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ESSAY

ARE BUSINESS METHOD PATENTS BAD FOR BUSINESS?

Rochelle Cooper Dreyfuss[†]

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This is an exciting time at which to be involved in intellectual property. When I began teaching, this field was something of a backwater. Around thirty people took my introductory course; only seven went on to study patent law. Indeed, patent law was so esoteric, practitioners were historically among the very few lawyers ethically permitted to advertise their specialty.¹

In the last decade, however, all of that has changed. Not only are there many more students, what is really interesting as is the level of attention that this field is now receiving from Congress and the courts. Many new rights are being recognized, and old ones are expanding. Trademark holders now enjoy protection that goes well beyond the classic case of passing off. Actionable harms have come to include tarnishment, blurring, and cybersquatting, as well as both post-sale

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1. See, e.g., MODEL RULES OF PROFESSIONAL CONDUCT Rule 7.4; John A. Payton, Note, *Certification of Specialization: Another Limit on Attorney Advertising Is Peeled Away*, 25 IND. L. REV. 589, 611 (1991).

and initial-interest confusion.² According to the Supreme Court's opinion in *Feist Publications, Inc. v. Rural Telephone Service Co.*,³ fact works are supposed to remain in the public domain. But no matter. Increasingly, they are protectable—through encryption (itself protected by the Digital Millennium Copyright Act⁴), by contract,⁵ by the tort of misappropriation,⁶ and soon, perhaps, through the Uniform Computer Information Transactions Act⁷ and a federal database statute.⁸ But the development that has probably caused the most concern is *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*,⁹ the Federal Circuit decision recognizing business method patents. Think how the airline industry might now be structured if the first company to offer frequent flyer miles had enjoyed the sole right to award them or how differently mergers and acquisitions would be financed (and how rich Michael Milken might have become) if the use of junk bonds had been protected by a patent. The trend toward expanding protection deserves attention, with the advent of business method patenting deserving the most attention of all.

In many ways, this expansion in rights is not surprising. Information products are now a large part of the economy and for the first time, leading economic indicators reflect their contribution to prosperity. That is, for many years, productivity figures were stagnant, and this was true despite the invention and widespread adoption of the computer, which everyone was sure had to be increasing productivity. There was much headscratching about why the numbers weren't rising—whether social dislocations caused by technology outweigh benefits; whether economists were unable properly to evaluate the service economy or to grapple with units of production that, over time, become more complex rather than cheaper.¹⁰ Recently, however, the productivity figures have started to

2. See 15 U.S.C.A. § 1125(a)-(d) (West 1998 & Supp. 2000); *Brookfield Communications, Inc. v. West Coast Entertainment Corp.*, 174 F.3d 1036 (9th Cir. 1999); *Lois Sportswear, U.S.A., Inc. v. Levi Strauss & Co.*, 799 F.2d 867 (2d Cir. 1986).

3. 499 U.S. 340, 350-51 (1991).

4. See 17 U.S.C.A. § 1202 (West Supp. 1999).

5. See *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996).

6. See, e.g., *Board of Trade v. Dow Jones & Co.*, 98 Ill.2d 109 (1983).

7. See UNIFORM COMPUTER INFORMATION TRANSACTIONS ACT (1999).

8. See H.R. Rep. No. 106-349, at 2, 9 (1999) (accompanying H.R. 354 to provide protection for "certain collections of information").

9. 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 119 S. Ct. 851 (1999).

10. See, e.g., Zvi Griliches, *Productivity, R&D, and the Data Constraint*, AM. ECON. REV., Mar. 1994, at 1.

move,"¹¹ allowing Congress and the American people to appreciate the value of intellectual work, and to perceive the benefits of supporting the creative community with intellectual property rights. Even the gap between the introduction of computers and rising productivity makes that point. Why, in the end, *did* it take so long for productivity to increase? The answer, perhaps, is that inventing a new technology is not enough. Also required is a killer application, an application that inspires people to learn how to use the new development. Even after that, routine business applications are needed to give those who learned the new technology, opportunities to exploit their knowledge in ways that are fruitful for the economy. And that is where business method patents would seem to enter the picture, the argument being that not only does society need patents to motivate technological advances, it also needs them to motivate the business restructuring required to take full advantage of new developments. Indeed, the case for business method patents may seem so obvious, nonpatent lawyers may find it surprising to learn they have not always been available. But such is the case, at least officially: it was only two years ago that *State Street* gave judicial recognition to business method patents.

