

RETHINKING COMPACT PROSECUTION

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I. INTRODUCTION

A long-standing central tenet of U.S. Patent Office doctrine is “compact prosecution.”¹ When a patent application is examined substantively,² the Patent Office examiner is instructed that the

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¹ See U.S. Dep’t of Commerce, *New Examining Procedures*, 781 OFF. GAZ. PAT. OFFICE 1, 1 (Aug. 7, 1962) (providing the first official recorded reference to the implementation of Compact Prosecution); see also Implementation of the Patent Cooperation Treaty, 43 Fed. Reg. 20465 (May 11, 1978); Rules of Practice in Patent Cases: Reexamination Proceedings, 46 Fed. Reg. 29182 (May 29, 1981); Revision of Patent and Trademark Fees Confirmation, 47 Fed. Reg. 41276 (Sept. 17, 1982); Changes to Patent Practice and Procedure, 62 Fed. Reg. 53150 (Oct. 10, 1997); Changes to Implement the Cooperative Research and Technology Enhancement Act of 2004, 70 Fed. Reg. 1818-02 (Jan. 11, 2005).

² A patent application undergoes preliminary examination almost

review is to be “complete as to all matters,”³ and that “piecemeal examination should be avoided.”⁴

In theory, it is hard to fault this concept of compact prosecution. Avoiding multiple actions on multiple grounds is efficient for both the patent office and applicants, and should lead to earlier disposition. The system made good sense when adopted. However, there have been significant changes to the patent landscape in the ensuing years.

In the current environment, the theoretical efficiency and speed offered by compact prosecution face challenges resulting from the dramatic increase in the number of patent applications being filed,⁵ the factual reality of long delays before a patent application reaches the stage of first substantive evaluation (the point at which compact prosecution takes place),⁶ the increased importance of early application filing dictated by the transition to a first-to-file system,⁷ and developments in the Supreme Court’s evolving definition of patentable subject matter.⁸ Combined,

immediately, to assure that the application is complete (e.g., that there are no missing pages), contains the necessary identifying information and is accompanied by the required fees. *See generally* 37 C.F.R. § 1.53 (2014) (stating the initial filing requirements for a patent application). Substantive examination – evaluation of whether the application claims an invention that is statutory subject matter which is novel, non-obvious and enabled; typically does not take place until a year and a half (or more) later.

³ 37 C.F.R. § 1.104(b).

⁴ MPEP § 707.07(g) (9th ed., Mar. 2014).

⁵ *See U.S. Patent Statistics Chart Calendar Years 1963 - 2013*, U.S. PAT. & TRADEMARK OFF., http://www.uspto.gov/go/taf/us_stat.htm (last updated July 24, 2014) (indicating a steady increase in U.S. patent applications).

⁶ *See* Anthony C. Tridico, Ph.D. et al., *USPTO Backlog Impacts Biopharma Industry*, GENETIC ENG’G & BIOTECHNOLOGY NEWS, Sept. 1, 2008, available at <http://www.martindale.com/matter/asr-977198.pdf> (“[T]he U.S. Patent and Trademark Office (USPTO) is currently overwhelmed by a backlog of hundreds of thousands of patent applications, which delays patent examination and issuance.”).

⁷ *See* John Villasenor, *March 16, 2013: The United States Transitions To A ‘First-Inventor-To File’ Patent System*, FORBES (Mar. 11, 2013, 11:54 PM), <http://www.forbes.com/sites/johnvillasenor/2013/03/11/march-16-2013-america-transitions-to-a-first-inventor-to-file-patent-system/> (explaining that the U.S. first-to-file system requires inventors to take “prompt action to protect his or her invention” or risk losing the patents rights to a later inventor).

⁸ *See* John V. Biernacki et al., *Alice Corp. v. CLS Bank: Did the Supreme Court Sign the Warrant for the “Death of Hundreds of Thousands of Patents”?*, JONES DAY (June 2014), <http://www.jonesday.com/Alice-Corp-v-CLS-Bank-Did-the-Supreme-Court-Sign-the-Warrant-for-the-Death-of-Hundreds-of-Thousands>

these factors increase both the uncertainty of whether a claimed invention is even patent-eligible and the time it takes for that uncertainty to be reduced, thereby presenting a difficult and unfair problem for innovators.⁹ Innovators must choose between maintaining trade secrets in their innovations or seeking patent protection, and must generally do so within eighteen months of filing a patent application.¹⁰ Increasing the uncertainty of availability of patent protection and delaying the time when that uncertainty is reduced beyond the critical eighteen month period makes patent protection a less attractive option. Innovators may therefore be motivated to choose trade secrecy in preference to an increasingly uncertain prospect of patent protection, an outcome that is contrary to the constitutional goal of promoting progress.

A reevaluation of the central principle of compact prosecution in light of current law and conditions suggests modifying the system to allow patent applicants to opt out.

II. THE THEORY OF COMPACT PROSECUTION

In considering whether to issue a patent, the U.S. Patent and Trademark Office (PTO) examines the application to determine whether it discloses and claims an invention that meets the statutory criteria:¹¹ principally, that the claimed invention is patentable subject matter,¹² that it is novel,¹³ that it is non-obvious,¹⁴ and that it is adequately described in the application.¹⁵

If a claim fails any of the statutory criteria, it should be rejected. Therefore, viewed solely from the perspective of minimizing short-term workload, an examiner could reject the

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⁹ See Max Stul Oppenheimer, *The Innovator's Dilemma*, 4 AM. U. BUS. L. REV. (forthcoming 2015) (providing a more detailed discussion of the problem facing innovators).

¹⁰ See 35 U.S.C. § 122(b)(1)(A) (2012) (“[E]ach application for a patent shall be published . . . promptly after the expiration of a period of 18 months from the earliest filing date.”).

¹¹ *Id.* § 131.

¹² *Id.* § 101.

¹³ *Id.* § 102.

¹⁴ *Id.* § 103.

¹⁵ *Id.* § 112(a). The statute requires that the application contain a written description in sufficient detail to enable one of ordinary skill in the art to make and use the invention. *Id.* The statute further requires that the application contain drawings, if necessary to understand the invention. *Id.* § 113.

claim immediately upon finding any ground for rejection.¹⁶ However, viewed from the perspective of the applicant, this type of piecemeal examination has several disadvantages. It complicates the process and results in higher costs in terms of time and legal fees, and it also delays the ultimate disposition of the application by setting up sequential arguments over various grounds of rejection.¹⁷

Current PTO policy calls for “compact prosecution:”¹⁸ identification of all issues related to patentability in the first substantive response to the applicant.¹⁹ The Manual of Patent Examining Procedure (MPEP) cautions against “piecemeal prosecution.”²⁰

Piecemeal examination should be avoided as much as possible. The examiner ordinarily should reject each claim on all valid grounds available. . . . Rejections on grounds such as lack of proper disclosure, lack of enablement, indefiniteness and *res judicata* should be applied where appropriate even though there may be a seemingly sufficient rejection on the basis of prior art.²¹

The logic of compact prosecution is simple and compelling: once an application is taken up by an examiner, the examination should be complete. This avoids forcing an examiner to “relearn” an application multiple times,²² and it gives the applicant as

¹⁶ The applicant has the opportunity to argue for a reversal of the examiner’s position and, if successful, would compel the examiner to look for other instances of non-compliance and thereby negate some of the efficiency. *See* 37 C.F.R. § 1.111 (2014) (permitting an applicant to reply to, and request reconsideration of, the examiner’s position).

¹⁷ *See id.* § 1.112 (allowing an applicant to request subsequent reexamination of his or her claim before any rejection becomes final); *see also* MPEP § 710 (9th ed., Mar. 2014) (discussing the relevant statutory period for requesting reexamination of a patent application).

¹⁸ MPEP § 706.03.

¹⁹ 37 C.F.R. § 1.104(b) (“The examiner’s action will be complete as to all matters, except that in appropriate circumstances, such as misjoinder of invention, fundamental defects in the application, and the like, the action of the examiner may be limited to such matters before further action is made.”).

²⁰ The PTO distinguishes between “compact prosecution” and “piecemeal prosecution.” The term “piecemeal” is pejorative. As this article argues that compact prosecution is flawed and should be replaced, it will use the term “staged prosecution” in place of “piecemeal prosecution.” As discussed later, the PTO already deviates from compact prosecution in certain cases and views these deviations as efficient and desirable. *See* discussion *infra* Part V.A.

²¹ MPEP § 707.07(g).

²² Applicants are generally allowed at least six months to reply to an examiner’s action regarding an application. *See* 35 U.S.C. § 133 (Supp. 2013)

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complete a picture as possible of the hurdles, if any, to patentability. There is, however, a tradeoff. Because compact prosecution requires more work than piecemeal examination, it delays the time from filing until an application is taken up for examination. Given the current system of pre-grant publication,²³ the pressures of a first-to-file system,²⁴ and the uncertainty as to the scope of statutory subject matter,²⁵ this delay is problematic.

Compact prosecution is too good an idea to abandon. However, changes can be made to ameliorate its disadvantages.

III. THE FUNDAMENTAL BARGAIN

All inventions start as trade secrets. The Uniform Trade Secrets Act defines a trade secret as:

[I]nformation . . . that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the

(“Upon failure of the applicant to prosecute the application within six months after any action therein . . . or within such shorter time . . . as fixed by the Director in such action, the application shall be regarded as abandoned.”). The PTO usually sets an administrative deadline of less than six months, but its administrative rules provide that such deadlines can be extended up to the statutory six months by paying late fees. *See* 37 C.F.R. § 1.136(1) (2014) (“If an applicant is required to reply within a nonstatutory or shortened statutory time period, applicant may extend the time period for reply up to the earlier of the expiration of any maximum period set by statute or five months after the time period set for reply, if a petition for an extension of time and the fee set in § 1.17(a) are filed.”); MPEP § 710.02(e) (stating the same). An examiner will typically review a hundred other applications (depending on the art unit) in that time.

