What is the Purpose of SPLT?

"Exclusions from Patentability, Industrial Applicability and Technical Effect"

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The debate surrounding the draft Substantive Patent Law Treaty needs to be restarted at a different level. Before things like scope of patentable subject matter, standards for patentability, scope of claim interpretation and remedies are discussed, there needs to be agreement on the purpose that is to be achieved. The purpose may seem self-evident but, because of cultural and historic differences, what one person thinks is the clear purpose may not agree with others having different perspectives. Until we come to an understanding at this level, we will continue to be mired endless debate.

The International Bureau has done an outstanding job of summarizing the commonalties and differences between the "industrial applicability" and the "utility" standards for various countries.[ii] "What" and "how" different jurisdictions do is now well understood. "Why" and "to what effect" are less clear.

Authority for the U.S. Federal Government to establish a patent system is found in the U.S. Constitution. The authority is broad: "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."[iii].

While the authority granted in the Constitution is broad, it does have limitations:

> "The [patent] clause is both a grant of power and a limitation. This qualified authority . . . *is limited to the promotion of advances in the 'useful arts.'* . . . Congress in the exercise of the patent power may not overreach the restraints imposed by the stated constitutional purpose."[iv]

Thus, the purpose of the U.S. patent system is fairly clear and is far-reaching. Promote advances in science and the useful arts.

The Japanese Patent Law also has a stated purpose and not surprisingly, it is different. JPL, Chapter 1 Section 1 reads:

> "The purpose of this law shall be to encourage inventions by promoting their protection and utilization so as to contribute to the development of industry."

There is no statement of purpose in the SPLT to guide the discussion of its proposed provisions[v]. In the European Patent Convention, there also does not appear to be a stated purpose for substantive issues. In the EPC preamble, it is simply stated that the Contracting States desire to cooperate to establish a single procedure. Part I, Chapter I Article 1 states only:

"A system of law, common to the Contracting States, for the grant of patents for invention is hereby established."

The purpose, and the cultural/historical/economic background relating to that purpose, can have a significant effect on the nature of the system that results.[vi] To illustrate the point, it is useful to compare the U.S. and the Japanese systems as they have stated purposes. Put succinctly, the Japanese statute emphasizes utilization by industry while the U.S. Constitution emphasizes exclusive rights to inventors. If a patent system were designed to *promote utilization* and to *help industry*, it might have the following characteristics:

- It would be cheap to file an application and expensive to maintain the patent. In Japan, the filing fee is comparatively low, applications are relatively short and are prepared by non-lawyers.
- Early filing would be encouraged (first-to-file) and all applications would be published.
- Easily obtainable, broad patent rights would be discouraged. Examiners would not allow claims that went substantially beyond working examples.
- Patents would be difficult to enforce and remedies would be modest. Very limited discovery would be allowed.

Contrast that with a system that emphasizes *exclusive rights* for *individual inventors*.

- A one-year grace period would be available, reducing the possibility that an unsophisticated individual might inadvertently loose a patent right.
- The application would have to be filed in the name of the inventor, not the inventor's company.
- The patent right would be given to the first inventor-to-invent.
- Publication would not be required unless the applicant could first see what they were going to receive.
- It would be easy to get broad claims with few working examples. In obviousness situations, the burden would be on the Examiner to find a motivation to combine references.
- Patent rights would be very strong with the availability of preliminary injunctions, and strong damages including lost profits, attorney fees and treble damages. Extensive discovery would be available.
- Since litigation is much more likely, applications would need to be written by expensive attorneys[vii].

With regard to "Exclusions from Patentability, Industrial Applicability and Technical Effect", it is easy to see how different purposes would affect the discussion of these

issues. If your goal has been designed to be a very broad one, e.g. promotion of advances in science and the 'useful arts', you would expect few exclusions. This would include any requirement that the potentially patentable invention be "industrially applicable" or have some kind of "technical effect". If you goal was more focused on promoting industry, you might have a more exclusions.