As noted, patent protection for business methods certainly appears to be a good idea. But is it? Are there problems with this sudden change in the law? Is *State Street* really going to lead us to Easy Street? This paper examines the decision, describes the layers of difficulties it presents, and then asks what, as a society, we should do about this part of the trend toward ever stronger intellectual property rights.

I. STATE STREET

State Street involves a patent entitled "Data Processing System for Hub and Spoke Financial Services Configuration."¹² The invention keeps track of individual mutual fund investments ("spokes") which have been pooled into a single portfolio (a "hub"). Essentially, what the system does is generate numbers that represent (among other things) each spoke's share of profits, numbers that are needed to comply with a set of Internal Revenue Service (IRS)

11. See, e.g., Louis Uchitelle, *U.S. Productivity Rose at 5% Rate in 2nd Half of '99*, N.Y. TIMES, Feb. 9, 2000, at A1.

12. U.S. Pat. No. 5,193,056.

Regulations.¹³

The patent was attacked on two interrelated grounds. First, there was the "software" problem. Courts have always had trouble with process patents because they are afraid that the claims in these patents are really drawn to principles of nature, which must remain in a domain where they can be used by all. Traditionally, the Supreme Court's solution to the problem of differentiating processes that are principles from processes that are patentable applications, has been to restrict patents to those processes that effect transformations in the physical world—for example, sifted flour;¹⁴ separated glycerine;¹⁵ or cured rubber.¹⁶ But since the invention in *State Street* produced, basically, numbers, the argument was made that the invention was more akin to $E = mc^2$ or the pythagorean theorem than to a patentable invention.¹⁷

For its part, the Court of Appeals for the Federal Circuit had developed a more sophisticated way to distinguish algorithms found in software from abstract principles. Under its *Freeman-Walter-Abele* analysis, patents were upheld when the claims were drawn to a specific machine or the algorithm was made a part of a larger physical process or method.¹⁸ In *State Street*, the patentee had, in fact, tried to fit within the latter category by claiming that the algorithm at issue was part of a method of doing business. That approach was, however, susceptible to a second challenge, one based on a long line of (mainly lower) court opinions holding that business methods are too abstract to be patented.¹⁹

Siding with the unauthorized user, the District Court accepted both of these arguments. However, matters went surprisingly differently on appeal. The case was assigned to Judge Giles Rich.

13. See I.R.C. 701-706 (West 1998 & Supp. 1999); Treas. Reg. § 1.704-1 to 1.704-4 (as amended in 1997); see also Leo I. Raskind, *The Bad Business of Business Method Patents*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 61, 86 (1999).

14. See *Cochrane v. Deener*, 94 U.S. 139 (1877).

15. See *Tilghman v. Proctor*, 102 U.S. 707 (1880).

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

17. 927 F. Supp. 502, 516 (D. Mass. 1996) (Saris, J.), *rev'd*, 149 F.3d 1368 (Fed. Cir. 1998).

18. See *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994); *In re Abele*, 684 F.2d 902 (C.C.P.A. 1982); *In re Walter*, 618 F.2d 758 (C.C.P.A. 1980); *In re Freeman*, 573 F.2d 1237 (C.C.P.A. 1978); see also *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1060-61 (Fed. Cir. 1992).

19. See, e.g., *Loew's Drive-In Theatres, Inc. v. Park-In Theatres, Inc.*, 174 F.2d 547, 552 (1st Cir. 1949), *cert denied*, 338 U.S. 822 (1949); *Hotel Sec. Checking Co. v. Lorraine Co.*, 160 F. 467, 469 (2d Cir. 1908).

An ex-patent attorney, Judge Rich was also reputed to have been the principal drafter of the current (1952) Patent Act, and by the time he wrote this opinion, rumored to be the longest-sitting federal judge.²⁰ This was one of his last opinions, and he apparently decided to go out with a splash. First, he repudiated *Freeman-Walter-Abele* on the way to distinguish applied software from principles. Instead, he laid down a rather simple test, holding patentable any transformation of data that produces “a useful, concrete, and tangible result.”²¹ Next, Judge Rich ran through that case law on business methods to show that the statements on their nonpatentability were pure dictum.²² He concluded: “Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method.”²³

State Street thus makes two changes in the law. It does away with special rules for determining when software is patentable subject matter and it brings business methods into the ambit of protection. In the latter connection, it is important to note that *State Street* apparently makes patentable all business methods: although the case itself was about a computer-implemented business method, the language of the opinion is extremely broad.