²³ Prior to 1999, patent applications were maintained in secrecy until issued as patents. *See* Joseph M. Barich, *Pre-Issuance Publication of Pending Patent Applications: Not So Secret Anymore*, U. ILL. J.L. TECH. & POL’Y 415, 416 (2001). Under that system, the problem of pendency did not arise. *Id.* In 1999, the Patent Statute was amended by the American Inventors Protection Act to provide for publication of most patent applications eighteen months after their initial filing date, whether the application had been allowed as a patent or not. *See* Consolidated Appropriations Act, 2000, Pub. L. No. 106-113, § 1000(a)(9), 113 Stat. 1501 (1999) (enacting into law S. 1948, 106th Cong. § 4503(b)(1) (1999)). In general, patent applications are treated as confidential by the PTO until the eighteen-month publication date (or until the application is issued as a patent if the applicant certifies that international applications will not be filed). 35 U.S.C. § 122(b)(1)(A)–(B).

²⁴ *See* discussion *infra* Part IV.B.

²⁵ *See* discussion *infra* Part IV.C.

subject of efforts that are reasonable under the circumstances to maintain its secrecy.²⁶

Thus, until the inventor discloses the invention to someone else, it meets the definition of a trade secret. A trade secret lasts as long as the definitional requirements are met;²⁷ it has the theoretical potential to be a perpetual right. Publication of a patent destroys any trade secrets contained in the application by making them generally known.²⁸ The inventor therefore must make a choice: keep the trade secret (perhaps forever) or give it up in exchange for a patent.²⁹

The owner of a trade secret can prevent misappropriation, which is generally defined as disclosure or use of a trade secret which has been obtained from the owner by improper means,³⁰ while the owner of a patent can prevent infringement, which is generally defined as the manufacture, use, sale or importation of a product incorporating a patented invention for a period starting on the date the patent is issued and ending twenty years after the date the patent application was filed.³¹ Patent infringement gives rise to damages, which are to be no less than a “reasonable royalty,”³² and the possibility of an injunction³³ and attorney fees

²⁶ UNIF. TRADE SECRETS ACT § 1(4) (amended 1985).

²⁷ See David S. Almeling et al., *A Statistical Analysis of Trade Secret Litigation in Federal Courts*, 45 GONZ. L. REV. 291, 304 (2010) (“[A]s long as the definitional requirements are met, virtually any subject matter of information can be a trade secret.” (internal quotation marks omitted)).

²⁸ Max Stul Oppenheimer, *Harmonization Through Condemnation: Is New London the Key to World Patent Harmony?*, 40 VAND. J. TRANSNAT’L L. 445, 447 n.4 (2007). Allowing publication would also destroy the trade secret as a failure to make reasonable efforts to maintain its secrecy. *Id.*

²⁹ More precisely, the exchange is for a possibility of a patent. See discussion *infra* Part IV. It is this difference (possibility instead of certainty) that makes the pendency problem important and justifies the argument in favor of staged prosecution.

³⁰ UNIF. TRADE SECRETS ACT § 1(2)(i).

³¹ 35 U.S.C. § 154(a)(2) (Supp. 2013). The patent expires twenty years after the date the earliest application was filed (i.e., if there are a series of related patent applications, referred to as “continuing applications,” the term is measured from the date the first in the series was filed), and is subject to adjustment in certain circumstances related to delays in processing by the PTO. *Id.*

³² 35 U.S.C. § 284 (2012). Although the statute specifies that damages be “no less than a reasonable royalty,” in practice damages rarely exceed what is determined to be a reasonable royalty. See *Third Wave Tech., Inc. v. Stratagene Corp.*, 405 F. Supp. 2d 991, 1101 (W.D. Wis. 2005) (sating that under § 284, courts “imagine a negotiation between the patentee and infringer taking place

in certain cases.³⁴

While enforcement of a trade secret turns on whether the alleged infringer obtained the information from the trade secret owner, enforcement of a patent does not.³⁵ Thus, subsequent independent discovery is a defense against trade secrets but not against patents.³⁶ In addition, once a second party has independently discovered the trade secret information, that party is free to disclose it and thereby destroy the original trade secret owner's rights;³⁷ a patent is not invalidated by subsequent independent discovery.³⁸ The patent system therefore provides

at the moment the infringement began" which "is an approach that experts have employed for decades in patent cases").

³³ The language of the statute regarding injunctions is permissive, not mandatory: "Courts may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable." 35 U.S.C. § 283. However, since a patent is, by definition, unique, it might seem by analogy to real property law that injunctions should always issue because damages would never provide a complete remedy for infringement. *See id.* § 102(a) (stating that a patented invention must be novel). The Supreme Court has held, however, that even in patent cases, a court must apply the traditional equitable four-factor test in deciding whether it is appropriate to issue an injunction. *See eBay, Inc., v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006) (discussing the four-factor test a plaintiff must satisfy before a court may grant a permanent injunction).

³⁴ 35 U.S.C. § 285.

³⁵ *See* Thomas W. Foley, *Keeping A Company's Confidences Secret: Trade Secret Enforcement Under Iowa's Uniform Trade Secrets Act*, 59 *DRAKE L. REV.* 1, 12–13 (2010) (explaining that unlike patent law, the owner of a trade secret cannot "prevent others from using public information to replicate his product").

³⁶ *See* Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 *VA. L. REV.* 1575, 1585 n.24 (2003) (explaining that patent law tends to offer "more protection than trade secret law because a patent forbids even independent discover by a competitor"); Rebecca S. Eisenberg, *Proprietary Rights and the Norms of Science in Biotechnology Research*, 97 *YALE L.J.* 177, 206 (1987) ("[I]ndependent discovery is not a defense to a patent infringement suit, although it is a defense to a claim for misappropriation of trade secrets.").

³⁷ *See* Ari B. Good, *Trade Secrets and the New Realities of the Internet Age*, 2 *MARQ. INTELL. PROP. L. REV.* 51, 63 (1998) ("[T]rade secret law does not prohibit one from utilizing information which is discovered independently of the [owner]."); *see also* *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1002 (1984) (stating that the public disclosure of a trade secret destroys the information's status and thus deprives the trade secret's owner of a property interest).

³⁸ Under the first-to-file system, a second inventor can destroy the first inventor's right to a patent by disclosing the invention before the first inventor discloses the invention (and files an application within a year from the disclosure) or files a patent application. 35 U.S.C. § 102(a). The first inventor can minimize or eliminate this risk by filing promptly.

motivation for holders of patent-eligible trade secrets to disclose them (and therefore surrender protection under trade secret law) in exchange for rights that are broader in scope but potentially shorter in duration. A patent has a fixed, but guaranteed, expiration date,³⁹ while the term of a trade secret is uncertain and depends on events beyond the owner's control.⁴⁰

A patent represents a bargain between the federal government and an innovator, envisioned by the Constitution.⁴¹ The Constitution authorizes Congress to motivate scientific progress by granting limited term monopolies to inventors.⁴² Congress implemented this power early.⁴³ This system promotes progress by motivating innovators to give up trade secret protection in exchange for a limited term, federal government protected, monopoly on the innovation.⁴⁴ The patent laws are not "primarily designed to provide a special private benefit. . . . [They are] intended to motivate the creative activity of authors and inventors . . . and to allow the public access to the products of their genius after the limited period of exclusive control has expired."⁴⁵ However, in order to motivate that creative activity,

³⁹ See 35 U.S.C. § 154(a)(2) (Supp. 2013) (stating that a patent's fixed expiration date is subject to the owner's payment of periodic maintenance fees).

⁴⁰ See Vincent Chiappetta, *Myth, Chameleon or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law*, 8 GEO. MASON L. REV. 69, 78 (1999) ("Trade secret protection theoretically can last forever. . . . However, the holder constantly faces the uncertainty of sudden loss of rights . . . which can occur at any time through . . . third party actions."); see also UNIF. TRADE SECRETS ACT § 1(2) (amended 1985) (defining the term "misappropriation" to include "improper means" taken by a third party in acquiring or disclosing a trade secret).

⁴¹ U.S. CONST. art. I, § 8, cl. 8. For a detailed analysis of how the clause was adopted, see Edward C. Walterscheid, *To Promote the Progress of Science and Useful Arts: The Background and Origin of the Intellectual Property Clause of the United States Constitution*, 2 J. INTELL. PROP. L. 1, 31–34 (1994).

⁴² U.S. CONST. art. I, § 8, cl. 8.

⁴³ The first patent statute was enacted in Congress' second session in 1790. Patent Act of 1790, ch. 7, 1 Stat. 109 (repealed 1793).

⁴⁴ Note that this particular exchange is Congress' invention – the Constitution does not require disclosure of the invention in order to obtain the exclusive rights conferred by a patent. The Constitution simply provides that "The Congress shall have Power . . . 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." U.S. CONST. art. I, § 8, cl. 8.

⁴⁵ *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984). While *Sony* involved alleged infringement of copyrights, both copyright and

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the statute offers inventors several benefits;⁴⁶ in return, the public gets disclosure.⁴⁷

In theory, the disclosure required by the patent system benefits society more broadly than trade secret protection because broad disclosure provides the starting point for further research to a larger pool of researchers.⁴⁸

IV. THE PENDENCY PROBLEM

The fundamental bargain—limited term monopoly in exchange for disclosure of a trade secret—comports with standard contract notions.⁴⁹ The owner of a trade secret is free to exchange that

patent laws are authorized by the same clause of the Constitution and the *Sony* copyright analysis relies in part on patent precedents. *See id.* at 440–42 (discussing the “charge of contributory infringement” under patent law as it applies to copyright law cases).

