

THE RESPONSIBILITY OF THE RULEMAKER: COMPARATIVE APPROACHES TO PATENT ADMINISTRATION REFORM

By John R. Thomas[†]

ABSTRACT

Patent administrators across the globe currently face the most challenging operating environment they have ever known. Soaring application rates, lean fiscal policies and an increasingly ambitious range of patentable subject matter are among the difficulties faced by the world's leading patent offices. These trends have resulted in persistent concerns over the quality of issued patents. Responding to recent writings questioning the value of maintaining high levels of patent quality, Professor Jay Thomas asserts both that patent quality matters, and that increasing the responsibilities of patent applicants provides a fair and efficient mechanism for improving patent office work product. This Article then assesses recent reform agendas pursued by the European Patent Office, Japanese Patent Office and U.S. Patent and Trademark Office that have elevated applicant obligations. After distilling broader policy trends from these distinct programs, Professor Thomas presents several proposals for patent administration reform.

I. INTRODUCTION

Global patent administration is strained to the breaking point. Domestic commentators have persistently suggested that the U.S. Patent and Trademark Office ("USPTO") has become more lenient, allowing an increasing number of patents to issue which appropriate knowledge previously within public domain.¹ This impression recently received a quantitative boost from Cecil D. Quillen, Jr. and Ogden H. Webster, whose data analysis leads them to conclude that the USPTO may approve as many as

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1. See Robert P. Merges, *As Many As Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 BERKELEY TECH. L.J. 577 (1999).

97% of the applications placed before it.² Budgetary limitations, an exploding filing rate, and the increasing range of patentable subject matter are among the reasons that U.S. patent quality appears to be on the decline.³

The two other leading patent-granting agencies in the world may face even more arduous conditions. The chronically understaffed Japanese Patent Office (“JPO”) employs just over one thousand examiners to process a staggering 400,000 applications per year.⁴ Deferral of examination has sustained the JPO over the past decade, but recent legal reforms decreasing the maximum deferral period from seven to three years have exposed the frailty of this regime.⁵ The anticipated upsurge of applications has rendered workload reduction a significant theme for JPO management.

The European Patent Office (“EPO”) faces perhaps the most challenging circumstances. With the European patent community overtaking its political community, European Union member states may soon no longer constitute the majority of European Patent Convention signatories.⁶ This changing roster holds significant legal consequences for the international body and, by bringing signatory states with deep-seated differences to the table, has already made compromise and reform more difficult to achieve.⁷ It is said that financial incentives encourage the EPO to delay approving applications,⁸ an observation borne out by a hefty backlog of Patent Cooperation Treaty (“PCT”) applications that await action in Munich.⁹ EPO

2. Cecil D. Quillen, Jr. & Ogden H. Webster, *Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office*, 11 FED. CIR. B.J. 1, 12 (2001-2002).

3. John R. Thomas, *Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties*, 2001 U. ILL. L. REV. 305 (2001).

4. JAPANESE PATENT OFFICE, ANNUAL REPORT 2000, at 58, 73, available at <http://www.jpo.go.jp/>. In 2000, the JPO employed 1,088 examiners, along with 391 appeal examiners. *Id.* at 73.

5. JAPANESE PATENT OFFICE, *Revision of the Time Limit for Submitting a Request for Examination* (2001), available at <http://www.jpo.go.jp/>; see also Association Internationale pour la Protection de la Propriété Intellectuelle Japon, *Japanese Laws Relating to Industrial Property*, Section 48ter, at 21 (1993).

6. See EPO Member States, available at <http://www.european-patent-office.org/epo/members.htm>.

7. Consider, for example, that Cyprus, Greece and Turkey are each signatories of the European Patent Convention. *Id.*

8. See also EUROPEAN PATENT OFFICE, REPORT OF EPO FINANCES COMMITTEE, 51st Council Meeting, Lugano 1, Oct. 22-23, 2001 (“The EPO is in extremely good financial health for an organisation that is functioning so poorly.”).

9. See Sam Black, *Europe Could Stem Patent Searches: Europe Expected to Cut Off U.S. Inventors*, CITYBUSINESS, Aug. 31, 2001, available at <http://twincities.bizjournals.com/twincities/stories/2001/09/03/ocus2.html>.

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management has also been plagued with recurring strikes and sit-ins by an aggressive examiners union.¹⁰ In a troubling sign of the times, the EPO has invoked a provision of the PCT agreement that it claims allows it to reject requests by U.S. residents for international searches and preliminary examinations where claims relate to biotechnology or business methods and, to a lesser degree, telecommunications.¹¹ Yet despite such difficulties, the EPO seems poised to undertake new duties, including the business of patent reissuance.¹²

The current crisis in global patent administration compels a rethinking of patent acquisition procedures. It also prompts the preliminary inquiry of whether the quality of patent office work product is worthy of our concern. In Part II, I recount the traditional view of academics, industry and patent office management that high patent quality promotes innovation by lowering transaction costs, coordinating research and development efforts between rivals, and reducing strain upon the judicial system. I then respond to a recent challenge to this traditional precept, Professor Mark Lemley's essay *Rational Ignorance at the Patent Office*.¹³ According to Lemley, because relatively few patents are the subject of licensing or litigation, a sparing inquiry serves as the optimal level of examination for all patent applications.¹⁴ This Article finds me the defender of the conventional account of patent quality. Dissatisfied with Lemley's assessment, I argue that in an era where the patent system has become the ultimate regulatory regime, patent quality does matter. I believe more emphasis should be placed upon a point that Lemley does not dispute: Whether or not society expands the resources it devotes to patent examination, better uses should be made of the resources that are so committed.

In Part III, I make the case that patent applicants should be compelled to assist patent offices in improving patent quality. Patent applicants stand

10. See, e.g., "Dutch EPO On Strike Today", available at <http://www.aful.org/pipermail/patents/2001-April/001687.html> (translation from a Dutch newspaper article reporting EPO union strike at the Amsterdam office of the EPO); InventNET's Internet Patent News Services site, available at <http://www.inventnet.com/newsf.html> (noting strikes and demonstrations accompanying EPO management meeting).

11. See EUROPEAN PATENT OFFICE, Notice from the President of the European Patent Office dated 26 November 2001 concerning limitation of the EPO's competence as a PCT authority (Nov. 26, 2001), available at http://www.european-patent-office.org/epo/president/e/2001_12_11_e.htm.

12. See Charles Gielen, *Important Changes to the European Patent System*, 15 WORLD INTELL. PROP. REP. 3 (2001).

13. Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495 (2001).

14. *Id.*

in a better position than patent offices to define their inventions in a manner conducive to prompt examination, distinguish the invention from the prior art, and bear the social costs of improvidently granted patents. Further, patent applicants can be assigned this responsibility justly and in a manner that should not decrease innovation nor disclosure.

Part IV of this Article catalogues and reviews recent developments from the USPTO, JPO and EPO that enlarge the responsibilities of the patent applicant. In this Part, I identify measures that have worked well, as well as those that have been less successful. Building from this experience, Part V offers three discrete proposals for improving patent quality, along with avenues for further research.

II. DOES PATENT QUALITY MATTER?

It is widely agreed that quality is a significant goal of patent prosecution. Government, industry, academia and the patent bar alike have long insisted that the USPTO approve only those patent applications that describe and claim a patentable advance.¹⁵ Quality patents are, in short, valid patents. Such patents may be reliably enforced in court, consistently expected to surmount validity challenges, and dependably employed as a technology transfer tool. Quality patents fortify private rights by making their proprietary uses, and therefore their value, more predictable. They also clarify the extent to which others may approach the protected invention without infringing. These traits in turn strengthen the incentives of private actors to engage in value-maximizing activities such as innovation or commercial transactions.¹⁶

In contrast, poor patent quality is said to hold deleterious consequences. Large numbers of improvidently granted patents may create *in terrorem* effects on entrepreneurship, ranging from holdup licensing to patent thickets.¹⁷ They also create duplicative, deal-killing transaction costs, as potential contracting parties must revisit the work of the USPTO in order to assess the validity of issued patents. Poor patent quality may also encourage activity that is not socially productive. Attracted by large damages awards and a porous USPTO, rent-seeking entrepreneurs may be

15. See, e.g., Irwin M. Aisenberg, *A Level Playing Field to Patent Protection*, 35 IDEA 357 (1995); Robert Corcoran & Louis S. Zarfes, *Quality Review and Control in the PTO: The Historical Evolution*, 81 J. PAT. & TRADEMARK OFF. SOC'Y 5 (1999); Nancy J. Linck et al., *A New Patent Examination System for a New Millennium*, 35 HOUS. L. REV. 305 (1998); Emily Sherwin, *Epstein's Property*, 19 QUINNIPIAC L. REV. 697 (2000).

16. Sherwin, *supra* note 15.

17. Thomas, *supra* note 3, at 319-20.

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attracted to form speculative patent acquisition and enforcement ventures. Industry participants may also be forced to expend considerable sums on patent acquisition and enforcement.¹⁸ The net results appear to be reduced rates of innovation, decreased patent-based transactions, and higher prices for goods and services.

This traditional account of patent quality casts the USPTO in a poor light. Persistent accounts suggest that patent quality at the USPTO has diminished, or at least remained at unacceptably low levels.¹⁹ Some accounts are anecdotal: Anyone who has used a vending machine may wonder how Amazon.com obtained a patent claiming single action purchasing, not to mention a preliminary injunction.²⁰ Others, such as the Quillen & Webster study, suggest that patent quality problems are widespread.²¹ When the USPTO allows nearly every application it receives to issue, patent examination procedures result in little more than R&D Completion Certificates. The USPTO would appear to have much work to do in order to make the merits matter during its patentability determinations.