II. IMPLICATIONS OF BUSINESS METHOD PATENTING

This brings us to my questions. Clearly, society needs people to develop new business methods—that is the import of the story about the productivity numbers. But is it right to encourage them to do this through patent law? I see two difficulties with moving in that direction: one concerns the quality of the business patents that are issuing; the other, the wisdom of recognizing exclusivity in competitive processes.

A. Quality

The first problem is one that concerns many observers of the

20. See Richard A. Oppel, Jr., *Giles S. Rich, Oldest Active Federal Judge, Dies at 95*, N.Y. TIMES, June 12, 1999, at A13; Jon Thurber, *Obituaries, Judge Giles Rich; Patent Law Authority*, L.A. TIMES, June 14, 1999, at A22. Judge Rich was first appointed to the bench in 1956 and remained on active status until the time of his death 43 years later.

21. 149 F.3d at 1373.

22. See *id.* at 1375-77. Professor John Thomas recently discovered that Judge Rich had relied on this “dictum” himself. See Giles S. Rich, *Principles of Patentability*, 28 GEO. WASH. L. REV. 393, 393-94 (1960).

23. 149 F.3d at 1375.

patent system. It is the frequency with which the Patent Office issues patents on shockingly mundane business inventions. The most notorious example is probably Jay Walker's Priceline patent, which inspired the following comment from a reader of *Forbes Magazine*: "Cool! Jay Walker has apparently patented the 'business method' known as a Dutch auction—a method by which the U.S. Treasury sells hundreds of billions of dollars' worth of securities each year."²⁴ And there are many other examples as well. Professor John Thomas at George Washington cites a method for running a remodeling business that comprises cataloging ideas, presenting the ideas to a client, allowing the client to select an idea, and then showing the client a picture of his or her selection.²⁵ My personal favorite is in the field of architecture. It is a method for eliminating hallways through the process of placing the staircases on the outside of buildings.²⁶

Admittedly, what is particularly bad about these patents is that the methods they protect were well known before the applicant came along. For example, anyone familiar with Bergin Hall at Santa Clara University School of Law knows all about the concept of the outside staircase. On that issue, it must be said that Judge Rich never intended for known business methods to be patented. Indeed, he stressed—cautioned—that business methods must meet the other legal requirements for patentability, requirements that include novelty (the method must be new²⁷) and nonobviousness (the method must be more inventive than would be expected of an ordinary business person²⁸).

But even so, there are problems. Denying patents on known methods is not so easy to do. One problem is conceptual. The standard of novelty and inventiveness are not absolute; they receive coloration from the field at issue in the patent. For example, in chemistry, where basic structures, syntheses, and theory are well known, a fairly low standard of inventiveness is needed if patents are to be available at all. And, in fact, courts have developed a series of subtests that produce exactly the right kind of standard.²⁹ The same

24. Byron L. Winn, *Readers Say*, *FORBES*, May 31, 1999, at 18. Of course, whether Uncle Sam is infringing depends on the scope of protection afforded.

25. See John R. Thomas, *The Patenting of the Liberal Professions*, 40 B.C. L. REV. 1139, 1161-62 (1999) (citing U.S. Patent No. 5,668,736).

26. See U.S. Patent No. 5,761,857 ("Lot configuration and building position and method for residential housing").

27. See 35 U.S.C. § 102 (1994).

28. See *id.* § 103.

29. See, e.g., *In re Dillon*, 919 F.2d 688 (Fed. Cir. 1990) (tracing the history of chemical

can be said about business methods: now that the Federal Circuit has decided they should be considered patentable, the standards will be adjusted to make sure that these patents are generally granted.

Indeed, *Wang Laboratories, Inc. v. America Online, Inc.*,³⁰ a recent case on infringement, is suggestive on this issue. The question there was patent scope, and the court took a very narrow view of what any particular business methodology teaches. Thus, the case found patent-significant distinctions between two “favorite places” or “bookmark” features, one using bit mapping protocols and the other using a character-based system. Since there is a close connection between scope for purposes of anticipation and scope for infringement,³¹ this narrow reading of the claim may foreshadow how prior art will be used in novelty determinations as well. If so, it will take a great deal of prior art to convince a court that a particular method of doing business is obvious or anticipated.