⁴⁶ *See, e.g.*, 35 U.S.C. § 154(d) (Supp. 2013) (“[A] patent shall include the right to obtain a reasonable royalty from any person who . . . makes, uses, offers for sale, or sells in the United States the invention claimed in the published patent application.”).

⁴⁷ Malla Pollack notes that there are multiple possible interpretations of “progress” in Art. I, § 8, cl 8: “quality improvement in the knowledge base, quantity improvement in the knowledge base (numerically), quantity improvement in the knowledge base (judged economically), and spread (distribution to the population)” but concludes that “[o]f these, quantity is the least supportable. Quality has low support and creates problems in context. Spread has the highest support.” Malla Pollack, *What is Congress Supposed to Promote?: Defining “Progress” in Article I, Section 8, Clause 8 of the United States Constitution, or Introducing the Progress Clause*, 80 NEB. L. REV. 754, 756–57 (2001).

⁴⁸ *See Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 481 (1974) (“When a patent is granted and the information contained in it is circulated to the general public and those especially skilled in the trade, such additions to the general store of knowledge . . . will stimulate ideas and the eventual development of further significant advances in the art.”); Peter Lee, Note, *Patents, Paradigm Shifts, and Progress in Biomedical Science*, 114 YALE L.J. 659, 665 (2004) (arguing that patent law promotes “hypothesis generation” and “advance[s] fundamental scientific theory”); Lawrence D. Graham & Richard O. Zerbe, Jr., *Economically Efficient Treatment of Computer Software: Reverse Engineering, Protection, and Disclosure*, 22 RUT. COMPUTER & TECH. L.J. 61, 73 (1996) (“Theoretically, [public] disclosure of new ideas leads to further innovation. The belief is that even though the public is prevented from interfering with inventors’ exclusive rights, the ability to study their inventions will lead to more invention.”).

⁴⁹ *See Fried. Krupp Aktien-Gesellschaft v. Midvale Steel Co.*, 191 F. 588, 594 (3d Cir. 1911), *cert. denied*, 223 U.S. 728 (1912) (“[A]n American patent is a written contract between an inventor and the government . . . [that] consists of

property for other property.⁵⁰ The fundamental bargain is complicated, though, when the owner of the trade secret must decide whether to surrender the trade secret in exchange for a patent before the availability of the patent is assured.⁵¹

For this reason, pendency becomes important. There are two pendency periods of interest: “first action pendency” (the time from the filing of a complete patent application until a patent examiner substantively reviews the application and issues a first action regarding patentability) and “disposition pendency” (the time from filing until the application is disposed of, either by allowance and issue as a patent or by abandonment).⁵² While the PTO measures both,⁵³ and both are of interest to an applicant,⁵⁴ first action pendency is the applicant’s first insight into how the PTO views the application and therefore the applicant’s first opportunity to make an informed evaluation of the chances of obtaining a patent.⁵⁵

mutual, interrelated considerations moving from each party to the other for the such contract.”).

⁵⁰ Cf. ROGER A. MCCLAIN, REFRAMING ECONOMICS: ECONOMIC ACTION AS IMPERFECT COOPERATION 23 (Edward Elgar Publ’g 2014) (“[I] is possible for trade secrets to be legitimately bought and sold . . .”). Interesting contract issues, beyond the scope of this article, arise where the trade secret owner is a minor. See, e.g., *In re Apple In-App Purchase Litig.*, 855 F. Supp. 2d 1030, 1036 n.4 (N.D. Cal. 2012) (“A minor’s lack of capacity to contract affects only the ability of the other party to enforce the contract against the minor, not the minor’s ability to enforce the contract against the other party.”).

⁵¹ See *Kewanee Oil*, 416 U.S. at 487 (explaining that “[t]he risk of eventual patent invalidity” may cause some trade secret owners “not to take the trouble to seek to obtain . . . patent protection . . . regardless of the existence of trade secret protection”).

⁵² See J. Michael Martinez de Andino & Gregory M. Murphy, *US Patent Office Delays Creating Limited and Late Protection*, 19 No. 11 INTELL. PROP. & TECH. L.J. 17, 17 (2007) (estimating that first action pendency takes roughly 22.6 months, while the entire period of disposition pendency is typically 31.1 months).

⁵³ U.S. PATENT & TRADEMARK OFFICE, PERFORMANCE & ACCOUNTABILITY REPORT FISCAL YEAR 2013, at 14 (2014) [hereinafter USPTO REPORT FY 2013], available at <http://www.uspto.gov/about/stratplan/ar/USPTOFY2013PAR.pdf>.

⁵⁴ See Request for Comments on Optimum First Action and Total Patent Pendency, 79 Fed. Reg. 38,854 (July 9, 2014) (seeking input from the IP community regarding “optimal patent first action and total pendency target levels”).

⁵⁵ The inventor still faces uncertainty, as the first substantive action is rarely the end of prosecution. The first action does, however, provide important information indicating how the PTO views the application. In particular, under

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This evaluation is important because of the trade secret for patent disclosure trade. Under pre-1999 law, the problem did not arise. Patent applications were maintained in confidence until the patent issued.⁵⁶ Under that system, at any point prior to issuance of the patent, the applicant could withdraw the application and its contents would remain secret.⁵⁷ Thus, there was a bargain in the contract sense. The applicant traded a trade secret for a patent and both parties knew exactly what they were giving up and what they were getting.⁵⁸ In 1999, as part of an international harmonization effort,⁵⁹ the statute was amended to provide for publication of pending patent applications.⁶⁰ Under the new regime, the fundamental contract bargain could still be maintained, if the PTO disposed of applications before publication.⁶¹ However, if the application has not even been

the current system, this is the earliest date on which the inventor will learn whether the PTO perceives an issue regarding statutory subject matter. Of course, there is still uncertainty even if the PTO sees no such issue, as the issue can still be raised as a defense in an infringement action.

⁵⁶ See Joseph M. Barich, *Pre-Issuance Publication of Pending Patent Applications: Not So Secret Any More*, 2001 U. ILL. J.L. TECH. & POL'Y 415, 416 (2001) (explaining that before 1999, "a patent application was kept in secrecy by the PTO until the patent application issued as a patent").

⁵⁷ See *id.* ("[I]f the inventor was not satisfied by the scope of the claims offered by the PTO, the inventor was under no obligation to proceed with prosecution of the patent application and the inventor suffered no loss of rights.").

⁵⁸ Even an issued patent can be invalidated, and the Commissioner can withdraw a patent (although that power is rarely exercised). 37 C.F.R. § 1.1313 (2014). Either of these situations deprives the applicant of nothing if the invalidation is based on prior art, but poses a problem if the invalidation is based on qualification as statutory subject matter. See discussion *infra* Part V.B.

⁵⁹ See generally John F. Duffy, *Harmony and Diversity in Global Patent Law*, 17 BERKELEY TECH. L.J. 685, 715–16 (2002) (providing a brief history regarding the early publication of patent applications globally).

⁶⁰ See Consolidated Appropriations Act, 2000, Pub. L. No. 106-113, Div. B, § 1000(a)(9), 113 Stat. 1501, 1536 (1999) (enacting the Intellectual Property and Communications Omnibus Reform Act of 1999, S. 1948, 106th Cong. § 4502(a)) (codified as amended at 35 U.S.C. § 122 (Supp. 2013)). Generally, applications are published eighteen months after their priority date. 35 U.S.C. § 122(b)(1) (Supp. 2013).

⁶¹ Disposition – i.e., either allowance of claims or final denial of the application – would be ideal. A first substantive patent office evaluation of the application prior to publication would at least give the applicant an indication of the likelihood of obtaining patent protection before the irrevocable decision to surrender trade secret protection had to be made.

reviewed substantively at the time the applicant must make the decision, the decision is more a lottery than a traditional contractual bargain.

A. *The Basic Bottleneck*

The PTO faces a significantly different world today than it did in 1999. In 1999, roughly 270,000 utility patent applications were filed and just over 150,000 were issued as patents.⁶² In 2013 (the latest year for which there is available data), nearly 575,000 applications were filed and more than 275,000 patents were issued.⁶³ Expectations are that the transition to first-to-file under the America Invents Act (“AIA”) will result in even more applications being filed, as nervous inventors are motivated to file multiple applications on the same invention in order to reduce the risk that an anticipatory prior art reference will be created while the inventor is perfecting the invention.⁶⁴

While the PTO has made progress in the last five years, it has been unable to provide a first substantive review of most patent applications within eighteen months of their filing date, and the average time to reach a final decision on patentability approaches two and a half years.⁶⁵ Assuming that two weeks would be sufficient time for an inventor to receive a first substantive action, evaluate it, make a decision whether to continue with the application or abandon it, the average pendency to first action would need to be reduced to 16.5 months in order to allow time for a decision to abandon the application to be communicated to the PTO in time to withdraw the application

⁶² There were 270,187 applications filed and 153,485 issued. *U.S. Patent Statistics Chart: Calendar Years 1963 – 2013*, U.S. PAT. & TRADEMARK OFF., http://www.uspto.gov/go/taf/us_stat.htm (last updated July 24, 2014). Of course, the issued patents were unlikely to have been filed in the same year they were issued because of the time taken to examine an application. The numbers, however, are representative. Between 1994 and 2004, applications ranged from 189,857 to 356,943 and issued patents ranged from 101,676 to 164,290. *Id.*

⁶³ *Id.*

⁶⁴ See Sean T. Carnathan, *Patent Priority Disputes—A Proposed Re-Definition of “First-to-Invent,”* 49 ALA. L. REV. 755, 796 (1998) (explaining that “the burden on the PTO will increase” under a first-to-file system due to “hasty applications” with “limited experimental exemplification or support”).