The USPTO has attracted an unlikely apologist for the current state of affairs. Professor Mark Lemley, in his recent Northwestern University Law Review essay titled *Rational Ignorance at the Patent Office*, asserts that the USPTO wisely spends little time and effort examining individual applications.²² Observing that the overwhelming majority of patented inventions are not used in a way that calls their validity into question, Lemley concludes that society is better off making a searching inquiry only in those few cases where a patent is licensed or litigated.²³ Lemley describes the USPTO as “rationally ignorant”—because the cost of acquiring the information necessary to reach a patentability judgment exceeds the benefits, the USPTO sensibly chooses to remain uninformed.²⁴ Further, because most proposed examination reforms would increase the costs associated with every patent application, Lemley reasons that these expenditures would be wasteful for all but a small percentage of applications.²⁵ Although Lemley advocates several reforms to account for uncertain pat-

18. Merges, *supra* note 1.

19. See Simson L. Garfinkel, *Patently Absurd*, WIRED, Jul. 1994, at 14; James Gleick, *Patently Absurd*, N.Y. TIMES MAG., Mar. 12, 2000, at 44; Robert M. Hunt, *You Can Patent That?*, BUSINESS REVIEW, Jan. 1, 2001, at 515; *Patently Absurd?: Intellectual Property*, THE ECONOMIST, Jun. 23, 2001.

20. Thomas, *supra* note 3.

21. Quillen & Webster, *supra* note 2.

22. Lemley, *supra* note 13.

23. *Id.*

24. *Id.*

25. *Id.*

ent quality levels, his central conclusion is that society should resign itself to the fact that invalid patents will issue and allow the federal judiciary to deal with them during enforcement litigation.²⁶

Rational Ignorance at the Patent Office is an insightful piece. It quantifies the shared impression that the patent game is one that many will enter, but few will win. From this basis, Lemley is more rigorously able to explore the consequences of patent examination reform proposals. His recommendations to ratchet down the presumption of validity, reform the Hatch-Waxman Act and more frequently shift attorney's fees are, in my view, sound ones.²⁷ Indeed, many of these suggestions are presently lodged before the 107th Congress in the form of introduced bills.²⁸ Ultimately, however, I remain unpersuaded that the value of USPTO operations can be so quickly discounted. In my view the conventional accounts of patent quality retain considerable normative force, despite the detractions that Lemley ably articulates. The following paragraphs will present five reasons why I remain unpersuaded by *Rational Ignorance at the Patent Office*.

First, the theory of rational ignorance is in my view an inapt metaphor for patent examination. The theory actually does little lifting in Lemley's piece, but it does play a supporting role by invoking a considerable scholarly apparatus.²⁹ The chief disconnect between rational ignorance theory and patent acquisition pragmatics is that the theory assumes that the decisionmaker knows he will bear responsibility for declining to acquire information. If a surgeon who makes \$500 per hour elects not to sort through newspaper grocery advertisements, she should realize that she is purposely ignorant of comparative grocery prices. She rationally should not care, however, because the expected rate of return of parsing grocery advertisements is quite small compared to her professional income. However, in deciding whether or not to plough through the Sunday newspaper

26. *Id.*

27. *Id.* at 1527-31.

28. See H.R. 1332, 1333, 1530, 107th Cong. (2001). For example, H.R. 1332 would reduce the showing needed to overcome the presumption of validity accorded patents on business methods to a preponderance of the evidence.

29. See generally NICHOLAS RESCHER, COGNITIVE PRAGMATISM: THE THEORY OF KNOWLEDGE IN PRAGMATIC PERSPECTIVE (2001); Roger D. Congleton, *In Defense of Ignorance: On the Significance of a Neglected Form of Incomplete Information*, 17 E. ECON. J. 391 (2001); Klaus Nehring, *A Theory of Rational Choice Under Ignorance*, 48 THEORY & DECISION 205 (2000).

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inserts, the surgeon knows she will ultimately bear responsibility if she pays ten cents too much for a can of corn.³⁰

In contrast to our surgeon, the USPTO bears no responsibility for allowing an invalid patent to issue. Courts do not fine the USPTO upon invalidating a patent; the examiners who allowed the case are not disciplined for their oversight; nor must the USPTO award damages to affected members of the public to compensate for an improvidently granted patent. The costs of failing to acquire information are simply shifted to other actors—in particular, the federal courts, the patentee's competitors, and, ultimately, consumers. Under these circumstances, the threshold under which the USPTO becomes rationally ignorant is slight indeed. Yet just because the USPTO acts rationally given its own role and resources does not imply that the patent acquisition regime is sound as a whole.

An apt analogy to contemporary patent acquisition is the plea bargaining system. Society tolerates plea bargaining due to its meager prosecutorial and judicial resources when compared with its enormous crime problem.³¹ But for many of us, plea bargaining remains a suspect expedient on the fringes of due process, rather than the result of an enlightened decision to engage in criminal justice through horse trading.³² Surely plea bargaining is efficient, but few commentators view plea bargaining as a rational way of determining guilt or innocence.³³ Nor has it been effective in preventing recidivism, waging the war on drugs or justly distributing punishments across race and class lines. So it is with examination procedures at the contemporary USPTO. Patent solicitation conducted through hasty, ill-informed bargaining between examiner and applicant is only rational if the only measure of rationality is administrative efficiency.

The rational ignorance theory itself has a significant shortcoming, one that is exposed in *Rational Ignorance at the Patent Office*.³⁴ Decision-makers often do not know the value of a piece of information until they have acquired it.³⁵ They must instead make judgments based upon esti-

30. COMMUNITY & ECONOMIC DEVELOPMENT PROGRAM, CLEMSON UNIV., *The Theory of Rational Ignorance* (1997), available at <http://www.strom.Clemson.edu/teams/ced/econ/8-3No29.pdf> [hereinafter *Theory of Rational Ignorance*].

31. GEORGE P. FLETCHER, WITH JUSTICE FOR SOME 191 (1995) (“In the American system, plea-bargaining seems to be inevitable. If all those who now plead guilty insisted on a jury trial, the system would collapse under the burden.”).

32. See Comment, *Constitutional Alternatives to Plea-Bargaining: A New Waive*, 132 U. PA. L. REV. 327 (1984).

33. Gerald E. Lynch, *Our Administrative System of Criminal Justice*, 66 FORDHAM L. REV. 2117, 2130 (1998).

34. Lemley, *supra* note 13.

35. *Theory of Rational Ignorance*, *supra* note 30.

mates of the expected costs and benefits of acquiring information.³⁶ Where these values are miscalculated or unknowable, decisionmakers may employ rational decisionmaking heuristics but still reach appallingly bad results.³⁷ In my view, this effect produces two flaws in Lemley's analysis: one on the cost side and the other on the benefit side.

Concerning USPTO costs, Lemley assumes that improvements to patent quality necessarily imply more exacting and time-consuming prior art searches. We have not, however, always required meticulous literature searches to determine patentability. Until recently, subject matter limitations provided a less time-consuming mechanism for the USPTO to reject applications.³⁸ Notably, the EPO and JPO still employ these constraints quickly and effectively.³⁹ A robust written description could also limit the availability of patent protection for many sorts of inventions, in particular biotechnologies.⁴⁰ Such rejections can be timely made, too. As I discuss later, applicant use of Jepson claim formatting and USPTO use of official notice may also substitute for scorched-earth searching. In sum, the USPTO does not necessarily require large multiples of its current prosecution times in order to improve its performance. Other, less resource-intensive options are available to improve patent quality.

With regard to the benefits of patent quality, *Rational Ignorance at the Patent Office* largely limits the social costs of improvidently granted patents to litigation-related expenses in striking them down.⁴¹ Lemley recognizes that other costs may rise, particularly those related to *in terrorem* effects against the patentee's potential competitors, but does not give them much weight in his calculus.⁴² In my view, these costs are weighty indeed and cannot be so quickly brushed aside. Consideration of the pharmaceutical industry alone reveals patent-related stakes, sometimes pertaining to a single drug, that greatly exceed the amount of the USPTO's annual budget.

36. *Id.*

37. See generally Amartya K. Sen, *Rational Fools: A Critique of the Behavioral Foundations of Economic Theory*, PHIL. AND PUB. AFF.'S 317 (Summer 1977).

38. See Thomas, *supra* note 3, at 316.

39. See *Pension Benefit Systems*, European Patent Office Technical Bd. of Appeal, T0931/95-3.5.1 (Sept. 8, 2000); Japanese Patent No. 3,023,658 (issued Jan. 21, 2000; revoked via opposition June 11, 2001) ("Presentation Method of Gift at Wedding Ceremony").

40. See Stephen G. Kunin, *Written Description Guidelines and Utility Guidelines*, 82 J. PAT. & TRADEMARK OFF. SOC'Y 77, 99 (2000).

41. Lemley, *supra* at note 13.

42. *Id.* at 1516-17.

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Although many episodes enliven the pharmaceutical patent saga, one recent example concerns the antibiotic augmentin.⁴³ Augmentin consists of the combination of amoxicillin and clavulanate potassium.⁴⁴ The former is an off-patent antibiotic, the latter a salt of clavulanic acid that inhibits the enzyme that allows bacteria to break down penicillin compounds.⁴⁵ GlaxoSmithKline's core U.S. patent application on this combination was filed in 1975, with the resulting patent issuing in 1985 and set to expire in 2002.⁴⁶ At the start of the millennium, competitors lined up to produce generic versions of augmentin at considerably lower prices than charged by GlaxoSmithKline.⁴⁷

Imagine the surprise of competitors, financiers, and patients alike when GlaxoSmithKline procured a second patent related to augmentin in early 2000.⁴⁸ Based on the same 1975 priority document that led to GlaxoSmithKline's core augmentin patent, but not set to expire until 2017, this patent's sole claim reads simply: "A solid pharmaceutically acceptable salt of clavulanic acid."⁴⁹ Should GlaxoSmithKline manage to retain patent protection upon augmentin through 2017, the social costs will be considerable. GlaxoSmithKline will have effectively obtained 32 years of patent protection on one of the most heavily prescribed drugs in the world.⁵⁰ Given that the average price for generic drugs was less than one-third that of brand-name equivalents in 2000, continued patent protection on augmentin alone may cost patients an amount equal to the entire USPTO budget annually.⁵¹

Pharmaceuticals may be the least of our worries. We must also recognize patents are no longer the exclusive concern of technological enterprises seeking to preserve market share. Patents regulate all manner of be-

43. See Marilyn Chase, *Health Journal*, WALL ST. J., Mar. 29, 1999, at B1.

44. *Glaxo Digs In To Defend Patents on Top-Selling Antibiotic*, GENERIC LINE, Feb. 8, 2002, available at 2002 WL 9869372.