A second reason to be wary of relying solely on novelty and nonobviousness to protect against mundane patents is practical. Consider the observation of Greg Aharonian of Patent-News that the number of non-patent references cited is often very low.³² In fact, his finding is not very surprising: there are systematic reasons why this should be the case. First, because business methods have not been patented in the past, there is very little patent-related prior art readily at hand to the examiner corps. More important, because knowledge about business methods resides mainly in the practices and policies of the firms that use them, even common methods may not be documented in the sorts of materials that examiners can efficiently consult. Unless these difficulties are taken care of—and it is hard to see how the latter can ever be dealt with effectively—invalid patents will inevitably issue.

Finally, there is a subjective element to patent decisions that needs to be considered. It can be seen in three cases the Supreme Court decided on the same day: *Graham v. John Deere Co.* and *Calmar v. Cook*,³³ were about about a plow and a spray can,

nonobviousness); see also ROBERT P. MERGES, PATENT LAW AND POLICY 589-90 (2d ed. 1997).

30. 197 F.3d 1377 (Fed. Cir. 1999).

31. See, e.g., *Miller v. Eagle Mfg. Co.*, 151 U.S. 186, 203 (1894). The connection is encapsulated in the familiar saying: “that which infringes if later, anticipates if earlier.” *Id.*

32. Gregory Aharonian, Internet Patent News Service, June 23, 1999, available at <<http://www.bustpatents.com/ipns.htm>> (on file with author).

33. 383 U.S. 1 (1966) (consolidated in *Graham v. John Deere*).

respectively, and *United States v. Adams*,³⁴ was about a battery. The first two patents were invalidated on obviousness grounds, but the third was upheld. It is not easy to distinguish the cases, and many suspect that the different outcomes had more to do with the justices' familiarity with the fields of the invention than with the inventiveness of the advances at issue in the cases. Thus, the plow and the spray can involved mechanicals—hinges, gaskets, ribs, and such. Because judges deal with (or think they should be able to deal with) such devices in their ordinary lives, they may have found it difficult to imagine that a particular arrangement of these familiar objects could be inventive enough to merit protection. But working with electricity can be dangerous; most people stay as far away from it as possible. Free to admit that they lacked intimate knowledge of batteries, the justices were also free to find the invention at issue in *Adams* nonobvious. The general lesson here is this. What judges don't understand, they think is patentable—there is a kind of “gee wiz” factor that is hard to overcome. In contrast, what judges do understand (or think they should pretend they understand), appears obvious—an “I could have done that” view takes hold instead. That is important in this context because it is rather probable that judges do not understand (or bother to pretend they understand) the Internet or software. Thus, we can certainly expect fairly widespread validation of at least certain classes of business method patents.

Of course, one could dismiss the problem of invalid patents as ephemeral—if a patent covers a business method that is really important, it will be challenged and invalidated. But while the potential for successful challenge is certainly real, it is not clear that it is an adequate solution. After all, patents have *in terrorem* effects: no one wants to invest in a business that cannot succeed without first winning a lawsuit. Moreover, much can happen during the transition period between allowance and invalidation. For example, many industries experience shake outs. These have the beneficial effect of culling out those firms that are the least competent. But to some extent, business method patents protect businesses from competition. Thus, they can function in a way that preserves inefficiencies in the marketplace.

In some fields, there is another, more enduring, problem. Take law and medicine: substantial relationships are built (lawyer and client, doctor and patient). Once loyalty develops, whatever business method drew the client to the provider becomes irrelevant; even if the

34. 383 U.S. 39 (1966).

patent on the method is invalidated, the client will stay put. Of course, concepts like "loyalty" and "relationships" are somewhat retro and passe. Now we talk about "stickiness." But this is just a vocabulary shift. As with loyalty, once a sticky method takes hold, invalidation of the patent on that method will make no difference.

This is an important point, so let us examine it with some illustrations. One way to produce a sticky business method is lock in. Consider, for example, Amazon.com's patented one-click technology, which has been enforced against BarnesandNoble.com.³⁵ One click is very nice for shoppers because once they have inputted various bits of shipping and billing information, they can check out quickly on subsequent visits. Accordingly, if Amazon has the exclusive right to one-click, we can expect that many customers will patronize its site. What happens if the patent is eventually invalidated—will there then be effective competition? Probably not because once a book buyer has entered information at Amazon, there is no reason to go elsewhere, particularly now that Amazon has the capacity to further analyze the information and offer its patrons useful suggestions about future purchases. Buyers who rely on such services will not care if the patent is invalidated, and rival sites are permitted to utilize one-click: once locked in to Amazon, shoppers will not likely visit a site that is less informative and requires more work.