⁶⁵ Average pendency to first action was 18.2 months and to disposition 29.1 months in 2013. USPTO REPORT FY 2013, *supra* note 53, at 14. In 2008, the average time to first action was 25.6 months and the average time to disposition was 32.2 months. *Id.* at 16.

from publication.⁶⁶

B. *The First-to-File Factor*

The move from the historical first-to-invent system to a first-to-file system was debated for more than forty years before adoption.⁶⁷ During that debate, defenders of the historical system worried about the impact of the change on the quality and pendency of patent applications.⁶⁸ Under the historical first-to-invent system, the first inventor was entitled to a patent if an application was filed within a year of the first public disclosure or offer of sale of the invention.⁶⁹ Under a first-to-file system, if the technology claimed in a patent application is already in the prior art⁷⁰ as of the date the application is filed, the application will be rejected.⁷¹ Critics of the first-to-file system were therefore concerned that such a system would force inventors to file multiple premature and sketchy disclosures for fear of losing out to a later inventor who managed to draft an application more

⁶⁶ An applicant can avoid publication by filing an express abandonment of an application. 37 C.F.R. § 1.138(c) (2014). However, “the Office cannot discontinue the pre-grant publication process during the last two to four weeks of the publication process.” MPEP § 1120 (9th ed., Mar. 2014). It would therefore appear that the PTO must receive notice of abandonment no later than (and possibly earlier than) seventeen months from the effective application date.

⁶⁷ The debate at the national level can be traced back at least to a 1966 recommendation by President Johnson’s Commission on the Patent System. COMM. ON THE JUDICIARY, U.S. SENATE, TO PROMOTE THE PROGRESS OF USEFUL ARTS: REPORT OF THE PRESIDENT’S COMMISSION ON THE PATENT SYSTEM, S. DOC. NO. 5, at 14–15 (1st Sess. 1967), *available at* <http://digitalcommons.law.scu.edu/cgi/viewcontent.cgi?article=1010&context=historical>. The move was also supported in 1992 by the Clinton Administration. ADVISORY COMM. ON PATENT LAW REFORM, A REPORT TO THE SECRETARY OF COMMERCE 11 (1992), *available at* http://ipmall.info/hosted_resources/lipa/patents/patentact/ACPLR-1.pdf; *see also* Oppenheimer, *supra* note 28 at 462–70 (cataloguing the arguments for and against the two systems).

⁶⁸ Oppenheimer, *supra* note 28, at 468.

⁶⁹ 35 U.S.C. § 102(b) (2012).

⁷⁰ “Prior art” refers to information which is relevant to a determination of patentability: information which was available to the public through a printed publication, through public use, through an offer of sale, “or otherwise available to the public,” *Id.* § 102(a)(1), expanded by the legal fiction that issued patents and published patent applications are treated as though they were published on their filing date, not the date on which the public gained access to them. *Id.* § 102(a)(2).

⁷¹ *Id.* § 102(a). The prior art is also the basis for rejecting claims as “obvious.” *Id.* § 103.

quickly.⁷² This, critics worried, would lead to an increased burden on the PTO, which would need to respond either by lowering examination quality or tolerating increased application pendency.⁷³ Former Patent Commissioner Banner noted that the negative impact of the system would fall disproportionately on inventors with limited resources.⁷⁴

On March 15, 2013, the debate ended and the first-to-file system went into full effect.⁷⁵ While it is too soon for definitive data, one commentator pointed to Japan as a first-to-file country whose experience was predictive: over five times as many applications are filed in Japan than in the United States and many of the Japanese applications are “scraps of papers written by the inventors and submitted for a priority date.”⁷⁶

U.S. standards would penalize such cursory applications because the statute sets a higher standard of disclosure: one sufficient to enable those of ordinary skill in the field to make and use the invention.⁷⁷ If the United States continues to maintain its standards of enablement, U.S. inventors face a disadvantage since they are required to file their applications in the U.S.⁷⁸ and the higher standards translate into longer time to

⁷² See, e.g., MAURICE H. KLITZMAN, *PATENT INTERFERENCE: LAW AND PRACTICE* 24 (1984) (noting that first-to-file would encourage a race to the patent office with “hasty application drafting with limited experimental exemplification or support”); Carnathan, *supra* note 64 at 796 (explaining that applicants may be “forced to file continuation-in-part applications in increased numbers” under a first-to-file system); Gregory J. Wrenn, *What Should Be our Priority: Protection for the First to File or the First to Invent?*, 72 J. PAT. & TRADEMARK OFF. SOC’Y 872, 885 (1990) (cautioning that “there are significant risks that result from over-encouraging early filing”).

⁷³ See, e.g., Vito J. DeBari, Note, *International Harmonization of Patent Law: a Proposed Solution to the United States’ First-to-file Debate*, 16 FORDHAM INT’L L. J. 687, 704 (1993) (suggesting that a first-to-file system would “result[] in a decline in the quality of applications” and “an increased volume of patent applications filed for defensive purposes”).

⁷⁴ See Donald W. Banner, *Patent Law Harmonization*, 1 U. BALT. INTELL. PROP. L.J. 9, 12 (1992) (stating that a first-to-file system “would aid the multinational corporations but mortally injure the individual inventor and small companies”).

⁷⁵ Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3, 125 Stat. 284, 285–93 (2011) (codified as amended in scattered sections of 35 U.S.C.).

⁷⁶ Charles R. B. Macedo, Note, *First-to-File: Is American Adoption of the International Standard in Patent Law Worth the Price?*, 1988 COLUM. BUS. L. REV. 543, 573 n.155 (1988).

⁷⁷ 35 U.S.C. § 112(a) (2012).

⁷⁸ U.S. inventors are required to file in the United States and wait six

prepare the application (and therefore a later priority date). Therefore, a prudent U.S. inventor, unable to take advantage of more relaxed filing requirements abroad, would need to file at least two applications per invention: a minimum application to protect against lower-standard foreign filings, and a fully-enabled application meeting U.S. standards. Thus, even if inventive activity does not increase, it would be expected that filings would. These additional filings would increase the burden on the PTO and would be expected to increase pendency times.

C. *The Definitional Dilemma*

Adding even greater complexity, the Supreme Court's evolving definition of patentable subject matter has made it harder to predict patentability.⁷⁹ Patents are only granted for certain types of inventions, known as "statutory subject matter" and defined in 35 U.S.C. § 101 as machines, manufactures, compositions of matter and processes.⁸⁰ The list of patentable subject matter, though broad,⁸¹ is exclusive.⁸²

More than 150 years ago, the Supreme Court held that Congress has "plenary" power to decide how to implement the

months before filing abroad, or to obtain a foreign filing license. *Id.* § 184(a).

⁷⁹ There is always uncertainty in predicting patentability of an invention. Under 35 U.S.C. §§ 102 and 103, a patent will be denied if the claimed invention was already known or is merely an obvious extension of what was already known. Because it is impossible to fully characterize the prior art (some of which may be contained in patent applications which have been pending less than eighteen months and are therefore inaccessible), there is always an element of uncertainty around a patentability opinion. This is an unavoidable aspect of the priority system, and one that is not even fully removed upon grant of the patent. Even an issued patent is subject to invalidation based on prior art that was not before the PTO during examination. However, the issue of patentable subject matter is a different (and solvable) uncertainty. See discussion *infra* Part V.C.

⁸⁰ 35 U.S.C. § 101.

⁸¹ The term manufacture is meant to include "anything under the sun that is made by man." S. REP. NO. 82-1979, at 5 (1952); H.R. REP. NO. 82-1923, at 6 (1952); see also *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (rejecting the argument that a genetically engineered bacterium was implicitly excluded from statutory subject matter because, although a "composition of matter," it was alive).

⁸² See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 483 (1974) ("[N]o patent is available for a discovery, however useful, novel, and nonobvious, unless it falls within one of the express categories of patentable subject matter of 35 U.S.C. § 101.").

Constitutional power to promote progress through the patent system⁸³ and more recently the Court warned lower courts not to read words into the patent statute.⁸⁴ This has not stopped the Court itself from creating exceptions to the categories of statutory subject matter that are established by the clear words of the statute.⁸⁵

While the statutory language chosen by Congress is broad and has remained largely unchanged since first enacted in 1790, the Supreme Court has engrafted limitations on what otherwise appears to be a clear statement of Congressional intent. Moreover, the Court has revised its interpretation several times, leaving researchers uncertain as to what can be protected (and therefore what research might be justified economically).⁸⁶

The statute authorizes four categories of statutory subject matter,⁸⁷ but the Supreme Court excludes from patent protection “laws of nature, natural phenomena, and abstract ideas”⁸⁸ because “[p]henomena of nature . . . , mental processes, and abstract intellectual concepts are . . . the basic tools of scientific and technological work.”⁸⁹ This matters, not only because the Court’s definition is narrower than the statute’s, but more importantly because the Court’s definition is less predictable than the statute’s. The unpredictability of the Supreme Court’s definition is clearly shown by the difficulty the Federal Circuit has had in applying it—in every statutory subject matter case

⁸³ See *McClurg v. Kingsland*, 42 U.S. 202, 206 (1843) (“[T]he powers of Congress to legislate upon the subject of patents is plenary by the terms of the Constitution, and . . . there are no restraints on its exercise.”); *Evans v. Jordan*, 13 U.S. (9 Cranch) 199, 204 (1815); *Bloomer v. McQuewan*, 55 U.S. (14 How.) 539, 541–42 (1852); *Bloomer v. Millinger*, 68 U.S. (1 Wall.) 340, 351 (1864); *Eunson v. Dodge*, 85 U.S. (18 Wall.) 414, 417 (1873).