Once it is decided what the purpose is, we can begin to test any particular provision to see if that provision supports the purpose. We can decide whether we want to promote a particular kind of activity with a particularly crafted IP right. If we do, it should obviously not be excluded. For example, do we want to encourage the discovery of things like "[a] cell line, designated Papau New Guinea-1(pNG-1) ATCC CRL 10528."?[viii] If so, we should not exclude this type of subject matter from patentability. Do we want to encourage the development of an improved human species? If not, we should exclude this subject matter from patentability.[ix] Exactly why we might want to encourage or discourage any particular activity involves economic, political, maybe even moral issues, but it is at this level where the debate should begin.

Fortunately, we have run the experiments; unfortunately, we have not analyzed the data. Because of the significant differences in the scope of patentable subject matter available in different jurisdictions, we should be able to step back and measure the result. We should be able ask the questions: "Have strong/weak IP rights in _____ for _____ inventions resulted in/hindered progress"?

Maybe we are not smart enough. Obviously progress in any particular "useful art" is not just a result of the patent system but a myriad of other factors. Do inventions in the questioned area require capital? Are there regulatory factors encouraging/discouraging innovations? Etc. etc. But we should at least ask the question. What is clear is that intellectual property is becoming increasingly important. Strong IP is necessary to attract investment.[x] It is also clear that there is at least anecdotal evidence that strong patent rights promote the development of "industry".[xi]

"Exclusions from Patentabily, Industrial Applicability and Technical Effect" in the United States[xii]

Based on the Constitutional authority, Congress has established a statute and defined patentable subject matter in 35 U.S.C. 101: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title."

Reviewing the legislative history, the Supreme Court found that Congress chose the expansive language of 35 U.S.C. 101 so as to include "anything under the sun that is made by man."[xiii] In Chakrabarty, the Supreme Court stated:

> "In choosing such expansive terms as "manufacture" and "composition of matter," modified by the comprehensive "any," Congress plainly contemplated that the patent laws would be given wide scope. The relevant legislative history also supports a broad construction. The Patent Act of 1793, authored by Thomas

> Jefferson, defined statutory subject matter as "any new and useful art, machine, manufacture, or composition of matter, or any new or useful improvement [thereof]." Act of Feb. 21, 1793, ch. 11, § 1, 1 Stat. 318. The Act embodied Jefferson's philosophy that "ingenuity should receive a liberal encouragement." V Writings of Thomas Jefferson, at 75-76. See Graham v. John Deere Co., 383 U.S. 1, 7-10 (148 USPQ 459, 462-464) (1966). Subsequent patent statutes in 1836, 1870, and 1874 employed this same broad language. In 1952, when the patent laws were recodified, Congress replaced the word "art" with "process," but otherwise left Jefferson's language intact. The Committee Reports accompanying the 1952 Act inform us that Congress intended statutory subject matter to "include anything under the sun that is made by man." S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952); H.R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952).” At 197

The Court of Appeals, naturally, is consistent. In the Alapatt decision, it was stated “Thus, it is improper to read into section 101 limitations as to the subject matter that may be patented where the legislative history does not indicate that Congress clearly intended such limitations.”[xiv]

Congress has not implemented broad Constitutional mandate to its fullest extent and has established limitations on the scope of patentable subject matter. First, 35 U.S.C. 101 includes only four categories of inventions: processes (actions), machines, manufactures and compositions of matter (things). Second, 35 U.S.C. 101 requires that the subject matter sought to be patented be a "useful" invention. Third, §101 includes the concept that the invention be “new”. Accordingly, a complete definition of the scope of 35 U.S.C. 101, reflecting Congressional intent, is that any new and useful process, machine, manufacture or composition of matter under the sun that is made by man is the proper subject matter of a patent.