45. See *Acute Otitis Media: Antibiotic Approved for Children at Risk for Repeat Infections*, DRUG WEEK, Nov. 16, 2001, at 11.

46. U.S. Patent No. 4,526,783 (issued July 2, 1985).

47. See James Frederick, *Generics Likely To Rise on Tide of Expiring Patents*, 23 DRUG STORE NEWS 14, 26, (2001).

48. U.S. Patent No. 6,031,093 (issued Feb. 29, 2000).

49. *Id.*

50. *New Lease on Life*, PHARMACEUTICAL EXECUTIVE, Apr. 1, 2000, at 179.

51. See Drug Marketing, Feb. 5, 2001 (2001 WL 15459990) (stating that global augmentin sales totaled \$1.4 billion); see also UNITED STATES PATENT AND TRADEMARK OFFICE, USPTO 2000 ANNUAL REPORT, available at <http://www.uspto.gov/web/offices/com/annual/2000/> (providing for a budget of \$907.7 million); see generally Joe Richter & Deborah Stern, *Generic Sales Expected To Rise*, S. FLORIDA SUN-SENTINEL, Dec. 27, 2001, at 1D.

haviors now, including those that are subject to recognized constitutional protections. The public rolls already include granted patents that regulate access to abortion procedures,⁵² limit the ability to comply with federal law⁵³ and suppress speech.⁵⁴ What is worse, constitutional restrictions such as substantive due process, equal protection and freedom of speech are unlikely to be of direct application during patent litigation. The reason is that patentees may not qualify as state actors, and thus may be unconfined by the Bill of Rights of the U.S. Constitution.⁵⁵ This determination holds startling consequences. If Congress unduly restricted a fundamental liberty interest, a facial challenge would prove fatal to the statute. Yet if the USPTO issued identically worded patent claims to a private actor, the patent could be freely enforced without regard to constitutional limitations.

Internet advertiser DoubleClick's aggressive enforcement of its portfolio of electronic commerce patents illustrates these concerns. DoubleClick commenced litigation against two competitors, L90 Inc. and 24/7 Media, based upon its patent on a "method of delivering, targeting, and measuring advertising over networks."⁵⁶ The parties narrowly avoided trial last year, reaching a last-minute settlement that ended DoubleClick's charge of infringement.⁵⁷ Internet service provider Juno Online Service Inc. was not so fortunate. NetZero Inc. filed suit against Juno in a Los Angeles federal district court, charging infringement of its patented method of displaying advertisements in floating windows.⁵⁸ On January 5, 2001, the court issued a

52. See, e.g., U.S. Patent Nos. 5,356,783 (issued Oct. 18, 1994); 4,073,899 (issued Feb. 14, 1978); and 3,852,465 (issued December 3, 1974).

53. See Richard H. Stern, *Scope-of-Protection Problems with Patents and Copyrights on Methods of Doing Business*, 10 FORDHAM INTELL. PROP., MEDIA & ENT. L.J. 105, 120-22 (1999) (comparing the claims of U.S. Patent No. 5,193,056 with the federal tax laws and regulations).

54. See John R. Thomas, *Post-Industrial Patents and Personal Liberties* (Working Paper, 2002) (on file with author) (noting patents on methods on commercial speech; teaching language, music, vocabulary acquisition, dialogue writing and mathematics; and drafting a patent application).

55. *Id.*

56. *DoubleClick, L90 Settle Patent Lawsuit*, NEWSDAY, Nov. 7, 2000, at A44; see U.S. Patent No. 5,948,061 (issued Sept. 7, 1999).

57. *DoubleClick, L90 Settle Patent Lawsuit*, NEWSDAY, Nov. 7, 2000, at A44.

58. U.S. Patent No. 6,157,946 (issued Dec. 6, 2000) ("Communication system capable of providing user with picture meeting characteristics of user and terminal equipment and information providing device used for the same.").

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restraining order that prohibited Juno from practicing the patented invention through March 15, 2001.⁵⁹

Notable about the DoubleClick case is the absence of an accounting for First Amendment principles. Had a content-neutral law constrained speech in this fashion, the court would have reviewed the law as a time, place or manner restriction. This analysis would have considered such factors as the existence of adequate alternative channels for communication and whether the regulation was narrowly tailored to serve a specific government interest.⁶⁰ The courts have yet to subject a patent to similar scrutiny, perhaps out of the belief that constitutional limitations on government actions do not apply to patent litigation commenced by private parties.

Frankly, I hesitate to hazard a guess as to the social costs of injunctions that amount to prior restraints on protected speech. Perhaps someone from the law and economics camp would be less circumspect. However, my firm sense is that the costs greatly exceed the lawyer's fees and court costs that would be incurred to strike down such a patent.

My review of the augmentin and DoubleClick cases does not detract from the fundamental insight of *Rational Ignorance at the Patent Office* that, although hundreds of thousands of patents are granted, only a small minority will have a social impact.⁶¹ However, the costs of those few which are improvidently granted may be considerable. Since the USPTO is usually unable to assess the social impact of a particular patent application, society may indeed be better off improving the quality of all issued patents.

An additional concern I have with regard to *Rational Ignorance at the Patent Office* is its reliance upon very low estimates of the rate of patent usage. Lemley understandably expresses frustration at our primitive understanding of the frequency with which patented inventions have a marketplace impact. He relied upon litigation statistics to obtain a reliable count of 1.5% of issued patents being litigated, with a good faith estimate of an additional 3.5% under license.⁶² *Rational Ignorance at the Patent Office* further makes much of low patent maintenance rates as suggesting that few patents have commercial significance.⁶³

59. See Nancy Weil, *NetZero Suit Hits Juno with a Restraining Order*, INFOWORLD DAILY NEWS, Jan. 8, 2001, available at <http://www.idg.net>.

60. Robert A. Sedler, *The First Amendment in Litigation: The "Law of the First Amendment,"* 48 WASHINGTON & LEE L. REV. 457, 462-81 (1991).

61. Lemley, *supra* note 13.

62. *Id.* at 1507.

63. See *id.* at 1502-03.

Other research suggests higher patent use rates than surmised by Lemley, however, even where maintenance rates are low. A study conducted by Professor Ove Granstrand reveals robust rates of commercial usage among the Japanese and Swedish corporations surveyed in 1992.⁶⁴ Granstrand's survey results are as follows:

	Share of commercially exploited patents	Share of patents leading to commercial success	Share of patents licensed commercially	Number of years patents are kept in force	Share of patents kept maximally
Japanese companies	26.1	14.7	11.3	10.5	16.1
Swedish companies	60.5	38.1	4.9	11.4	21.6

These data suggest that low maintenance and licensing rates do not tell the entire story about whether patents are meaningful or not. Maintenance fees grow increasingly costly as the patent ages,⁶⁵ and the product cycles in some industries, such as computer software and electronics, tend to be far shorter than the maximum twenty-year patent term.⁶⁶ We should recognize that patents need not reach a ripe old age to enjoy marketplace significance. Nor should the initial value of patents be confused with the continued payment of maintenance fees.

Another survey, conducted by Professor Ron Westrum and Ed Zimmer, also suggests that the commercial significance of patented inventions may be higher than Lemley suspects.⁶⁷ Their study concluded that about 34% of independent inventors made patent-based profits, a number comparable to the overall success rates of small businesses.⁶⁸ This study

64. OVE GRANSTRAND, *THE ECONOMICS AND MANAGEMENT OF INTELLECTUAL PROPERTY* 165 (1999).

65. See Thomas J. Kowalski, *The Maintenance Fee System and Policy of the Patent and Trademark Office: Arbitrary, Irresponsible and In Need of Reform*, 30 *IDEA* 95, 96 (1989).

66. See Mark Aaron Paley, *A Model Software Petite Patent Act*, 12 *SANTA CLARA COMPUTER & HIGH TECH. L.J.* 301, 317 (1996).

67. Joanne Hayes-Rines, *Invention Success Survey*, *INVENTOR'S DIGEST*, Nov./Dec. 2001, at 30.

68. *Id.*

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also suggests that a presumed success rate of one patent in twenty may be too small, particularly for the small businesses that some studies identify as the crucible of U.S. innovation.⁶⁹

My fifth and final point of departure from *Rational Ignorance at the Patent Office* concerns its estimates of the cost of patent compliance. The article cites many individual estimates that patentee notification letters are ignored; that even in patent-intensive industries like pharmaceuticals, the majority of patents are valueless; and that many patents are obtained solely for their “marquee value.”⁷⁰ Another benchmark points elsewhere, however, suggesting that the cost of intellectual property compliance may be considerable; one basis for comparison consists of the \$843 billion Americans spent on compliance with federal regulations in 2000.⁷¹ This sum is equal to eight percent of the U.S. Gross Domestic Product and amounts to \$8,164 per household. The cost of regulatory compliance exacts a heavy toll on business. A recent Small Business Administration study found that companies with 20 workers or less face an annual regulatory toll of \$6,975 per employee.⁷²

The central repository of federal regulation, the Federal Register, provides a useful benchmark for considering the patent law.⁷³ The 2000 Federal Register consisted of 83,000 pages of regulations, proposed rules, notices, executive orders, proclamations and other presidential documents. Eighty-three thousand pages of regulations is a staggering figure—to almost anyone but a patent attorney. In the year 2000, the USPTO issued 175,983 patents. This number works out to 3350 patents in each USPTO Official Gazette, which together comprise approximately 40,000 pages per week. Even if lengthy prosecution histories are not included in this calculation, the USPTO issues roughly as many pages of regulations in a fortnight as the rest of the U.S. government places in the Federal Register in a year.⁷⁴ Further, although the number of pages in the Federal Register has

69. SMALL BUS. ADMIN., THE FACTS ABOUT SMALL BUSINESS (1997), available at <http://www.sba.gov/ADVO/stats/fact1.html>.

70. Lemley, *supra* note 13, at 1506.

71. W. Mark Crain & Thomas D. Hopkins, *The Impact of Regulatory Costs on Small Firms*, available at <http://www.sba.gov/advo/research/rs207tot.pdf> (last visited April 23, 2002).