⁸⁴ *Diamond v. Diehr*, 450 U.S. 175, 182 (1981).

⁸⁵ *Id.* at 219; *Parker v. Flook*, 437 U.S. 584, 596 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972).

⁸⁶ Max Stul Oppenheimer, *Patents 101: Patentable Subject Matter and Separation of Powers*, 15 VAND. J. ENT. & TECH. L. 1, 3 (2012).

⁸⁷ *Diehr*, 450 U.S. at 182.

⁸⁸ *Id.* at 185 (“[L]aws of nature, natural phenomena, and abstract ideas” are unpatentable); *Benson*, 409 U.S. at 67 (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable as they are the basic tools of scientific and technological work.”); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948) (“[P]art of the storehouse of knowledge . . . are manifestations of laws of nature, free to all men and reserved exclusively to none.”).

⁸⁹ *Benson*, 409 U.S. at 67.

reaching the Supreme Court, it has reversed the Federal Circuit.⁹⁰ In dealing with these reversals, the Federal Circuit has noted the difficulty of fathoming the Supreme Court's instructions. Its frustration is evident in passages such as:

The Supreme Court has not been clear . . . as to whether such subject matter is excluded from the scope of § 101 because it represents laws of nature, natural phenomena, or abstract ideas. The Supreme Court also has not been clear as to exactly what kind of mathematical subject matter may not be patented. The Supreme Court has used, among others, the terms “mathematical algorithm,” “mathematical formula,” and “mathematical equation” to describe types of mathematical subject matter not entitled to patent protection standing alone. The Supreme Court has not set forth, however, any consistent or clear explanation of what it intended by such terms or how these terms are related, if at all.⁹¹

Given this uncertainty at the nation's specialized patent court, it is understandable that patent applicants would face difficulty in evaluating this aspect of patentability of their inventions—and therefore in evaluating the wisdom of surrendering trade secret protection. This uncertainty as to property rights is a disincentive for inventors to spend the time on fundamental research and for investors to provide the necessary funding.⁹²

The clearest explanation of the theoretical underpinnings of these judicial exclusions may be found in Justice Breyer's dissent from the dismissal of certiorari in *Laboratory Corporation of America Holdings v. Metabolite Laboratories, Inc.*⁹³

The relevant principle of law “[e]xclude[s] from . . . patent protection . . . laws of nature, natural phenomena, and abstract ideas.” . . . The justification for the principle does not lie in any claim that “laws of nature” are obvious, or that their discovery is easy, or that they are not useful. To the contrary, research into such matters may be costly and time consuming; monetary incentives may matter; and the fruits of those incentives and that research may prove of great benefit to the human race. Rather, the reason for the exclusion is that sometimes *too much* patent

⁹⁰ See generally Jeremy D. Roux, Note, *The Supreme Court and § 101 Jurisprudence: Reconciling Subject-Matter Patentability Standards and the Abstract Idea Exception*, 2014 U. ILL. L. REV. 629, 633–41 (2014) (providing historical background regarding the evolution of § 101 subject matter eligibility as defined by the Federal Circuit and Supreme Court).

⁹¹ *In re Allapat*, 33 F.3d 1526, 1543 n.19 (Fed. Cir. 1994).

⁹² Oppenheimer, *supra* note 86 at 3.

⁹³ *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.* 548 U.S. 124, 125–39 (2006) (Breyer, J., dissenting).

protection can impede rather than “promote the Progress of Science and useful Arts,” the constitutional objective of patent and copyright protection.⁹⁴

The problem arises from the fact that patents do not only encourage research by providing monetary incentives for invention. Sometimes their presence can discourage research by impeding the free exchange of information⁹⁵

Thus, the Court has recognized that “[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are . . . the basic tools of scientific and technological work.” It has treated fundamental scientific principles as “part of the storehouse of knowledge” and manifestations of laws of nature as “free to all men and reserved exclusively to none.” And its doing so reflects a basic judgment that protection in such cases, despite its potentially positive incentive effects, would too often severely interfere with, or discourage, development and the further spread of useful knowledge itself.⁹⁶

As noted by Federal Circuit Judge Newman in 1994, “[t]he boundary between patentable and unpatentable subject matter is not always a bright line.”⁹⁷

Matters have not improved in the interim. The definition of statutory subject matter has puzzled the Federal Circuit,⁹⁸ commentators,⁹⁹ and the PTO.¹⁰⁰ The Supreme Court itself noted

⁹⁴ *Id.* at 126–27 (internal and other citation omitted).

⁹⁵ *Id.* at 127.

⁹⁶ *Id.* at 127–28 (internal citation omitted).

⁹⁷ See *In re Alappat*, 33 F.3d 1526, 1543 n.19, 1569 (“The Supreme Court has not been clear . . . as to whether such subject matter is excluded from the scope of § 101 because it represents laws of nature, natural phenomena, or abstract ideas. . . . *Diehr* . . . viewed mathematical algorithm as a law of nature. . . . *Benson* . . . treated mathematical algorithm as an ‘idea.’ . . . The Supreme Court also has not been clear as to exactly what kind of mathematical subject matter may not be patented. The Supreme Court has used, among others, the terms ‘mathematical algorithm,’ ‘mathematical formula,’ and ‘mathematical equation’ to describe types of mathematical subject matter not entitled to patent protection standing alone. The Supreme Court has not set forth, however, any consistent or clear explanation of what it intended by such terms or how these terms are related, if at all.”).

⁹⁸ *Metabolite Labs.*, 548 U.S. at 125–39.

⁹⁹ See Joshua Sarnoff, *Patent-Eligible Inventions after Bilski: History and Theory*, 63 HASTINGS L.J. 53, 55 (2011) (arguing that it is difficult to draw a legal line regarding what is considered eligible subject matter under section 101 in the United States); Aaron J. Zakem, Note, *Rethinking Patentable Subject Matter: Are Statutory Categories Useful?*, 30 CARDOZO L. REV. 2983, 2988 (2009) (“[I]t has proven difficult to draw an exclusionary line which disallows

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that the “line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear.”¹⁰¹ The PTO and Federal Circuit, in trying to implement the Supreme Court’s evolving definition of statutory subject matter, have announced, then abandoned (or had overruled), a series of patentable subject matter rubrics: the “technological arts” test;¹⁰² the “Freeman-Walter-Abele” test;¹⁰³ the “mental steps” test;¹⁰⁴ the “mathematical algorithm” test;¹⁰⁵

inhibitive patents without prejudicing claims on novel and non-obvious technology.”).

¹⁰⁰ See *infra* notes 102–07 and accompanying text (describing the challenge of identifying a consistent test).

¹⁰¹ *Parker v. Flook*, 437 U.S. 584, 589 (1978).

¹⁰² See *In re Musgrave*, 431 F.2d 882, 893 (C.C.P.A. 1970) (announcing the test). *But see* *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972) (rejecting the same).

¹⁰³ Developed in three patent office decisions, the test essentially consisted of first determining whether a mathematical algorithm was recited directly or indirectly in the claim and, if so, next determining whether the claimed invention as a whole is no more than the algorithm itself or is applied to or limited by physical elements or process steps. *In re Abele*, 684 F.2d 902, 907 (C.C.P.A. 1982); *In re Walter*, 618 F.2d 758, 767 (C.C.P.A. 1980); *In re Freeman*, 573 F.2d 1237, 1245 (C.C.P.A. 1978); see *AT&T Corp. v. Excel Commc’ns, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999) (modifying the Freeman-Walter-Abele Test to no longer require physical elements).

¹⁰⁴ See *Musgrave*, 431 F.2d at 893, 894 (“We cannot agree . . . that these claims . . . are directed to non-statutory processes merely because some or all the steps therein can also be carried out in or with the aid of the human mind or because it may be necessary for one performing the processes to think.”).

¹⁰⁵ *Benson*, 409 U.S. at 71 (1972) (finding that a claim to a method of converting binary-coded decimal numbers into decimal numbers was not an invention or discovery under § 101, even though the claimed method was to be performed by a computer, since the method had no substantial practical application other than with a digital computer); *Flook*, 437 U.S. at 585, 591, 593 (holding that a claim to a method of updating “alarm limits” was not covered by 35 U.S.C. § 101 since it amounted to the discovery of a mathematical formula which, although novel, does not constitute a discovery that the statute would protect). *Cf.* *Diamond v. Diehr*, 450 U.S. 175, 178–79 (1981) (finding that a claim to a process for operating a rubber-molding press was within § 101, even though one element of the claim was the calculation of the appropriate time to open the press). The Court distinguished *Flook* as not containing “any disclosure relating to the chemical processes at work, the monitoring of process variables, or the means of setting off an alarm or adjusting an alarm system” and noted “excluded from such patent protection are laws of nature, natural phenomena, and abstract ideas. . . . Our recent holdings in *Gottschalk v. Benson* . . . and *Parker v. Flook*, . . . both of which are computer-related, stand for no more than these long-established principles.” *Id.* at 185, 187.

the machine implemented test,¹⁰⁶ and the “transformation” test.¹⁰⁷

The two industries most affected by the narrowing of the statutory language are computer software and medical technology¹⁰⁸ – two of the most important industries in the U.S. economy.¹⁰⁹ The early cases of *Gottschalk v. Benson*,¹¹⁰ *Parker v. Flook*,¹¹¹ and *Diamond v. Diehr*¹¹² seemingly settled the question for the computer industry, but *Bilski v. Warsaw*¹¹³ and *Alice Corp. Pty. v. CLS Bank Int'l*¹¹⁴ have reopened it. Most recently, the Supreme Court has held that certain types of medical treatment inventions, although within the meaning of “process” are nevertheless excluded from the definition of “statutory subject matter” and therefore cannot be patented because they represent no more than observing a correlation between a biological datum and a preferred method of treatment,¹¹⁵ and that other types of inventions, although within the meaning of “composition of matter” are nevertheless excluded from the definition of “statutory subject matter” and therefore cannot be patented because they represent no more than extracting

¹⁰⁶ See *In re Grams*, 888 F.2d 835, 841 (Fed. Cir. 1989) (noting that the fact that a nonstatutory method is carried out on a programmed computer does not make the process claim statutory).