Unlike patent laws of other countries, patent eligibility under U.S. law has no statutory exclusions:

- U.S. law does not include the stated preclusions from patentability in Articles 27(2) & 27(3) of TRIPS[xv]
- Protection of *ordre public* or morality to protect life, health or the environment
- Methods for the treatment of humans or animals

Definitions for many of the terms in §101, derived from case law, are set forth in the USPTO Manual of Patent Examining Procedure.[xvi] While the Constitution has a few limitations and a few limitations are found in the statute, case law also establishs a few exclusions or limitations.

The subject matter that courts have found to be outside the four statutory categories of invention include abstract ideas, laws of nature and natural phenomena. Judicially excluded from patent eligibility are: laws of nature ($E=mc^2$), natural phenomena (a new mineral or wild plant), and abstract ideas and “manifestations of … nature, free to all men and reserved exclusively to none.”[xvii]

The USPTO has a few additional limitations from a policy point of view. For example, the USPTO will not grant a patent that embraces a human being. However, life forms altered by human intervention may be patented.[xviii]

The phrase "useful, concrete, and tangible" as it relates to patent eligibility appears first in In re Alappat, and then in States Street Bank & Trust Co. v. Signature Financial Group Inc. and finally in AT&T Corp. v Excel Communications Inc.[xix]

A claimed invention has a practical application, or practical utility, when it has "real world" value and can be used in a manner that provides some immediate benefit to the public.[xx]

Functional descriptive matter can be patentable subject matter if tangibly embodied in a computer readable medium so that it can be executed in a computer. A computer program per se is not patent eligible. But when tangibly embodied in a computer readable medium so that it can be executed in a computer, it becomes patent eligible so long as the claimed program produces a useful, tangible, concrete result. If a claimed process appears to manipulate only numbers, abstract concepts, or ideas, or signals representing any of these, then the process is not directed to patent eligible subject matter.[xxi]

"Technical Effect" or "Technological Arts" Requirement

In a recent and now famous decision, the USPTO Board of Patent Appeals and Interferences in Ex Parte Lundgren has found that:"[T]here is no judicially recognized separate 'technological arts' test to determine patent eligible subject matter under §101."[xxii] In response, the Office has issued interim guidelines:

> "[T]he following tests are **not** to be applied by examiners in determining whether the claimed invention is patent eligible subject matter: (A) 'not in the technological arts' test (B) *Freeman-Walter-Abele* test (C) mental step or human step tests (D) the machine implemented test and (E) the *per se* data transformation test."[xxiii]

An excellent review of the Lundgren decision can be found in an article by Erica Arner.[xxiv]

SCP-10-2
"Article 12: Conditions of Patentability

(1) [*Subject Matter Eligible for Protection*] (a) A claimed invention shall fall within the scope of subject matter eligible for protection. Subject matter eligible for protection

shall include products and processes [, in all fields of technology,] which can be made and used in any field of activity.

(b) Notwithstanding subparagraph (a), the following shall not be considered as subject matter eligible for protection:

(i) mere discoveries;

(ii) abstract ideas as such;

(iii) scientific and mathematical theories and laws of nature as such;

(iv) purely aesthetic creations."

Japanese Patent law
Chapter II – Patents and Applications for patents
(Patentability of Inventions)
29. – (1) Any person who has made an invention which is industrially applicable may obtain a patent therefore, except in the case of the following inventions [publicly known, publicly worked, publicly described]

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[ii] Standing Committee on the Law of Patents, Ninth Session, Geneva May 12 – 16 2003. http://www.wipo.int/edocs/mdocs/scp/en/scp_9/scp_9_5.doc

[iii] U.S. Const. Art. I, § 8, cl. 8

[iv] Graham v. John Deere, 383 U.S. 1, 7, 148 USPQ 459, 462 (1966) (emphasis added)

[v] http://www.wipo.int/edocs/mdocs/scp/en/scp_10/scp_10_2.doc

[vi] See Helfgott, Cultural Differences Between the U.S. and Japanese Patent Systems, JPTOS, Vol. 72, No. 3 pages 177-280, March 1990

[vii] Based on calculations done by the author about 10 years ago, Japanese file about 4 times the number of applications per $ of GNP compared to U.S. applicants. At that time, there were about 10 times the number of patent infringement suits in the U.S. compared to Japan, again on a GNP basis. Put another way, it is 45 times more likely that when a U.S. application is filed that it will end up in litigation, compared to a Japanese application. With this in mind, it is not surprising that the U.S. is one of the few jurisdictions in the world where the preference is for legally trained attorneys to prepare applications.