72. *Id.*

73. For information on which regulations appear in the Federal Register, see 44 U.S.C. §§ 1501-11 (1994).

74. Another interesting benchmark is the length of the Code of Federal Regulations. During the Clinton administration, the C.F.R. averaged 134,173 pages. See CORNELIUS M. KERWIN, RULEMAKING 21 (1999). The USPTO issues that many pages worth of patents in less than one month.

increased in recent years, the number of issued patents has grown at even faster rate.⁷⁵

Even though the page count of USPTO regulation outstrips the size of the Federal Register by 25 times, let us assume that the burden of patent compliance is a mere one percent of federal regulatory compliance costs. As we have good reason to expect that private actors may more zealously enforce their rights than the government its regulations,⁷⁶ this estimate appears quite favorable towards the analysis undertaken in *Rational Ignorance at the Patent Office*. Still that number amounts to over eight billion dollars—approximately double *Rational Ignorance at the Patent Office*'s estimate of the cost of domestic patent acquisition alone.

Sometimes standard accounts persist because they are accurate. That so many diverse observers of the patent system have concluded that patent quality matters suggests that the job of the USPTO is not only worth doing, it is worth doing well. Although I think Lemley is correct in arguing that society is concerned with only a minority of issued patents, I believe the costs of those favored few are higher than *Rational Ignorance at the Patent Office* supposes. Because the USPTO is usually unable to determine whether a particular patent application concerns a commercially valuable invention or not, the patent community should endeavor to ensure consistently high quality for all issued patents.

III. PATENTING AS RULEMAKING

If patent quality matters, then participants in the patent system must change their ways. I have previously considered mechanisms for stimulating private citizens to act as partners in patent examination.⁷⁷ This Article focuses instead upon another actor in the patent acquisition process, the applicant himself. Prior discussion has largely centered upon augmenting applicants' prior art disclosure responsibilities.⁷⁸ I intend to explore other mechanisms through which the world's patent offices have encouraged applicants to improve patent quality.

75. Compare *id.* at 19 (growth rate of Federal Register page count), with U.S. PATENT AND TRADE OFFICE, U.S. PATENT STATISTICS, CALENDAR YEARS 1963-2000, available at http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.pdf (growth rate of patent filings).

76. See Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147 n.180 (1998) (observing that “[p]rivately enforced laws might sometimes prove to be more restrictive than government-enforced ones.”).

77. Thomas, *supra* note 3.

78. See *infra* note 79.

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Professor Jay Kesan and Mark Banik have asserted that patent applicants possess comparative advantages over other actors in performing certain tasks.⁷⁹ I tend to agree with this claim, but in my view the reasons for placing increased responsibilities are even broader. Much debate has proceeded over whether patents are best characterized as property or monopoly.⁸⁰ In this context a more appropriate characterization would be patenting as regulation. Viewing patent prosecution as private rulemaking lends improved perspectives for judging what the responsibilities of the rule-maker should be.

There can be no question that Congress has conferred substantial rulemaking power through the patent system. Each issued patent instills in all of us the duty to avoid practicing the patented invention without the permission of the patentee.⁸¹ Patent instruments yield causes of actions in tort that applicants write for themselves. They may govern abstract behaviors, unconnected to any discrete physical apparatus, and concern virtually any field of human endeavor. And they may be enforced in the fashion of a federal law, although backed by the vigor of private enterprise rather than the comparative languor of the state.

We should also recognize that the USPTO is not the sole delegate of rulemaking power under the Patent Act. The role of the USPTO in the patent system is quite limited. The USPTO lacks substantive rulemaking ability even within the field of patent law,⁸² and its regulatory authority is limited to disciplining individuals licensed to practice before it.⁸³ Crucially, the USPTO neither enforces patents nor adjudicates patent infringement disputes itself. The Patent Act instead delegates authority to initiate patent enforcement to patent owners, who must litigate their cases in the federal court system.

In a very real sense, private individuals also enjoy a transfer of power through the Patent Act. Individuals themselves phrase the patent claims that, if issued, amount to proprietary rights in privately drafted federal

79. See Jay P. Kesan & Marc Banik, *Patents as Incomplete Contracts: Aligning Incentives for R&D Investment with Incentives To Disclose Prior Art*, 2 WASH. U. J.L. & POL'Y 23, 52 (2000) ("In high technology sectors, such as computer software or biotechnology, the patentee is better informed about the relevant prior art with respect to an invention, as compared to the PTO.").

80. E.g., Giles S. Rich, *Are Letters Patent Grants of Monopoly?*, 15 W. NEW ENG. L. REV. 239 (1993).

81. 35 U.S.C. § 271(a) (1994).

82. See *Merck & Co. v. Kessler*, 80 F.3d 1543, 1549-50 (Fed. Cir. 1996).

83. See 35 U.S.C. § 2(b) (1994).

regulations.⁸⁴ As patentees, they enjoy unfettered discretion to enforce their patent right by bringing a civil action in federal court. If everyone wants to be a regulator, the patent system amounts to a leveling construct that encourages governance by private citizens.

The view of the patent law as a rulemaking system points commentary in several interesting directions. For one, the faint but persistent nondelegation doctrine may yet have a role to play in the patent law.⁸⁵ Administrative law analogies also suggest that patent applicants bear increased rulemaking responsibility. An analysis of USPTO processes in view of the traditional aspirations of administrative law reveals many shortcomings. Not only do applicants not need to justify the claims they propose, they are presumed to be entitled to the claims.⁸⁶ Despite recent reforms that call for the publication of pending applications, interested parties possess no opportunity to comment upon them. What is worse, these reforms fail to afford affected parties with any guarantee of notice. Patentees are still able to bring enforcement suits, and seek a preliminary injunction in expedited proceedings, on the very day the patent issues.⁸⁷ Unsuccessful plaintiffs in patent enforcement suits ordinarily pay only their attorneys fees, with the prevailing defendant and members of the public left to absorb the costs of an improvidently granted patent. The conclusion is that oversight of the regulator seems to have little place in contemporary patent law, despite its prominence in mainstream administrative law.

Perhaps we could employ traditional mechanisms of U.S. administrative law in order to improve patent quality. Unfortunately, the foundational norm of notice and opportunity for comment rulemaking has not worked well here. Patent law already employs this mechanism to some degree, and for once has chosen less ungainly words, "opposition" and "reexamination," to describe it. Unfortunately, public goods problems have eviscerated reexamination proceedings in the United States.⁸⁸ More full-fledged rulemaking of this sort appears not to solve this fundamental

84. See 35 U.S.C. § 112 (1994) (requiring patent applicants to claim the subject matter they regard as proprietary); *id.* § 154(a)(1) (providing patentees with the right to exclude).

85. Thomas, *supra* note 54.

86. See 35 U.S.C. § 102 (1994); see also *In re Piasecki*, 977 F.2d 1443, 1448 (Fed. Cir. 1992) (Plager, J., concurring).

87. See, e.g., *Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1164 (Fed. Cir. 1997); *GAF Bldg. Materials Corp. v. Elk Corp.*, 90 F.3d 479, 480 (Fed. Cir. 1996); *Nat'l Presto Indus., Inc. v. W. Bend Co.*, 76 F.3d 1185, 1193 (Fed. Cir. 1996); *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1205 (Fed. Cir. 1991); *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 935 F.2d 1263, 1264 (Fed. Cir. 1991).

88. Thomas, *supra* note 3, at 333-40.

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problem, may be impractical given the sheer volume of USPTO operations, and, taken to its fullest extent, might even violate the TRIPS Agreement. We need other mechanisms to make the rulemaker accountable to the public.

Before going much further, I should anticipate the objection that I intend to lay too much responsibility at the feet of patent applicants. Overly high costs associated with patent filings could coax some inventors into trade secrecy. Perhaps even the rate of innovation would decrease.⁸⁹ Although I cannot totally discount such concerns, our experience suggests that the demand for patent examination services is relatively inelastic.

Consider recent changes to the fee schedules at both the USPTO and the EPO. In 1982, the minimum fees to procure and maintain a U.S. patent to its full statutory term were increased by over ten times.⁹⁰ By 1990, these augmented fees had again been doubled.⁹¹ Filing rates remained stable in the face of both of these increased costs, and actually have increased dramatically in recent years.⁹² Also noteworthy is that the EPO substantially decreased its application fees both in 1997 and 1999.⁹³ The seemingly impressive result was a 60% increase in the number of applications filed at the EPO from 1994 and 1999.⁹⁴ In a period in which patent fees were stable, however, USPTO filings actually increased by 50% during the same five-year period.⁹⁵ The decrease in EPO fees may have stimulated some filings, but it seems rather likely that other forces were also at work.