¹⁰⁷ *Bilski v. Kappos*, 561 U.S. 593, 604 (2010).

¹⁰⁸ *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2360 (2014); *Mayo Collaborative Servs. v. Prometheus Labs.*, 132 S. Ct. 1289, 1299 (2012).

¹⁰⁹ See PHILIP F. POSTLEWAITE ET. AL., FED. INC. TAX. INTELL. PROP. & INTANGIBLE ASS. ¶ 7.01 (2015), available at 1998 WL 1038691 (describing the importance of the computer software market to the global economy); see also William W. George, *Medical Technology and Competitiveness in the World Market: Reinventing the Environment for Innovation*, 50 FOOD & DRUG L.J. 477, 477 (1995) (discussing the importance of medical technology in the global industry).

¹¹⁰ 409 U.S. 63 (1972).

¹¹¹ 437 U.S. 584 (1978).

¹¹² 450 U.S. 175 (1981).

¹¹³ See *Bilski v. Kappos*, 561 U.S. 593, 607, 609 (2010) (holding that the concept of hedging risk and its application to energy markets were not methods that were patentable as processes, but rather were unpatentable abstract ideas).

¹¹⁴ See *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2359 (2014) (holding that the claims were not patentable because they simply instructed the practitioner to implement an abstract idea on a generic computer).

¹¹⁵ *Mayo Collaborative Servs. v. Prometheus Labs*, 132 S. Ct. 1289, 1302 (2012).

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something which previously existed in nature.¹¹⁶

These cases, at a minimum, complicate the decision of whether to seek patent protection for computer implementations or medical discoveries in general. Complication and uncertainty have two important consequences: they tend to favor trade secrecy in two fields where trade secret protection is a viable option,¹¹⁷ and they increase the cost of financing innovation in two fields where innovation is economically important.¹¹⁸ For example, while Congress would certainly have the power to exclude medicine from the type of progress the nation wants to encourage,¹¹⁹ it would be astonishing if it chose to do so, given the recent emphasis on the importance of improving access to medical care and cost containment and the hope that better data management will help reach those goals.

V. THE CASE FOR STAGED PROSECUTION

A. *Precedents*

Even under the current compact prosecution system, there are

¹¹⁶ *Ass'n for Molecular Pathology v. Myriad Genetics*, 133 S. Ct. 2107, 2117 (2012).

¹¹⁷ Computer programs can be maintained in secret while offering “Software as a Service.” See Xuan-Thao Nguyen & Jeffrey A. Maine, *Taxing Facebook Code: Debugging the Tax Code and Software*, 60 BUFF. L. REV. 1, 51 (2012) (discussing cloud computing and SaaS). Diagnostic test companies can maintain processes and evaluation criteria in secret and insist that samples be sent to them for analysis.

¹¹⁸ See George, *supra* note 109, at 477–78 (discussing the importance of innovation to manufacturers in the world market).

¹¹⁹ Congress has done so in several areas. Nuclear weapons technology, tax strategy patents and claims “directed to or encompassing a human organism” are specifically excluded from patentability. See 42 U.S.C. § 2181(a) (2012) (“No patent shall hereafter be granted for any invention or discovery which is useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon.”); see also Leahy-Smith America Invents Act, Pub. L. No. 112-29, §§ 14(a), 33(a), 125 Stat. 284, 327, 340 (2011) (codified as amended in scattered sections of 35 U.S.C.) (“For purposes of evaluating an invention . . . any strategy for reducing, avoiding, or deferring tax liability, whether known or unknown at the time of the invention or application for patent, shall be deemed insufficient to differentiate a claimed invention from the prior art. . . . [Additionally,] no patent may issue on a claim directed to or encompassing a human organism.”). Although theoretically patentable, medical procedures are, in effect, not worth patenting as Congress has denied remedies for infringement. 35 U.S.C. § 287(c).

some aspects of a patent application that are examined separately and ahead of full substantive examination of the merits of the application.¹²⁰

Initially, even before according an application a filing date, it is examined for compliance with certain requirements of the statute.¹²¹ These determinations—whether the application appears to be complete,¹²² whether it includes any required drawings,¹²³ whether it contains claims if a non-provisional application,¹²⁴ whether it identifies the inventor,¹²⁵ and whether the appropriate fees have been paid¹²⁶—do not require knowledge of the technology or the prior art, and are carried out by a cross-technology branch of the PTO.¹²⁷ Of particular relevance to the

¹²⁰ See *supra* note 2 and accompanying text.

¹²¹ There are two preliminary determinations made with respect to every application. First, it is determined if the application is entitled to a filing date. See 37 C.F.R. §§ 1.53(a), (b) (2014) (“Any papers received in the Patent and Trademark Office which purport to be an application for a patent will be assigned an application number for identification purposes. . . . The filing date of an application for patent filed under this section . . . is the date on which a specification . . . is received in the [Patent and Trademark] Office.”). In compliance with the provisions of the Hague Agreement Concerning International Registration of Industrial Designs, the Patent Law Treaties Implementation Act of 2012 the only requirement for establishing the filing date for a Nonprovisional application is the filing of “a specification, with or without claims.” *Id.* § 1.53(b). If the application meets these requirements, it receives a filing date and serial number even though there may be additional elements required before the application is ready for examination on the merits. *Id.* § 1.53(a); see also *id.* § 1.54(a) (allowing an application to be sent in parts). An application may even receive a filing date if it only refers to and incorporates by reference another pending application. See *id.* § 1.53(a) (stating that all papers “received in the Patent and Trademark Office which purport to be an application for a patent will be assigned an application number for identification purpose.”). If an application does not include the required fees, at least one claim or the inventor’s oath or declaration, the applicant is notified and given a period of time within which to supply the missing elements (and pay a surcharge). *Id.* § 1.53(f)(1). Only upon failure to respond within the allowed time results is the application abandoned. *Id.*

¹²² See MPEP § 503 (9th ed. Mar. 2014) (describing the requisite pieces of a patent application).

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ See 35 U.S.C. § 131 (2012) (mandating that the director cause patent examiners to examine the patent application and the alleged new invention); see also JOHN GLADSTONE MILLS III ET. AL., 4 PAT. L. FUNDAMENTALS § 15:12 (2d ed.

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argument for separating out other aspects of prosecution, these examinations are carried out quickly, typically within a month of filing the application.

The current compact prosecution system also acknowledges special circumstances where certain aspects of examination should take place before others are addressed.¹²⁸ The MPEP lists several examples of such circumstances:

- (A) Where an application is too informal for a complete action on the merits;¹²⁹
- (B) Where there is an undue multiplicity of claims;¹³⁰
- (C) Where there is a misjoinder of inventions;¹³¹ and
- (D) Where disclosure is directed to perpetual motion.¹³²

These determinations do not relate to the specific technology involved in the application, and do not require the time-consuming process of determining the state of the art and making determinations of novelty or obviousness. Conceptually, they require legal rather than technological analysis.

A determination of qualification as statutory subject matter is closely analogous to these types of determinations. It is an essentially legal analysis, not related to the technology involved.¹³³ It does not involve a search or evaluation of the prior art or comparison of the claimed invention to the prior art.¹³⁴ It therefore does not need not be evaluated in the Art Units, but rather could be centralized and dealt with as a preliminary matter. It should therefore be both feasible and within the PTO's authority to manage the prosecution process.¹³⁵

2015) (discussing the patent application review process in more detail).

¹²⁸ See MPEP § 707.07(g) ("Some situations exist where examination of an application appears best accomplished by limiting action on the claim thereof to a particular issue.").

¹²⁹ *Id.* (citing MPEP § 702.01).

¹³⁰ *Id.* (citing MPEP § 2173.05(n)).

¹³¹ *Id.* (citing MPEP §§ 803, 810, 812.01).

¹³² *Id.* (explaining that in this situation, examiners are instructed that "the best prior art readily available should be cited and its pertinency pointed out without specifically applying it to the claims").

¹³³ See *supra* notes 129–32 and accompanying text.

¹³⁴ See *supra* notes 129–32 and accompanying text.