[viii] U.S. Patent 5,397,696 See Conley and Makowski, Back to the Future: Rethinking the Product of Nature Doctrine as a Barrier to Biotechnology patents, JPTOS, Vol 85, No. 4, pg 301

[ix] See Quigg Memo, 1077 OG 24 (April 21, 1987); MPEP § 2105.

[x] Howrey LLP: A Survey of Investor Attitudes on IP Protection
http://www.howrey.com/docs/UK_IP_Survey0102.pdf

[xi] Jaffe and Lerner, Innovation and Its Discontents: How Our Broken Patent System is Endangering Innovation and Progress, and What to Do About It, Princeton University Press 2004
http://www.pupress.princeton.edu/titles/7810.html (While the title is provocative and the book is often cited for what is wrong with the U.S. patent system, the authors provide numerous examples of the value of the patent system – when it works correctly. Indeed, the premise of the book is to improve the patent system, and make the incentives more reliable.)

[xii] An excellent overview of the current U.S. law with respect to patentable subject matter was presented by Steve Kunin (Oblon, Spivak, McClelland, Maier & Neustadt, P.C.) at the IPO Education Foundation International Judges Conference in the Fall of 2005.
http://www.ipo.org/TemplateRedirect.cfm?Template=/MembersOnly.cfm&ContentFileID=9020

[xiii] Diamond v. Chakrabarty, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980).

[xiv] Alappat, 33 F.3d at 1542, 31 USPQ2d at 1556.

[xv] "2. Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law."
3. Members may also exclude from patentability:
(a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;
(b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry intoforce of the WTO Agreement."
http://www.wto.org/english/docs_e/legal_e/27-trips.pdf

[xvi] MPEP § 2106 IV, B, 2., (a) and (b)

[xvii] See, e.g., Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874) ("idea of itself is not patentable, but a new device by which it may be made practically useful is"); Mackay Radio & Telegraph Co. v. Radio Corp. of America, 306 U.S. 86, 94, 40 USPQ 199, 202 (1939) ("While a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be."); Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759 ("steps of 'locating' a medial axis, and `creating" a bubble hierarchy . . . describe nothing more than the manipulation of basic mathematical constructs, the paradigmatic 'abstract idea' ")

[xviii] Diamond v. Chakrabarty, 447 U.S. 303, 206 USPQ 193 (1980)); including plant breeds (J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc., 534 U.S. 124, 122 S.Ct 593, 60 USPQ2d 1865 (2001)) and non-human animals Ex parte Allen (2 USPQ2d 1425 (Bd. Pat. App & Inter. 1987)

[xix] In re Alappat, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994); States Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d 1368; AT&T Corp. v Excel Communications Inc., 173 F.3d 1352, 1358, 50 USPQ2d 1447, 1454 (Fed. Cir. 1999)

[xx] See Nelson v. Bowler, 626 F.2d 853, 206 USPQ 881 (CCPA 1980); MPEP § 2107.01 I.

[xxi] See MPEP § 2106 IV, B, 1.

[xxii] Ex Parte Lundgren, App. No. 2003-2088, slip op. at 7 (B.P.A.I. 2005)

[xxiii] Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex III (October 26, 2005)
http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf

xxiv *Patent Office Treatment of Computer-Related Inventions and Business Method Claims Under the Interim Guidelines for Patent Subject Matter Eligibility, Erika H. Arner, December 27, 2005,* Copyright © Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, http://www.finnegan.com/publications/news-popup.cfm?id=1461&type=article