Although these episodes likely deserve more rigorous analysis, they suggest some flexibility in pricing patent services. It should be remembered that the chief alternative to patenting, trade secrecy, often requires substantial expenditures. Additionally, the Federal Circuit's increased emphasis upon precision in patent procurement appears not to have deterred applicants either, despite the increased costs presumably associated with

89. Merges, *supra* note 1.

90. Heath W. Hoglund, *Patent Fee Diversion Crosses Constitutional Boundary*, 83 J. PAT. & TRADEMARK OFF. SOC'Y 725 (2001).

91. *Id.*

92. See http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.pdf (last visited Apr. 23, 2002).

93. See United States Patent and Trademark Office, Technology Assessment and Forecast Branch, Mark D. Janis, *Second Tier Patent Protection*, 40 HARV. INT'L L.J. 151 n.4 (1999) (collecting citations); Michael N. Meller, *Costs Are Killing Patent Harmonization*, 79 J. PAT. & TRADEMARK OFF. SOC'Y 211, 214 (1997) (reporting 1997 fee reduction).

94. Setsuko Asami, *A View Toward the Global Patent: Mutual Exploitation of Examination Results*, AIPPI J. 12, 14 (Jan. 2002).

95. *Id.*

such efforts.⁹⁶ The Bush Administration's recent budget proposal may provide another opportunity to measure the effect of patent fees upon filing rates, as it would establish a 19.3% surcharge on patent-related fees.⁹⁷

In sum, there is good reason to believe that even substantial increases in applicant responsibilities will not deleteriously impact patent filing and innovation rates. Applicants are therefore a logical party to whom patent office administrators should turn in order to reform the procedures through which proprietary rights are awarded. This Article takes up this effort, considering discrete mechanisms by which patent quality can be improved.

IV. A COMPARATIVE REVIEW OF PATENT ADMINISTRATION REFORM

I have previously used game theory to consider improvements to the administration of the patent system.⁹⁸ This piece employs a more traditional mode of legal scholarship—comparative law. Continental lawyers have often told us that the common law lacks theoretical richness, although a consultation of civil law sources makes many of us question the grounding of such claims. In the case of patent administration, where less may depend upon ideals than the pragmatics of workload management, another reason suggests that this avenue may not seem very promising. Other major patent offices are facing even more worrisome circumstances than the USPTO, despite their drives at reform. A further stumbling block is that patent office practices are poorly documented. Patent office management keeps some information close to the vest, leaving the would-be comparativist to ferret out information from patent solicitors and other informal sources.⁹⁹

Yet a comparative approach offers some advantages. In contrast to the theoretical musings of game theory, actual patent office practices have a demonstrated track record. Many have met with little resistance despite long periods of use, suggesting that they comply with the TRIPS Agree-

96. *See, e.g.*, *Festo Corp. v. Shoketsu Kinzoku Kogyu Kabushiki Co.*, 234 F.3d 558 (Fed. Cir. 2000) (en banc) (expanding the role of the prosecution history, thereby limiting the scope of patent protection); *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420 (Fed. Cir. 1997) (emphasizing more precise claiming practices by patentees).

97. *See Legislation/Appropriations: PTO Budget Proposal Includes \$162 Million for 'Homeland Security and Defense,'* 63 PAT., COPYRIGHT & TRADEMARK J. (BNA) 307 (2002).

98. Thomas, *supra* note 3.

99. *Id.* at 314.

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ment.¹⁰⁰ And as demonstrated by domestic adoption of some features of foreign patent systems, including a twenty-year-term measured from the filing date and piecemeal publication of pending applications, they stand some chance of being employed in the United States as well.

This piece next considers five patent administration reforms from the world's major patent offices. The purpose of this consideration is to review these divergent data points in order to identify common themes, as well as those that have been successful and those that have failed. Coherent policies can be developed in order to address the current woes of modern patent administration.

A. The Action Program for 80%

The JPO faces the same problems today that it did in the mid-1980's: too few examiners, an inability to hire additional personnel, and the largest number of filed patent applications in the world. One JPO response was to embark upon the so-called "Action Program for 80%" ("AP 80%").¹⁰¹ The thinking behind AP 80% was apparently to ease the task of examiners by presenting them with more applications that were already positioned for allowance.¹⁰² Through AP 80%, the JPO requested that large, domestic applicants endeavor to increase their individual allowance rate from approximately 60% to 80%.¹⁰³ The requests were made via JPO publications and, supposedly, forthright appeals from JPO officials to representatives of domestic corporations in Kasumigaseki meeting rooms.¹⁰⁴ Among the steps applicants could take to reach the 80% allowance plateau were conducting augmented prior art searches, requesting that fewer filed applications be examined, and, of course, making more selective filing decisions in the first place.¹⁰⁵ Successful participants in AP 80% were lauded in JPO publications and perhaps received other less transparent benefits.

AP 80% has proved a modest success for the JPO. The plan appears to have diminished perennial problems for the JPO. AP 80% has not curbed Japan's accelerating application rate, however, nor would it have the same impact in other patent offices. Japan is the only state where domestic in-

100. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments, Results of the Uruguay Round Vol. 31, 33 I.L.M. 81 (1994) (hereinafter "TRIPS Agreement").

101. JAPANESE PATENT OFFICE, ANNUAL REPORT 45-50 (1989).

102. *Id.*

103. *Id.*

104. *Id.*

105. *Id.*

dustry holds a dominating share of issued patents.¹⁰⁶ Cultural differences further suggest that the AP 80% will not be readily exported as a solution. Furthermore, according to Quillen and Webster, the USTPO has already taken the steps necessary to allow applicants to achieve a grant rate of well over 80%.¹⁰⁷

A novice reader of the TRIPS Agreement, examining the Article 27 obligation that seems to call for treating all comers equally, may believe that a patent administration regime that creates any point of distinction among applicants would violate international commitments.¹⁰⁸ One lesson to take from AP 80%, however, is that subtle means exist for burdening particular patent applicants with additional responsibilities. After all, Article 27 calls for equality of treatment “as to the place of invention, the field of technology and whether products are imported or locally produced.”¹⁰⁹ Ample room appears to exist for other grounds of discrimination, particularly for repeat filers or areas where patent quality problems are especially endemic.¹¹⁰

B. PCT Lite

In its salad days, the EPO employed a bifurcated search and examination procedure. One specific examiner in the Hague looked for the prior art and completed a search report. Each piece of prior art cited in the search report had (and still has) associated with it a letter code. The most significant of these are “X,” which indicates that a claim was anticipated by the reference; “Y,” which indicates that a claim would have been obvious in light of that reference when combined with other such references; and “A,” which indicates that the cited reference merely defines the state

106. In 1999, domestic industry received 133,960 Japanese patents, while foreign applicants received a paltry 16,099 Japanese patents. In the United States, domestic applicants received 55.6% of issued patents in 1999; at the European Patent Office, the share of EPC signatory states was 56.1%. See JAPANESE PATENT OFFICE, ANNUAL REPORT 1999, available at <http://www.jpo.go.jp>; U.S. PATENT AND TRADEMARK OFFICE, ANNUAL REPORT 1999, available at <http://www.uspto.gov>; EUROPEAN PATENT OFFICE, ANNUAL REPORT 1999, available at http://www.european-patent-office.org/epo/an_rep/1999/html/index.htm.

107. See Quillen & Webster, *supra* note 2 and accompanying text.

108. TRIPS Agreement, *supra* note 100, at art. 27.

109. *Id.*

110. The recent EPO rescission of its PCT commitments with regard to particular U.S. industries may serve as another example of this line of endeavor. The EPO's abrupt jettisoning of its largest user was an attempt to reduce its staggering workload, but whether this step will actually decrease filings remains to be seen. U.S. applicants may simply file straight European applications rather than take the so-called “Euro-PCT” route.

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of the art and is not of significance to patentability.¹¹¹ With this search report in hand, a second examiner in Munich then substantively considered the merits of the application.¹¹² This idiosyncratic procedure was never marked by great logic or efficiency. It did allow the EPO to maintain large offices in two different European Union member states, however, as well as make use of expertise formerly associated with the Institut International des Brevets.¹¹³

Lean times have forced the EPO away from the frivolities of its youth. The EPO has already begun the process of outfitting both its Hague and Munich offices with full search and examination capacities.¹¹⁴ Commencing on January 3, 2002, the EPO began performing streamlined international preliminary examination in certain Patent Cooperation Treaty (“PCT”) cases.¹¹⁵ The particulars of this initiative exceed our present purposes; in essence, the EPO has automated certain PCT examination procedures by issuing computer-generated office actions based solely upon the search report. If the search report contains at least one X or Y document, the EPO will issue a negative written opinion. For example, suppose the Hague search examiner believes that the most pertinent prior art references are articles written by Gandalf, Radagast, and Saruman, each classified as Y references. The applicant will then receive a statement explaining no more than “we issue a negative opinion based upon Gandalf and Radagast, in view of Saruman”—no matter what the contents of these three references or their particular relationship to the submitted application. On the other hand, if the search report does not cite X or Y references, then the EPO will issue a favorable preliminary examination report without further human intervention.

At present time, the patent community lacks much experience with the EPO “PCT Lite” approach.¹¹⁶ However, given the dubious value of a PCT International Preliminary Examination Report, this shortcut may be of lit-

111. James R. Cartiglia, *The Patent Cooperation Treaty: A Rational Approach to International Patent Filing*, 76 J. PAT. & TRADEMARK OFF. SOC’Y 261, 269 n.41 (1999).

112. GERALD PATERSON, *THE EUROPEAN PATENT SYSTEM: THE LAW AND PRACTICE OF THE EUROPEAN PATENT CONVENTION* (1994).

113. Michel Marandon, *BEST and the Latest Trends in Automation in the EPO*, available at <http://www2.ari.net/foley/marandon.html> (last visited Apr. 23, 2002).

114. *Id.*

115. Notice of the President of the European Patent Office (November 2, 2001), available at http://www.european-patent-office.org/epo/president/e/2001_11_13_e.htm (concerning rationalization of international preliminary examination procedure at the EPO).