Another way to make customers stick is with network effects. An example of a network effect is AOL's instant messenger.³⁶ A user's ability to exchange email in real time is useful only when the people the user wishes to reach are also on the same system. As a result, the value of the system as a whole depends directly on its size. I do not know whether AOL has protected its system with a patent, but if it has, then instant messenger is a good example of the problem with relying on invalidation. The reason is this: if there were such a patent, it would be extremely significant because it would force everyone interested in instant messenger to sign up with AOL. But once a large (and valuable) network is created, invalidation will not matter at all. True, rivals would appear, but because they would necessarily start small, they would not be able to deliver the same

35. See *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp. 2d 1228 (W.D. Wash. 1999).

36. See Saul Hansell, *In Cyberspace, Rivals Skirmish Over Messaging*, N.Y. TIMES, July 24, 1999, at A1 (describing America Online's use of its copyrights and trademarks to reserve its instant messaging service to its own network of subscribers); Leslie Helm, *AOL Aligns with Apple in Instant Messaging Venture*, L.A. TIMES, July 30, 1999, at C3.

value to their customers. The bottom line is thus a terrible transition problem: patents do not need to be in force for long to exert a substantial effect on competition.

Now, it must be admitted that Congress has already noticed that there is a problem here, that examining business methods for novelty and nonobviousness is going to be difficult, and that invalid patents can be problematic. It has even done something to fix the situation. Soon after *State Street*, it enacted the "first inventor" defense (also called a prior user right). Under this provision, there is a defense to infringement in favor of any person who: "acting in good faith, actually reduced the subject matter [of a business method patent] to practice at least one year before the effective filing date of such patent, and commercially used the subject matter before the effective filing date of such patent."³⁷

Unfortunately, however, this fix is not enough. It is very limited: in order to prevent the first inventor from competing away all patent profits, the defense can be asserted only by the party who established the defense and it can only be used with respect to the specific subject matter claimed.³⁸ Furthermore, it can create effective competition only when there is someone who was positioned, before the application was filed, to enter the patentee's business. Most important, recognition of this defense could have perverse effects in future litigation. By creating this defense, Congress may be viewed as having implicitly endorsed business method patenting.³⁹ Further, the first inventor defense may actually reduce the extent to which other unpublicized inventions will be regarded as prior art in the future.⁴⁰

37. 35 U.S.C.A. § 273(b)(1) (West Supp. 2000).

38. See *id* § 273(b)(6) & (b)(3)(C).

39. Cf. *Oddzon Prods., Inc. v. Just Toys, Inc.*, 122 F.2d 1396 (Fed. Cir. 1997) (holding that art under 35 U.S.C. § 102(f) can be combined with other art to find an invention nonobvious on the basis that Congress amended § 103 to address the narrow problem of §§ 102(f) and 103 rejections in the context of large-firm research. In so doing, the court ignored the fact that Congress had never, in fact, considered the broader question of whether § 102(f) should *ever* be used for § 103 purposes.).

40. This theory is somewhat controversial and complicated. Section 102(g) refers to inventions "made in this country by another who has not abandoned, suppressed or concealed it." 35 U.S.C. § 102(g) (1994). Although the section is mainly read as limiting the field of who can claim priority, it has been used to protect the reliance interests of those who commercialized inventions without publicizing them. See, e.g., *Dunlop Holdings, Ltd. v. Ram Golf Corp.*, 524 F.2d 33 (7th Cir. 1975); *In re Bass*, 474 F.2d 1276 (C.C.P.A. 1973); Pierre Jean Hubert, *The Prior User Right of H.R. 400: a Careful Balancing of Competing Interests*, 14 SANTA CLARA COMPUTER & HIGH TECH. L.J. 189, 193 (1998). Since the first inventor defense will now be available to protect such users in the case of business methods, see H.R. Rep. No. 106-287, at