¹³⁵ It may well be that this preliminary determination will save costs by terminating some applications at this stage. While the net cost or benefit to the PTO will not be known until the review has been implemented, this additional review will certainly take time and therefore require additional personnel and impose additional short-term cost on the PTO. In the model proposed below, two aspects are introduced to take account of this uncertainty: giving the applicant

B. Economic Justification

The most pressing need for staged prosecution relates to early determinations of statutory subject matter qualification, and the industries most in need of this relief are those involved in the ongoing evolution of the Supreme Court's definition: biotech and computer software.¹³⁶ Although written in the early days of the biotech industry, Monsanto IP Counsel Byron Olsen's insights remain valid today:

In many cases the availability of patent protection for corporations engaging in biotechnology R&D is essential to their survival . . . [b]ecause it generally takes so much investment to develop and get approval for a new therapeutic . . . Besides the argument for enhanced industry security, allowing patent protection would stimulate this and related business sectors by creating jobs and contributing to a positive balance of trade that the United States generally enjoys within the intellectual property marketplace.¹³⁷

The cost of development of new therapeutics has risen dramatically since those words were written in 1997¹³⁸ as has the importance of the U.S. biotech industry.

Even while arguing that patent protection should not be extended to the discovery of a basic biological relationship, Justice Breyer noted:

The justification for the principle does not lie in any claim that

the option whether to request preliminary review of patentable subject matter eligibility, and giving the PTO the option to establish a unique process for handling the request and to charge a fee.

¹³⁶ Byron V. Olsen, *The Biotechnology Balancing Act: Patents for Gene Fragments, and Licensing the "Useful Arts"*, 7 ALB. L.J. SCI. & TECH. 295, 314–15 (1997); see also Aaron J. Zackem, Note, *Rethinking Patentable Subject Matter: Are Statutory Categories Useful?*, 30 CARDOZO L. REV. 2983, 2994–95 (2009) (discussing the misapplication of the definition for algorithm as it applies to computer software categorizing the area as "unpatentable").

¹³⁷ Olsen, *supra* note 136, at 321–22.

¹³⁸ The Tufts Center for the Study of Drug Development Annual estimate places the cost of developing a drug at \$2.558 billion. Robert Weisman, *Cost of Bringing Drug to Market Tops \$2.5b, Research Finds*, BOS. GLOBE (Nov. 18, 2014), <http://www.bostonglobe.com/business/2014/11/18/cost-bringing-prescription-drug-market-tops-billion-tufts-research-center-estimates/6mPph8maRxxcvftWjr7HUN/story.html>. Forbes puts the cost at \$5 billion. Matthew Herper, *The Cost of Creating a New Drug Now \$5 Billion, Pushing Big Pharma to Change*, FORBES (Aug. 11, 2013), <http://www.forbes.com/sites/matthewherper/2013/08/11/how-the-staggering-cost-of-inventing-new-drugs-is-shaping-the-future-of-medicine/>.

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'laws of nature' are obvious, or that their discovery is easy, or that they are not useful. To the contrary, research into such matters may be costly and time consuming; . . . and that research may prove of great benefit to the human race.¹³⁹

Therefore, to the extent consistent with the Constitution and the statute, the patent system should attempt to preserve the incentive to continue to pursue and disclose these discoveries.

An early decision directed solely to determining qualification as patentable subject matter has the potential to help reduce overall pendency and cut the cost of examination. Presumably, some of the determinations will be negative and, if the applicant respects that determination, the application will be abandoned. The most difficult and time-consuming aspect of examination is typically collection and analysis of the prior art.¹⁴⁰ Therefore, applications removed from the queue for lack of patentable subject matter will be removed more quickly than if the application had undergone full examination (while applications which pass the patentable subject matter bar would impose no additional burden on the system if, as suggested below, that determination is viewed as binding on subsequent examination). A rough, unscientific measure of the complexity of prior art evaluations versus evaluation of statutory subject matter supports this proposition: the number of pages of the MPEP devoted to these two tasks.¹⁴¹ Prior art issues require more than 110 pages,¹⁴² while section 101 issues are covered in four.¹⁴³

¹³⁹ *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126 (2006) (Breyer, J., dissenting) (internal citation omitted).

¹⁴⁰ See Bhaven N. Sampat, *When do Applicants Search for Prior Art?*, 53 J.L. & ECON. 399, 399–400 (2010) (noting that since patent examiners face severe resource constraints when conducting prior art searches, it is important for applicants to conduct their own prior art searches and then supply information to ensure the quality of issued patents).

¹⁴¹ The MPEP contains the instructions to the PTO examining corps for handling all aspects of patent applications. The entire manual is more than 2,800 pages long. The comparative numbers of pages cover the basic examination only – there are more complicated rules governing reexaminations, ex parte proceedings, and appeals. However, the proposal for staged examination would only apply to initial examination, so the comparison covers the appropriate sections of the MPEP.

¹⁴² In the current version of the MPEP, the portion devoted entirely to prior art and searching takes fifty-five pages. See MPEP ch. 900 (9th ed. Mar. 2014). The portion of the MPEP devoted to prior art rejections covers sixty-two pages. See *id.* § 706.02.

¹⁴³ See *id.* § 706.03(a) (covering section 101 rejection in four pages).

Offering an early decision on patentable subject matter could also give the PTO an advantage over other national offices in the competition for international applications under the Patent Cooperation Treaty.¹⁴⁴ Designating the U.S. as the examining authority would allow an applicant to receive an early determination as to availability of patent protection in the world's most important market,¹⁴⁵ at a stage when the applicant still has trade secret protection.¹⁴⁶ This should make the U.S. a more attractive choice for preliminary examination than another country's patent office that would not provide this critical information until after publication of the international application and consequent loss of trade secret protection.¹⁴⁷

This advantage would be of special importance to two key industries: computer software (including computer-implemented business applications and smartphone apps) and biotechnology.¹⁴⁸ These are industries with an enormous impact on the U.S.

¹⁴⁴ See *id.* § 1893 (providing the general guidelines for international applications and noting that the United States does not have any kind of expediting process).

¹⁴⁵ See 37 C.F.R. § 1.414(a) (2014) (stating that the PTO will act as the Designated Office for international applications seeking U.S. patent protection).

¹⁴⁶ See Susan Perng Pan & Sughrue Mion, *Hybrid Use of Trade Secret and Patent Protection in Green Technology*, in 3(4) BLOOMBERG LAW REPORTS—SUSTAINABLE ENERGY, at 2 (2010) (explaining that trade secret protection can still be maintained during the first eighteen months of a patent application's pendency when first filed in the U.S.).

¹⁴⁷ Under the Patent Cooperation Treaty, applications are published eighteen months after the earliest filing date. See Patent Cooperation Treaty art. 21(2)(a), June 19, 1970, 28 U.S.T. 7645, 1160 U.N.T.S. 231, available at <http://www.wipo.int/export/sites/www/pct/en/texts/pdf/pct.pdf>.

¹⁴⁸ It is worth noting that the avalanche of biotech applications in precisely the area now under doubt as a result of recent supreme court decisions, was precipitated by the federal government itself when its National Institute of Health, to the shock and criticism of many in the fledgling biotech industry, filed the first patent applications for human genes. See, e.g., *NIH Gene Patent Application is Debated at Forum on Human Genome*, 44 PAT., TRADEMARK & COPYRIGHT J. (BNA) 73, 75 (1992); Leslie Roberts, *NIH Gene Patents, Round Two*, 255 SCI. 912, 912–13 (1992); Hilary Stout, *U.S. Pursuit of Gene Patents Riles Industry*, WALL ST. J., Feb. 13, 1992, at B1; see also Liz Bowie, *NIH is Hopeful on Gene Patents Despite Rejection Approval is Sought for 2,400 Fragments*, BALTIMORE SUN, Sept. 24, 1992, http://articles.baltimoresun.com/1992-09-24/business/1992268051_1_apply-for-patents-obtain-a-patent-gene (noting that the NIH's application for patents on gene fragments "has caused a contentious debate between the government and academic researchers who are trying to draw a map of the 50,000 to 100,000 genes in the human body").

economy.¹⁴⁹ These are also industries that typically file patent applications routed to Art Units with above-average pendency times,¹⁵⁰ precisely because they are important industries with active research and development programs.¹⁵¹ They are also industries directly affected by the Supreme Court's most recent pronouncements on statutory subject matter.¹⁵²

C. *Legal Justification*

Qualification of a claim as statutory subject matter is a legal issue – whether claims constitute statutory subject matter is a question of law and is reviewed without deference.¹⁵³ This determination is, therefore, logically separable from substantive examination, much as the special circumstances exceptions of MPEP § 707.07(g) or the preliminary completeness review of 35 U.S.C. § 503.¹⁵⁴

Examiners are trained in the technology, and not required to be lawyers. The determination of statutory subject matter qualification does not depend on the prior art,¹⁵⁵ so no search or comparison between the prior art and the claimed invention is necessary. Logically, the examination for statutory subject matter could be made by a unit staffed by lawyers or paralegals.

Moreover, a number of court cases (apparently ignoring the PTO's internal guidance regarding compact prosecution) view statutory subject matter as a “gatekeeper” requirement and appear to assume that this evaluation takes place prior to substantive determinations of prior art and enablement requirements.¹⁵⁶ The courts also appear to believe (again,

¹⁴⁹ Bowie, *supra* note 148.

¹⁵⁰ USPTO REPORT FY 2013, *supra* note 53, at 190. Thus, even if the PTO reaches its goal of reducing average pendency below eighteen months, it is unlikely that the average in these art units will reach that level.

¹⁵¹ Estimates vary widely, but put the cost to bring a new drug to market in the billions. *See supra* note 138 and accompanying text.

¹⁵² *See supra* note 136 and text accompanying.

¹⁵³ AT&T Corp. v. Excel Comm'ns, Inc., 172 F.3d 1352, 1355 (Fed. Cir. 1999).

¹⁵⁴ *See discussion supra* Part V.A.

¹⁵⁵ MPEP § 706.02(III) (9th ed. Mar. 2014).