116. See J.C. Boff, *PCT-Lite*, available at http://www.cipa.org.uk/info_ip_pros/document/pct-lite.pdf (last visited Apr. 23, 2002).

tle moment to the patent community. Practitioners agree that most foreign patent offices pay little heed to such reports, preferring to revisit both the search and examination themselves.¹¹⁷ Some observers assert that the best reason for pursuing the optional international examination phase of the PCT is to delay examination for ten months, with the salutary consequence of deferred costs and prosecution decisions.¹¹⁸

The EPO PCT Lite initiative does suggest an interesting possibility for mainstream patent acquisition procedures. Examiners presently possess both the initial burden of production, to articulate an initial ground for denial of an application, and the ultimate burden of persuasion that an applicant is not entitled to a patent.¹¹⁹ If PCT Lite were to be applied more generally, its effect would be to shift the burden of production from examiner to applicant at the start of the prosecution. Along with a largely automated prior art search, this approach could transfer a meaningful portion of the resource-intensive tasks of patent administration from agencies to applicants.

C. Rule 105

As part of a larger Business Methods Patent Initiative, the USPTO has undertaken several measures that it claims will improve the quality of patent searches,¹²⁰ including implementation of Rule 105, "requirements for information."¹²¹ Although not inspired by the American Inventors Protection Act of 1999,¹²² Rule 105 was introduced along with regulatory changes mandated by that legislation. As will be discussed below, Rule 105 is a radical regulation that could work extreme changes to the traditional functions of examiners. The infrequent application of the rule is telling, however, and suggests that patent administrators would do better to pursue other policies.

Newcomers to patent procurement practice are often surprised by the passive posture of the USPTO. Examiners have traditionally lacked inquisitorial powers and, absent unusual circumstances, are resigned to ac-

117. Markus Nolf, *TRIPS, PCT and Global Patent Enforcement*, 83 J. PAT. & TRADEMARK OFF. SOC'Y 479, 481-82 (2001).

118. Cartiglia, *supra* note 111, at 271.

119. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

120. *See Business Method Patents: Hearings Before the House Subcomm. on Courts, the Internet and Intellectual Property*, 107th Cong. (2001) (Statement of Nicholas P. Godici), available at 2001 WL 2006918.

121. 37 C.F.R. § 1.105 (2001).

122. American Inventors Protection Act of the Intellectual Property and Communications Omnibus Reform Act of 1999, Pub. L. No. 106-113, 113 Stat. 1536 (1999).

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cept sworn applicant submissions as truth.¹²³ For example, in submitting a Rule 131 affidavit, applicants may redact all dates associated with their inventive activities and merely assert under oath that they performed these acts prior to the date of a section 102(a) reference.¹²⁴ Some USPTO subdivisions apparently go further, accepting applicants' sworn (but wholly unsupported statements) that they invented prior to the date of the reference. This latter policy effectively removes section 102(a) from the purview of USPTO examination.

For the first time, Rule 105 allows the USPTO to play a more active role. Examiners may now require applicants to submit a broad range of information, including any materials referenced during the drafting of the application, literature consulted during the invention process, and identification of any predecessor technology that the invention improves.¹²⁵ If a complete reply is not forthcoming, the application may be considered abandoned.¹²⁶ Rule 105 yields one significant concession—if an applicant states that the requested information is unknown or not readily available, Rule 105 compels examiners to treat that answer as a complete reply.¹²⁷

Rule 105 appears quite potent on its face, but the silence concerning its adoption has been deafening. Few patent attorneys have faced a Rule 105 request because examiners appear reluctant to make them. Imposing a requirement for information can be time-consuming for an examiner. In addition to their normal duties, examiners employing Rule 105 must draft a detailed statement explaining the need for the information and specifying the desired information.¹²⁸ The benefits of going to this trouble seem to be slight from an examiner's perspective.¹²⁹ Any received information would likely negatively impact the application and prolong the prosecution, distancing examiners from the disposition points upon which their profes-

123. See Lawrence Schlam, *Compulsory Royalty-Free Licensing as an Antitrust Remedy for Patent Fraud: Law, Policy and the Patent-Antitrust Interface Revisited*, 7 CORNELL J. L. & PUB. POL'Y 467, 516 n.277 (1998) (citations omitted).

124. See UNITED STATES PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 715.07, at 700-139 (8th ed. 2001) [hereinafter "MPEP"] (stating that, with respect to proof of dates of inventive activity, the Patent Office allows applicants to redact dates from proffered exhibits and "merely allege that the acts referred to occurred prior to a specified date").

125. 37 C.F.R. § 1.105(a)(1) (2001).

126. *Id.* § 1.105(c).

127. *Id.* § 1.105(a)(3).

128. MPEP, *supra* note 124, § 704.14 (observing that a Rule 105 requirement is "a significant burden on both the applicant and the Office since the applicant must collect and submit the required information and the examiner must consider all the information that is submitted").

129. See Thomas, *supra* note 3.

sional performance is measured.¹³⁰ Withheld information also suggests a violation of Rule 56, a regulation that the USPTO appears not to have a desire to enforce aggressively.¹³¹

Our experience with Rule 105 offers an important lesson about contemporary patent administration. Prosecution reforms that heighten examiner burdens will be employed grudgingly or not at all. Granting USPTO examiners greater powers of inquiry than they previously enjoyed appears to be a sound reform. But since this authority requires the expenditure of scarce resources and works at cross purposes with the incentive structure of individual examiners, sparing use of Rule 105 comes as no surprise. If we mean to improve patent quality, then we must do so with an awareness of what patent offices can accomplish practically.

D. Official Notice

Poorly documented but increasingly heard from solicitors of business method patents are reports that certain segments of the USPTO are making enhanced use of the concept of “official notice.” Official notice substitutes for the usual process of proof through the formal presentation of evidence. It is akin to judicial notice—and so closely akin that in many judicial opinions the USPTO’s use of official notice is termed judicial notice as well.¹³² Under Rule 201(b) of the Federal Rules of Evidence, judicial notice may be taken of any adjudicative fact that is not subject to reasonable dispute because “it is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned.”¹³³ The preferred phrasing is similar in patent procurement. USPTO examiners may take official notice of such facts that “are capable of such instant and unquestionable demonstration as to defy dispute.”¹³⁴ In patent cases, notice has been taken of such sundries as the heating of welds following welding operations,¹³⁵ the use of carbonless paper in business forms,¹³⁶ and the use of video screens to display information.¹³⁷

130. *Id.*

131. See MARTIN J. ADELMAN ET AL., PATENT LAW: CASES AND MATERIALS 746 (1998).

132. See generally Lance Leonard Barry, *Did You Ever Notice? Official Notice in Rejections*, 81 J. PAT. & TRADEMARK OFF. SOC’Y 129 n.44 (1999).

133. 28 U.S.C. § 201(b)(2) (1994).

134. *In re Ahlert*, 424 F.2d 1088 (C.C.P.A. 1970).

135. *See id.*

136. *In re Wright*, 866 F.2d 422 (Fed. Cir. 1989).

137. *In re Raynes*, 7 F.3d 1037 (Fed. Cir. 1993).

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Although a surprisingly robust body of case law exists on USPTO use of official notice,¹³⁸ examiners have tended not to employ it frequently. Under standard USPTO policy, if an applicant contests the noticed fact, then the examiner must supply a reference demonstrating that fact or else withdraw the rejection.¹³⁹ Official notice has essentially been little more than a delaying tactic that has detracted from the general USPTO policy of compact prosecution.¹⁴⁰

Accounts have surfaced that Class 705, that portion of the USPTO responsible for reviewing applications claiming methods of doing business, has begun to rely more heavily upon official notice. Class 705 examiners supposedly employ official notice more often than their peers. They are said to be less willing to withdraw rejections founded upon official notice, even when applicants challenge the taking of notice.

Two largely unappreciated Court of Customs and Patent Appeals (“CCPA”) cases may underlie this phenomenon. One of them, *In re Howard*, involved an early patent application on a method of doing business.¹⁴¹ Howard claimed a method of pricing merchandise said to reduce the amount of manual handling to stock the shelves of retail grocery stores. The claimed technique appears to have been an early version of bar coding—items were marked with a code that could then be used to supply retail prices at check-out.¹⁴² Although Howard’s broadest claim spoke vaguely of a “memory system” to connect codes and prices, dependent claims required the use of an “electrical comparison,” suggesting the presence of some sort of electrical apparatus or computer.

On appeal, the CCPA strongly stressed judicial notice. The court affirmed the USPTO rejection of Howard’s broadest claim with the following statement:

It is a matter of common practice of wide notoriety, well within the ambit of judicial cognizance, for retail outlets to list by code or otherwise various items stocked for sale, together with the price assigned to each item, so as to enable the clerk or sales person to ascertain the charge to the customer. This practice relates back to the proverbial country merchant who has all but passed from the scene, but has his present-day counterpart in this context in the supermarket cashier who has a price list of advertised

138. See generally Barry, *supra* note 129.

139. MPEP, *supra* note 124, § 2144.03.

140. See Margo A. Bagley, *Internet Business Model Patents: Obvious by Analogy*, 7 MICH. TELECOMM. & TECH. L. REV. 253 (2001).

141. 394 F.2d 869 (C.C.P.A. 1968).

142. *Id.* at 870.

