items: natural phenomena, the laws of nature and an abstract idea.<sup>11</sup> To harmonize its law with recent developments in the United States and Japan, European countries have struggled since to expunge the extensive list of explicit exclusions, including computer software and business methods.

Because of the astonishingly broad terms used by Judge Rich in *State Street Bank*, the United States may again export confusion to other countries. Surprisingly, this may occur even though the portion of *State Street Bank* discussing the patentability of a business method may amount to nothing more than dicta.<sup>12</sup> After discovering that the USPTO has interpreted *State Street Bank* broadly, both Japan and European countries are exploring the possibility of removing the restriction limiting patent eligible subject matter to the "technological arts."

Recognizing the risk brought about by patent protection for competitive arts, Professor Chiappetta proposes *sui generis* protection for competitive art innovation. However, a proposal for *sui generis* protection to accommodate industry specific needs is not a new idea. A good

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5. *In re Alappt*, 33 F.3d 1526 (Fed. Cir. 1994) (en banc).

6. *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998).

7. 1993 JPO Guidelines, *supra* note 4, at 23 ex. 4.

8. JAPANESE PATENT OFFICE, IMPLEMENTATION GUIDELINES FOR SOFTWARE RELATED INVENTIONS ex. 4 (1997).

9. Convention on the Grant of European Patents, Oct. 5, 1973, 13 I.L.M. 268 (as amended Dec. 21, 1978) [hereinafter European Patent Convention].

10. European Patent Convention, Art. 52, ¶ 2.

11. *Diamond v. Diehr*, 450 U.S. 175 (1981).

12. John Thomas, *The Patentability of the Liberal Professions*, 40 B.C. L. REV. 1139, 1161 (1999).

example is the *sui generis* protection for computer software proposed by Japan's Ministry of International Trade and Industry ("MITI").<sup>13</sup> Like the proposal made by Professor Chiappetta, MITI's *sui generis* computer protection proposal provided a protection term shorter than the patent term and provided compulsory licensure.<sup>14</sup> The United States, however, extensively criticized these short life and compulsory license provisions.<sup>15</sup> As a result, MITI was forced to give up its *sui generis* protection proposal. This experience suggests adoption of Professor Chiappetta's proposal would face strong objections from U.S. industry.

To assure compliance between his proposal and the provisions of TRIPS defining patentable subject matter, Professor Chiappetta adopts a narrow interpretation of "all fields of technology" in order to exclude competitive arts.<sup>16</sup> This narrow interpretation, however, may give room to developing countries to refuse traditional intellectual property protection for new types of technology that may be developed in the future. Such an interpretation, in the least, gives these countries an excuse for protecting new subject matter by a regime that is more restrictive than traditional intellectual property regimes.

In contrast, the benefit of protecting new types of subject matter through a traditional intellectual property regime such as patents is obvious. Once competitive arts are incorporated as patent-eligible subject matter, the duty to provide patent protection on them will automatically be imposed on all WTO member countries. This will effectively serve as a means for international harmonization. Considering the borderless nature of Internet patents and e-commerce, it is senseless to introduce a *sui generis* protection scheme, which would require renegotiation of TRIPS.

## II. PROFESSOR LUNNEY'S PROPOSAL

Professor Lunney's proposal, to view the nonobviousness standard in the context of investment in creativity, is definitely a nonobvious idea for evaluating inventions to distinguish those qualified for protection from others. He may not be the first person to discuss a lead-time argument but he has made the popular theory more sophisticated by

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13. MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY, INDUSTRY STRUCTURE COMM. INFORMATION INDUSTRY SUBCOMM., PRELIMINARY PROPOSAL, Dec. 1983, *reprinted in* NOBUHIRO NAKAYAMA, LEGAL PROTECTION OF SOFTWARE 214 app. 2 (1988).

14. NAKAYAMA, *supra* note 13, at 222-24.

15. NAKAYAMA, *supra* note 13, at 12-13.

16. Agreement on Trade-Related Aspects of Intellectual Property, Apr. 15, 1994, 108 Stat. 4809, 4811-4828, 33 I.L.M. 81, 83-111 [hereinafter TRIPS].

combining that argument with investment in creativity as a means for assessing nonobviousness.

For traditional lawyers who are not familiar with an economic analysis, it is very difficult to determine the appropriateness of his assumption—that products involving more creativity investment are easier to copy than products requiring less creativity investment. Thus, a few examples would greatly help the readers understand his analysis. Particularly, I would like to see some case studies on Internet patents to show the appropriateness of his assumption. It seems to me that most Internet patents are easy to copy regardless of the creativity involved in the invention. Furthermore, it is not clear to me how investments are classified as creative versus non-creative. Inclusion of examples would help clarify this distinction.