¹⁵⁶ *See In re Comiskey*, 499 F.3d 1365, 1371 (Fed. Cir. 2007) (stating that the first step to accomplish is statutory subject matter determination); *State St. Bank & Trust Co. v. Signature Fin. Grp., Inc.*, 149 F.3d 1368, 1372 n.2 (Fed. Cir. 1998) (providing that one of the categories of statutory subject matter is required to pass through to the second door of the process); *In re Bergy*, 596 F.2d 952, 960 (C.C.P.A. 1979) (“The first door which must be opened on the

notwithstanding the PTO's internal guidance) that an examiner who concludes that a claimed invention is not statutory subject matter will end the inquiry at that point, and will not proceed to evaluate the sufficiency of enablement or patentability over the prior art.¹⁵⁷

Finally, from the perspective of the constitutional bargain, section 101 is qualitatively different from the other statutory sections¹⁵⁸ that may be the basis for rejecting claims to a patent.¹⁵⁹ The section 112 requirements of enablement and claiming specificity are both within the applicant's control.¹⁶⁰ If, in fact, the applicant has possession of the invention, then the applicant can satisfy these requirements and examination will not change that.¹⁶¹ Section 112 therefore poses no risk to patentability and hence is not a factor in weighing the risks of publication. Similarly, the section 102 and 103 requirements that a patent be issued only for new, non-obvious technology, should not be a factor in weighing the risks of publication. These sections only come into play if there is already publicly available information describing the claimed invention¹⁶² or rendering it obvious.¹⁶³ If such information is already publicly available (even if not known to the applicant), then by definition there is no trade secret to protect.¹⁶⁴

difficult path to patentability is § 101.”)

¹⁵⁷ See *State St. Bank*, 149 F.3d at 1372 (noting that section 101 is a threshold issue that must be addressed before other questions of patentability).

¹⁵⁸ See *Bergy*, 596 F.2d at 960 (explaining how section 101 is “distinguished from the qualitative conditions which make the invention patentable”).

¹⁵⁹ *Id.*

¹⁶⁰ See 35 U.S.C. § 112 (2012) (requiring an inventor to provide a detailed specification “in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same”).

¹⁶¹ If, however, the applicant cannot describe the invention or teach those of ordinary skill how to make and use the invention, then the applicant has nothing to protect and loses nothing by disclosure.

¹⁶² *Id.* § 102.

¹⁶³ *Id.* § 103.

¹⁶⁴ A trade secret is defined as “information . . . that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.” Unif. Trade Secrets Act § 1(4) (amended 1985). Thus, for at least three reasons there can be no trade secret. Definitionally, a trade secret must be information that the applicant's competitors do not know. *Id.* If publicly available, competitors can

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A section 101 rejection is different – it does not deny patent protection because the public already has the technology or because the applicant refuses to disclose it fully.¹⁶⁵ Rather it denies protection solely because the technology is not within a protectable category.¹⁶⁶ This difference matters, because it means that the applicant could maintain the technology as a trade secret rather than seek a patent. Thus, it is the only category of substantive rejection that would logically come into play in an applicant’s decision whether to maintain trade secret protection or forfeit it in hopes of obtaining a patent.

1. Unworkable Solutions

Two options under the existing system might suggest themselves as solutions: opting out of pre-grant publication¹⁶⁷ and requesting expedited processing of the application.¹⁶⁸

Current rules allow an applicant to affirmatively opt out of the pre-grant publication program.¹⁶⁹ In order to do so, the applicant must represent that the application will not be filed in any country that publishes applications before the grant of a patent, including under the Patent Cooperation Treaty.¹⁷⁰ While this solution technically avoids the dilemma presented by the need to decide whether to surrender a trade secret in the absence of critical information, it exacts a significant price. In effect, it merely transfers the dilemma from “surrender trade secret or not” to “surrender international protection or not.”

Current rules also allow an applicant to request expedited examination under certain conditions, and upon payment of an

gain access through proper means, negating trade secret status. *Id.* Finally, if publicly available, there is no way the applicant can take reasonable steps to protect it. *Id.*

¹⁶⁵ See *In re Bergy*, 596 F.2d 952, 960 (C.C.P.A. 1979) (explaining that sections 102 and 103 “guard[] the public interest by assuring that patents are not granted which would take from the public that which it already enjoys (matters already within its knowledge whether in actual use or not) or Potentially enjoys by reason of obviousness from knowledge which it already has”).

¹⁶⁶ See *id.* (noting three protected categories under section 101; novelty, utility, and statutory subject matter).

¹⁶⁷ 37 C.F.R. § 1.213(a) (2014).

¹⁶⁸ *Id.* § 1.102(a).

¹⁶⁹ *Id.* § 1.213(a).

¹⁷⁰ *Id.* § 1.213(a)(3).

extra fee.¹⁷¹ The scope of expedited examination does not differ from the scope of regular examination – the application is simply placed in a separate queue, ahead of those in the regular examination queue (but behind other expedited applications).¹⁷² There is therefore no guarantee that the examination will take place early enough to beat the eighteen-month publication date.¹⁷³ Use of the expedited system also does nothing to deal with the fundamental problem of pendency – the average pendency will remain the same, it is just that different applications will be examined first.¹⁷⁴ On the other hand, staged application offers the possibility of reducing average pendency because of the possibility that applications will be disposed of at the preliminary stage, using fewer office resources (because of the elimination of the need to conduct prior art searches and evaluations).

2. A Workable System

While the motivation for compact prosecution was laudable, subsequent events have turned its advantages into disadvantages in many important situations. At a minimum, applicants should have the option to request that certain issues be examined before a full review on the merits. The issue of statutory subject matter is the issue that currently logically fits and demands attention, but other issues may be appropriate in the future and consideration should be given to an applicant's option to request preliminary determination of any non-technological issue of patentability.

Because the issue is purely legal, it would make sense for the PTO to establish a unit, staffed by legally trained personnel, to make the determinations. Setting up such a unit, rather than having the decisions made within the various art units, would also have the advantage of developing a more coherent body of precedent and should lead to more predictable results. This would further the main objective of the system by giving inventors early information regarding patentability prospects so as to encourage disclosure in those areas Congress has chosen to incentivize, and would also give the patent bar a tool for

¹⁷¹ *Id.* § 1.102(a), (e).

¹⁷² *Id.*

¹⁷³ 35 U.S.C. § 122(b)(1) (Supp. 2013).

¹⁷⁴ 37 C.F.R. § 1.102(a).

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providing reliable advice.

The decision on qualification as statutory subject matter must be made quickly – no later than 16.5 months after filing,¹⁷⁵ but ideally much earlier. The decision must be binding on the PTO during examination. Amended claims, of course, could not receive this preliminary evaluation because they were not part of the original filing and therefore the PTO would not have made a determination regarding those claims. It would be desirable that amended claims receive statutory subject matter evaluation that is consistent with the evaluation of originally filed claims, but the applicant controls the drafting of claims so it would not be unfair to limit the binding effect to originally filed claims only.

The decision should be reviewable, either by interlocutory appeal to the Board of Patent Appeals or by petition to the Director. Not only would the availability of an immediate appeal be of value to the applicant, but it would also provide the PTO with a vehicle for monitoring the issue and developing a coherent and consistent policy in the face of uncertain and evolving guidance from the courts.

While early determination seems to benefit both the applicant and the PTO, the applicant might be charged a fee for requesting a preliminary determination of a non-technological issue. To protect against unforeseen misuse of the system, a petition could be required, with the presumption that such petitions would ordinarily be granted absent special circumstances.¹⁷⁶

Such a system would, of course, require personnel, but if it in fact results in the early abandonment of applications prior to substantive examination, it should in the long run reduce the need for additional personnel or reduce the burden on existing personnel. It should fit neatly within the agency's existing structure and would likely be revenue neutral or positive. In the event that the system did impose additional costs, they could be recovered by user fees. If properly set, the fees should be acceptable to the inventor community as a reasonable cost of critical information, along with the option of avoiding additional

¹⁷⁵ See *supra* note 66 and accompanying text (discussing the calculation of this timeframe).

¹⁷⁶ A similar system is already in place for reviving unintentionally abandoned applications. 37 C.F.R § 1.137 (2014). Technically, a petition to revive (and filing fee) must be filed, and the Director has the authority to deny the petition or require additional information, but if the petition is filed promptly the presumption is that it will be granted. *Id.*

prosecution costs in the event of an adverse decision.

Such a system would separate out a comparatively easy issue, one that does not require a time-consuming search of prior art or any technological comparison with the prior art. It would have the potential of saving the PTO resources by weeding out some applications at a preliminary stage, before there is a need (as required under compact prosecution) to develop a response on complex technological issues that would be moot in light of the essentially legal issue of statutory subject matter. The PTO could also use the opportunity to build a specialized group with expertise in resolving this recurrent issue quickly and efficiently. Applicants would likewise save money if convinced of the lack of statutory subject matter at an early stage. Of greatest importance, an early response on this issue gives the applicant valuable information in time to make an informed choice between trade secret protection and patent protection.

The Supreme Court has noted that the patent laws are not “primarily designed to provide a special private benefit” to inventors.¹⁷⁷ The Court has also acknowledged, though, that the patent laws are “intended to motivate the creative activity of authors and inventors . . . and to allow the public access to the products of their genius after the limited period of exclusive control has expired.”¹⁷⁸ Assuring inventors that their innovations will not be taken from them unfairly is a big step toward motivating creativity and, more importantly, disclosure, which is the ultimate goal of the Patent Statute.

¹⁷⁷ *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984).

¹⁷⁸ *Id.*