'specials' taped to his register. Furthermore, common observation cannot escape the deluge of second class matter in the form of mail order catalogs which embody lists of merchandise designated by code or otherwise together with the purchase price assigned to individual items. Selecting one instance from many, equally relevant, the solicitor referred to radio tubes, it being well known that these items are disseminated to users through a code listing designating type and applicable retail price assigned to various types. Prominent in many drug and hardware stores today are tube testing machines having a cabinet full of tubes marked only by a code designation and an associated retail price list correlating the retail price to the code designation. These common merchandising practices, as to which we cannot escape judicial notice, would in practice and effect constitute a memory system in that they clearly reflect and suggest a coded indicia and corresponding prices.¹⁴³

As to the dependent claims, the CCPA succinctly concluded that "to electrically compare the code markings is without patentable significance."¹⁴⁴ According to Judge Almond, "patentability may not be predicated on the recitation of an electrical comparison."¹⁴⁵

The CCPA took official notice one step further in *In re Boon*.¹⁴⁶ There, Boon appealed from the PTO's rejection of his application claiming a pneumatic conveying system for bulky material. Observing that the PTO Board had in part relied upon official notice in affirming the examiner's rejection, Boon argued that he had not been afforded an opportunity to rebut the notice taking. The court rejected this argument, observing that either *Boon* had either failed to challenge the notice taking at all, or had offered little more than an unsupported statement doing so. The CCPA took the opportunity to stipulate that a challenge to PTO notice must contain "adequate information or argument so that on its face it creates a reasonable doubt regarding the circumstances justifying the judicial notice."¹⁴⁷

The combination of *Howard* and *Boon* suggests not only the lenient use of official notice in business method patent cases, but substantial staying power for rejections founded upon official notice. Pushed to its outer limits, the court's statement in *Boon* could be seen to require that a challenge to official notice must all but disprove the noticed fact. This combination appears to provide the USPTO with powerful tools for addressing

143. *Id.* at 870-71.

144. *Id.* at 871.

145. *Id.*

146. 439 F.2d 724 (C.C.P.A. 1971).

147. *Id.* at 728.

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applications claiming methods of doing business. Prior art is poorly documented in these disciplines. Business persons lack the knowledge-sharing norms of the traditional scientific community.¹⁴⁸ Earlier understandings of the limits of patentable subject matter have also led to a paucity of patent literature concerning methods of doing business. The result has been an issuance of patents that claim electronic versions of everyday business activities.¹⁴⁹ Seemingly cognizant of these criticisms, the USPTO appears to have provided itself with means to address applications in disciplines where documentation is elusive.

The increased role of official notice during patent prosecution may be short-lived. Recent Federal Circuit case law suggests that the USPTO may have to reduce its reliance upon official notice. For example, on remand from the Supreme Court in the well-known *Dickinson v. Zurko* litigation,¹⁵⁰ the Federal Circuit reversed the decision of the Board of Patent Appeals and Interferences for lack of substantial evidence.¹⁵¹ In particular, the court criticized the USPTO for relying upon “basic knowledge” and “common sense” to support a conclusion of obviousness.¹⁵² These decisions suggest that the USPTO may have to retreat from its reliance upon official notice as a burden-shifting device with patent prosecution.

This recent trend in Federal Circuit case law is an unfortunate one. Although seemingly disfavored by contemporary case law, USPTO use of official notice would have approximated the approach taken in H.R. 1332, the proposed Business Methods Improvement Act of 2001. H.R. 1332 would create a presumption that a claimed invention would have been obvious “if the only significant difference between the combined teachings of the prior art and the claimed invention is that the claimed invention is appropriate for use with a computer technology.”¹⁵³ While academic commentators have supported H.R. 1332,¹⁵⁴ influential members of the patent bar have not,¹⁵⁵ and the likelihood of the bill becoming law seems

148. See Rochelle Cooper Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 SANTA CLARA COMPUTER & HIGH TECH. L.J. 263 (2000).

149. *Id.* at 268.

150. 527 U.S. 150 (1999).

151. 258 F.3d 1379, 1386 (Fed. Cir. 2001).

152. *Id.*; see also *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

153. Section 4, H.R. 1332.

154. LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* 261 (2001).

155. Statement of Michael K. Kirk, Executive Director of the American Intellectual Property Law Association, Before the House Subcomm. on Courts, the Internet and Intellectual Property, Business Method Patents (Apr. 4, 2001), available at 2001 WL 2006919 (viewing predecessor to section 5 of H.R. 1332 as “unnecessary and problematic”).

slim. The USPTO appears to be using another technique for achieving the same goal attempted by H.R. 1332, namely, placing upon applicants the burden of proving that a computer-based business method presents an inventive advance over the prior art.

Detractors of H.R. 1332 argue that the bill would violate the TRIPS Agreement.¹⁵⁶ The logic goes that by supposedly creating a distinct nonobviousness standard for business methods, H.R. 1332 is said to run afoul of Article 27's commandment to treat all technologies similarly.¹⁵⁷ This argument is exceptionally weak. Business methods are assuredly not technologies within the meaning of the TRIPS Agreement. At the time the United States entered the TRIPS Agreement, patents on business methods were not widely sought, and the common understanding among members of the patent bar was that the patentability of such methods was at best dubious.¹⁵⁸ With the two other leading patent-granting powers, Europe and Japan, declining to award patents on methods of doing business,¹⁵⁹ the more plausible reasoning is that business methods, like databases, lie without the borders of the TRIPS Agreement.

Whatever the merits of these arguments, the USPTO appears to have stumbled upon an ingenious end-run around Article 27 of the TRIPS Agreement. Thanks to its heavily publicized Business Method Patent Initiative,¹⁶⁰ as well as its surreptitious development of the official notice doctrine, the USPTO readily treats business method patent applications differently from others. But the USPTO can plausibly assert that its distinctions are based upon the difficulty of examination rather than the discipline from which the claimed invention arises. In so doing the USPTO could point to the WTO Dispute Settlement Body opinion in *Canada - Patent Protection of Pharmaceutical Products*.¹⁶¹ There, the WTO panel upheld the Canadian version of the Hatch-Waxman Act, despite its seemingly distinct treatment of pharmaceuticals. The express terms of the Canadian statute applied to all regulated products; according to the panel, the

156. See TRIPS Agreement, *supra* note 100.

157. Kirk, *supra* note 155 (stating belief that "it would possibly be inconsistent with the obligations of the United States under the Agreement on the Trade Related Aspects of Intellectual Property Rights (TRIPs) to single out business method patent applications and patents for special treatment. . .").

158. See John R. Thomas, *The Patenting of the Liberal Professions*, 40 B.C. L. REV. 1139, 1145-47 (1999).

159. See *supra* note 39.

160. TRIPS Agreement, Business Method Patent Initiative, available at <http://www.uspto.gov/web/offices/com/sol/actionplan.html> (last visited Apr. 23, 2002).

161. WT/DS114/R (Mar. 17, 2000) available at <http://docsonline.wto.org/>.

mere fact that its effects were most keenly felt in the area of pharmaceuticals could not give rise to a finding of impermissible discrimination.¹⁶²

The USPTO official notice incident provides policymakers with two cues. First, despite the TRIPS Agreement, administrators retain considerable discretion to address particular points of stress within the patent procurement regimes. Different technologies can indeed be treated differently, so long as the point of distinction is not strictly based upon an invention's technical characteristics. Second, the use of official notice presents an alternative mechanism for effectively shifting examination burdens from patent offices to the private sector.

E. Jepson Claims

Patent offices have also eased their examination tasks by encouraging the use of so-called "Jepson claims." A Jepson claim defines an invention in two parts. First, the preamble recites the subject matter of the invention and the technical features necessary to define the claimed subject matter but that lie within the prior art. The second, or characterizing, portion of the claim describes the technical features that the invention adds to the prior art.¹⁶³ The EPO, along with the national patent offices of Europe, encourages the use of the Jepson claim format.¹⁶⁴ Patent Cooperation Treaty rules additionally provide that claims should be written in this style wherever possible.¹⁶⁵

In contrast to these positions, the U.S. patent bar has long derided the Jepson claim. With a few exceptions,¹⁶⁶ the preamble of a Jepson claim constitutes an admission that the recited subject matter constitutes prior art.¹⁶⁷ This claiming style also tends to portray the invention as a limited improvement, rather than an elegant combination of diverse elements that together produce an inventive advance. Most U.S. patent practitioners decline to use the Jepson format, even going to the extent of redrafting such claims that they receive from their colleagues overseas. Conversely, USPTO examiners generally prefer to receive such claims.¹⁶⁸ Experience teaches them that Jepson claims are far more readily parsed and compared to prior art than other claim formats.

162. *Id.* at ¶ 7.104.

163. *See In re Fout*, 675 F.2d 297, 299 (C.C.P.A. 1982).

164. Arthur L. Plevy, *Some Important Differences Between Patent Practice in Europe and the United States*, 209 N.J. LAW. 40, 41-42 (2001).

165. Patent Cooperation Treaty, Jan. 24, 1978, 28 U.S.T. 1976, 1976-77.

166. *See Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645 (Fed. Cir. 1984).

167. *See In re Fout*, 677 F.2d 297, 299 (1982).

168. ADELMAN ET AL., *supra* note 128, at 681.

There is much to be said for conforming U.S. claiming practice with European and international trends. The USPTO has already required that claims be no more than one sentence long¹⁶⁹ and barred the use of omnibus claims.¹⁷⁰ The USPTO also possesses the regulatory authority to compel applicants to use Jepson claiming style where it is possible to do so. Lean times compel changes that allow examination tasks more quickly and effectively. If some would say the benefits would be modest, so would the costs, and U.S. inventors would advantage themselves by placing their applications in better position for foreign filings.

V. PROPOSALS FOR PATENT ADMINISTRATION REFORM

A review of recent initiatives in the world's leading patent offices suggests several avenues for future reform of the USPTO. First, examination burdens should continue to be shifted to the private sector. In particular, patent offices should continue to place additional responsibilities upon those entities that most heavily employ their services. Administrators should also abandon the pretense of an ecumenical examination system in favor of a more particularized regime that recognizes that different sorts of inventions pose different burdens. Finally, although not based upon existing practices, the theme of heightened applicant responsibilities suggests several additional reform opportunities.