Professor Lunney's nonobviousness standard, measured by investment, is a challenge to the traditional notion of "inventive step." The concept of "inventive step" has been uniformly adopted by countries outside the United States in evaluating the quality of an invention.<sup>17</sup> "Inventive step" theory represents a model that evaluates an invention in the context of a distance from the state of art or the prior art.<sup>18</sup> This distance has nothing to do with the investment made by the inventor in developing the invention. Simply, an advance or difference from the prior art often does not reflect the investment made by the inventor. This problem-solution approach, used by the European Patent Office and the Japan Patent Office, was developed based on this theoretical model for assessing the inventive step.<sup>19</sup>

Professor Lunney's solution proposes setting a marginal creative investment fraction to give rise to a presumption of nonobviousness. Such a solution, however, may discriminate against one field of technology compared to another. This, in turn, may lead to a violation of TRIPS provisions.<sup>20</sup> For example, Internet patents seem to demand more creativity investment than traditional innovations such as chemical or pharmaceutical inventions which require substantial investment for testing and implementation. Moreover, such a solution may encourage ineffective investment in creativity. For these reasons, it would be very

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17. European Patent Convention, art. 56.

18. For a general discussion on the inventive step see HANNS ULRICH, *STANDARD OF PATENTABILITY FOR EUROPEAN INVENTIONS: SHOULD AN INVENTIVE STEP ADVANCE THE ART?* (1977).

19. EPC Examination Guidelines, C-IV, 9, available at <http://www.european-patent-office.org>; JPO Patent and Utility Model Examination Guidelines, II-2, available at <http://www.jpo-miti.go.jp>.

20. TRIPS, art. 27, ¶ 1.

difficult to persuade U.S. trade partners to adopt Professor Lunney's proposal.

### III. PROFESSOR BAGLEY'S PROPOSAL

Professor Bagley urges the courts and the USPTO to adopt a broad concept of analogous art. The doctrine of analogous art, however, is difficult to apply. This is because the scope of applicability changes when the definition of the relevant problem changes. As Professor Bagley properly points out, when the problem is defined broadly, as done by U.S. courts in earlier cases, the courts and the USPTO can cite every reference from different fields of technology. In contrast, references from different fields are excluded from the examination of nonobviousness when the problem is narrowly defined as done *In re Clay*<sup>21</sup> or *Amazon.com*.<sup>22</sup> Accordingly, a serious flaw inherent to the doctrine of analogous art is its arbitrary nature of defining the applicable scope.

Unfortunately, Professor Bagley's criticism does not provide a means for defining the problem of analogous art objectively. She observed that the application of problem solutions in one area to another area is a common practice in business fields and thus urges inclusion of all real life activities in assessing the prior art for business model patents. Application of solutions from one area to another, however, is common practice in technology fields. This does not give enough of an excuse in traditional technology inventions for removing the limitations on the scope of prior art imposed by the doctrine of analogous art.

A hint for objectively defining a relevant problem may be found in the European and Japanese patent systems. For attorneys practicing in these systems, the doctrine of analogous art is a familiar doctrine, assessing nonobviousness or inventiveness in the context of the problem to be solved by the invention. Like the doctrine of analogous art, the analysis under the problem-solution approach<sup>23</sup> starts with the determination of the scope of relevant or analogous prior art. The scope is determined by identifying the most relevant prior art reference that relates to the same technical fields as the invention or to a closely related area in the context of the problem related to the invention.<sup>24</sup>

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21. *In re Clay*, 966 F.2d 656 (Fed. Cir. 1992).

22. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp. 2d 1228 (W.D. Wash. 1999), *vacated by* 239 F.3d 1343 (Fed. Cir. 2001).

23. EPC Guidelines, *supra* note 19; JPO Guidelines, *supra* note 19.

24. G. Knesch, *Assessing Inventive Step in Examination and Opposition Proceedings*, 3 EPI Information 95 (1994).

Both the European Patent Office (EPO) and the Japan Patent Office, however, have struggled to objectively define the problem without using hindsight. To identify the problem to be solved by the inventor, examiners necessarily look at the invention and then evaluate the problem by comparing it with the prior art to see what was not solved by the prior art. This process inevitably introduces hindsight because the analysis starts from the invention, instead of the prior art. Such an analysis may lead to examiners formulating the problem in such a way that already includes elements needed to solve the problem.<sup>25</sup>

Defining an appropriate measure for assessing the nonobviousness of business model patents or Internet patents requires redefining the hypothetical person of ordinary skills in the relevant art—properly reflecting real life inventive activities. For example, to develop Internet patents, a businessperson will collaborate with a web-designer or computer engineer. Current U.S. law, however, presumes a single person, although he or she is supposed to have knowledge in different fields relating to the problem of the invention. Under both the EPO and JPO guidelines,<sup>26</sup> where it is more appropriate to think in terms of a group of persons, examiners are allowed to assume a group of experts in assessing nonobviousness. This may effectively prevent the USPTO from granting obvious Internet patents, and may serve to harmonize U.S. law with the EPO and the JPO.

### CONCLUSION

All symposium's participants presented interesting ideas, identifying the risks resulting from granting Internet patents and proposing new ways of distinguishing inventions that are qualified for patents from others that are not qualified. Their way of thinking, however, seems to be extremely local, paying little attention to the U.S. position in the international IP arena. Many aspects of these proposals do not fit well with the norms adopted in existing international agreements. U.S. scholars and the legal community should learn from the experience of patenting software and develop a norm for Internet patents which are capable of harmonization with the practice of America's major trade partners as well as with existing international agreements.

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25. Such an analysis should be rejected as using hindsight. For example, see T229/85, 1987 Official Journal of European Patent Office 237.

26. EPO Guidelines, *supra* note 19, at C-IV, 9.6; JPO Guidelines, *supra* note 19, at II-2, 2.2.