A. Shift Examination Burdens to the Private Sector

The EPO, JPO, and USPTO have already commenced the process of shifting examination burdens to patent applicants. This technique should continue to prove its worth, provided that it is cost effective in two ways. First, patent offices should outsource only those tasks that applicants can perform at least as effectively as examiners. Second, the supervision of applicant efforts should not create additional burdens upon examiners.

Three of the policies discussed here should be further developed by the USPTO. First, despite the unfavorable turn of Federal Circuit case law,¹⁷¹ the USPTO should continue to explore the use of official notice or other burden-shifting mechanisms. This policy appropriately charges applicants with the duty to supply expert testimony or secondary literature not readily known to the USPTO. The USPTO should declare its official notice policies more clearly and publicly. Use of isolated language from the thirty-

169. See *Fressola v. Manbeck*, 36 U.S.P.Q. 2d (BNA) 1211 (D.D.C. 1995).

170. See *Ex parte Fressola*, 27 U.S.P.Q. 2d (BNA) 1608 (B.P.A.I. 1993).

171. See *supra* notes 150-152 and accompanying text.

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year-old *Boon* opinion is no substitute for firmly articulated and officially promulgated guidelines.¹⁷²

The USPTO should also mandate that drafters employ Jepson claims wherever possible. Such claims will not have much of an effect on biotechnology and chemistry product claims, given the peculiarities of those fields. In other fields, however, such claims are inexpensive to draft and will offer some streamlining of the tasks of the examiner.

Finally, the USPTO should follow the lead of the EPO's PCT Lite policy. Patent searching should become increasingly automated and its results presented to the applicant prior to the First Office Action. To assist in this endeavor, applicants should be encouraged or even required to supply search terms. Applicants would then be required to respond to the disclosed prior art before to the examiner's initial review of the case.

B. Increase Responsibilities for the Heaviest Users

Some entities employ the patent system more frequently than others. Fourteen enterprises were awarded one thousand or more U.S. patents in 2000; an additional 151 obtained at least one hundred patents. These 165 enterprises received in total 56,105 patents—about 35.6% of the 157,497 utility patents granted that year.¹⁷³ A review of similar data from previous years suggests that 2000 was not an anomaly for these patentees. Generally speaking, repeat players dominate the counts each year. One explanation for this trend is that each of them has established an in-house pipeline that guarantees the generation of a large number of patent applications on a recurring basis.

These statistics reveal that over one-third of the USPTO's efforts are devoted to 165 large customers. This "Century Club" of patent recipients contributes significantly to the USPTO's mounting workload. Each group member is undoubtedly sophisticated in the patent system and heavily invested in it. Likewise, each enjoys a greater voice before the USPTO and patent-oriented associations, such as the American Intellectual Property Law Association, American Bar Association, and Intellectual Property Owners, to which USPTO management most closely listens. Surely the USPTO could reasonably expect its heaviest users to participate in any efforts to address current problems and inefficiencies in the application and review process.

Other patent offices have successfully imposed extra requirements upon frequent filers before. Through the AP 80%, the JPO caused its best

172. *Id.*

173. U. S. PATENT & TRADEMARK OFFICE, PATENTING BY ORGANIZATIONS (2000).

customers to devote more resources to the preparation of patent applications. The approach taken in Munich was less subtle. The EPO decision to abandon certain PCT commitments with regard to biotechnology, business method and telecommunications applications originating in the U.S. was nonetheless an attempt to manage workload by shutting its doors to the Euro/PCT route's largest single category of users.

Varying applicant responsibilities based on relative abilities is not a new idea in the United States either. The USPTO fee schedule calls for individual inventors, universities and small businesses to pay half of most of the fees charged to their larger colleagues. This approach provides few benefits the USPTO, however, but rather causes large enterprises to subsidize the patent expenses of smaller ones. The USPTO should seize upon the concept of a graduated fee scheme and call upon its heaviest users to assume additional patent examination responsibilities as well.

The USPTO's largest users could take on additional responsibilities in at least three ways. Members of the "Century Club" should be compelled to perform initial classifications and prior art searches with respect to their own applications, on behalf of the USPTO and under its supervision. They should also be expected to bring prosecution to a close promptly. The USPTO should conduct periodic reviews of the status of each of their applications, with special attention paid to lingering applications from the pre-TRIPS Agreement era. Finally, the USPTO could mimic the JPO AP 80%, asking "Century Club" members to place their applications in a better position for timely examiner review.

C. Abandon the Pretext of a Universal Examination Regime

Although the patent system has long held pretensions of ecumenical treatment of applications, experienced patent solicitors know that the USPTO as an agency is far from uniform. The USPTO is Balkanized into technology-based subdivisions that sometimes act under different search and examination policies than other divisions.¹⁷⁴ Beyond its organizational flowchart, the USPTO also operates with a degree of delegation unique among federal administrative agencies. Experienced examiners are granted "full signatory" authority, effectively authorizing them to act as one-person patent offices. Demonstrative of this reality is that crucial matters such as examiner experience and application pendency times vary widely among different USPTO subdivisions.¹⁷⁵

174. See D.C. Toedt, *Reengineering the Patent Examination Process: Two Suggestions*, 81 J. PAT. & TRADEMARK OFF. SOC'Y 462, 465 (1999).

175. See John R. Allison & Mark A. Lemley, *Who's Patenting What? An Empirical Exploration of Patent Prosecution*, 53 VAND. L. REV. 2099, 2146 (2000).

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Distinctions are also built into the U.S. patent statute and case law. For example, section 103(b) creates a distinct (if little-used) rule of nonobviousness for certain biotechnologies.¹⁷⁶ The elaborate Hatch-Waxman Act applies only to certain pharmaceuticals and medical devices.¹⁷⁷ Judicial precedent concerning the written description and conception requirements also weigh more heavily in the fields of chemistry and biology.¹⁷⁸ Business methods and methods of medical treatment also receive special statutory treatment.¹⁷⁹

The USPTO ought to recognize expressly that it does not apply the same rules to all applications. Coming out of the closet, so to speak, would allow it to manage its workload more creatively and aggressively. In particular, the USPTO should consider pricing individual services based upon their costs. The Copyright Office sometimes charges hourly rates,¹⁸⁰ and given the dramatic distinctions between the examination burdens posed by different applications, such a step would be appropriate here as well. An application addressing complex biotechnology requires a more sophisticated and time-consuming review than one claiming a kitchen appliance. Charging fees for patent services based upon the technology classification would constitute an important step toward reengineering the manner in which patent examination should be performed. Among other benefits, a cost-based reengineering of examination procedures would allow the USPTO to hire and retain individuals of legal and technological sophistication, to pair its most talented personnel with its most technically complex applications, to allocate bibliographic and human resources in keeping with the demands of individual examination tasks, and ultimately to improve the quality of the patents that it issues.

D. Additional Proposals

Although not strictly founded upon prevailing patent office practice, the following proposals would also further the goal of improving patent quality. First, if the USPTO is serious about ensuring a high level of patent quality, it should consider providing the public with compensation for those patents it granted improvidently. Both the USPTO and the owner of

176. 35 U.S.C. § 103(b) (1994).

177. 35 U.S.C. § 156(f)(1)(3) (1994).

178. *See* *Fiers v. Revel*, 984 F.2d 1164, 1170 (Fed. Cir. 1993) (applying written description requirement to biotechnology claims present in the priority document); *Smith v. Bousquet*, 111 F.2d 157, 159 (C.C.P.A. 1940) (suggesting that in chemistry and biology, no conception is achieved until the invention is actually reduced to practice).

179. *See* 35 U.S.C. § 273 (1994) (business methods); *id.* § 287(c) (methods of medical treatment).

180. 37 C.F.R. § 201.3 (1994).

an invalidated patent could be assessed damages in administrative or judicial proceedings. In the case of an inappropriately issued patent on a pharmaceutical compound, for example, compensation might consist of the difference in costs between the brand-name pharmaceutical and any generic competitors that were barred from the market. Patients, health care providers and generic drug companies would stand among the parties to be reimbursed of their losses, in this example.

To the extent that it does not itself absorb the costs resulting from improvidently issued patents, the USPTO should develop and underwrite insurance products that distribute these costs. The confidentiality of pending applications may also lead to social costs. Firms often make investments in ignorance of applications filed by another, only to discover that continued use of those investments would constitute patent infringement. As the master of the nation's patent procurement docket, the USPTO stands in the best position to assess the risks and distribute the costs associated with prospective infringement of pending intellectual property rights.

The world's patent offices should also improve upon the transparency of their procedures. There is much to what the USPTO does that cannot be found in the MPEP. Practices such as the augmented use of official notice are difficult to ferret out from the isolated accounts of diverse practitioners. By maintaining a veil of secrecy, patent offices hinder the development of meaningful dialogue on the contemporary problems of patent administration. USPTO group directors should be encouraged to announce administrative policy distinctions and track evolving examiner practices for the benefit of an increasingly concerned public.

VI. CONCLUSION

As the TRIPS Agreement furthers the globalization of patent law, less wealthy nations will look to the trilateral patent powers of the European Union, Japan, and the United States as models for structuring their own patent administration regimes. Regrettably, many of the examples set by the EPO, JPO, and USPTO are unworthy of emulation. Victims of financial limitations, human resource constraints, and especially their own increased pretensions, the world's elite patent officers are facing as difficult an operating environment as they have ever known.

This Article has urged that there is good reason to be concerned with the work product of our patent office. Absent an unexpected influx of financial support from Congress, patent administrators must look to other sources to improve patent quality. Employing private citizens as partners in patent examination presents one mechanism for advancing this pro-

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ject.¹⁸¹ The USPTO should also give serious consideration to placing further examination burdens to the patent applicants, increasing the responsibilities of its heaviest users and abandoning its pretensions of a universal examination regime. By building upon its own successful practices, as well as drawing upon the experience of the EPO and JPO, the USPTO can meaningfully fulfill its high administrative aspirations for the benefit of all parties alike.

181. Thomas, *supra* note 3.