There are a few other, and potentially more salutary, developments on the horizon. First, there is building sentiment to improve the performance of the Patent and Trademark Office. For example, Robert Merges recently published an article suggesting better pay and training for examiners; an end to the system of awarding examiners bonuses for final dispositions (which tend to strongly favor allowances, which are not appealed, over disallowances, which are); substantial revision of the reexamination system; and external review of performance.⁴¹ Second, courts may become better at assessing novelty and nonobviousness. Encouraging in this regard is *AT&T Corp. v. Excel Communications, Inc.*,⁴² which concerned a telephone billing method. In the first incarnation of that case, the Federal Circuit held the business method patentable subject matter. However, in a later phase, the patent was invalidated as obvious in light of MCI's Friends and Family Program. Third, there is the potential of e-mail and the Internet. We saw their tendency to exacerbate the problems of invalid patents through lock-in and network effects, but they could also be a part of the solution to the problem of bad patents. Thus, for example, the World Wide Web Consortium (W3C) advertised successfully on its web site for art that it later used to defeat a patent on a privacy protection protocol that it was using.⁴³ Fourth, Leo Raskind has argued that the misuse defense, somewhat moribund in recent years, may enjoy a revival. If, for instance, it were to turn out that the invention in *State Street* is the only efficient way to run the IRS calculations on which it is based, then the patent may be valid, but any failure to license it broadly and on reasonable terms could be regarded as misuse.⁴⁴ Finally, there is an aspect of the *Wang* case on "favorite places" technology that is also very hopeful. As we saw, that case involved a valid patent, but the court construed it quite narrowly. If business method claims are similarly limited to specific implementations, they will be much less

44-49 (1999), courts may reason that § 102(g) art should not generally be construed as patent-defeating.

41. 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).

42. 172 F.3d 1352 (Fed. Cir. 1999).

43. See World Wide Web Consortium, *P3P and the Interminid patent* (visited Mar. 27, 2000) <<http://www.w3.org/1999/04/P3P-PatentBackground.html>>. The ad read as follows: "WANTED: When did you first see a technology like this? . . . W3C is looking for information concerning any systems that predate the Interminid patent . . ." *Id.*

44. See Raskind, *supra* note 13. Patents cannot be enforced until misuse is purged. See DONALD S. CHISUM, CHISUM ON PATENTS § 19.04[4] (1998).

problematic.

But despite these hopeful signs, I remain concerned about quality. As noted earlier, no one goes out to buy a lawsuit; patents, even invalid patents, exert an influence on the market. Furthermore, as the Federal Circuit strengthens the presumption of validity, these patents become increasingly difficult to challenge.⁴⁵

B. Wisdom

Invalid patents are not, however, my main concern. My real problem with this trend is more controversial: I even question the value of valid business method patents. I believe that they adversely affect innovation, and worse, the economy. These patents are not associated with the benefits that, as a constitutional matter, justify the recognition of private property. And the economic costs they impose can be astounding. Let me take these points one at a time.

As I noted at the outset, business methods are not the only example of newly created or expanded intellectual property rights. There is also database protection, dilution, blurring, cybersquatting, and misappropriation. A strange aspect to many of these expansions is that they occur without any specific thought given to the need for protection. Once a creative product (a mark, a celebrity image, a business method) is recognized as having value, it is assumed that someone has a right to capture that value. Measured against the background of property rights propagation generally, this is a rather novel approach. In the world of tangibles, rights are recognized only when there is a public (not just a private) benefit to be gained: to avoid the tragedy of the commons—to prevent overfishing or overgrazing; to encourage pollution control, resource management, and conservation.⁴⁶ Otherwise, the trend in property law has been towards the commons—to creating parks, clean waterways, playgrounds, zoos, and such. In intellectual property law, similar attention was once paid to the question of justifications. The framers of the Constitution, for example, rejected “just deserts” and other

45. See 35 U.S.C.A. § 282 (West 1984 & Supp. 1998); *Medtronic Inc. v. Intermedics, Inc.*, 799 F.2d 734, 741 (Fed. Cir. 1986) (“35 U.S.C. § 282 creates a presumption that a patent is valid and imposes the burden of proving invalidity on the challenger by ‘clear and convincing evidence.’ That burden is permanent and does not change.”); see also *Dickinson v. Zurko*, 527 U.S. 150 (1999) (requiring the Federal Circuit to review appeals of PTO decisions on a deferential basis).

46. See Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244 (1968); H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124, 134 (1954) (giving an earlier version of the theory of the tragedy of the commons).

moral claims in favor of pure utilitarian approaches. Thus, intellectual property rights generally are basically viewed as solutions to the free rider problem; patents are also valued because they encourage disclosure.⁴⁷

But neither the free-rider nor the disclosure rationale justifies business method patents. Businesses are largely practiced in public. Accordingly, there is little need to especially encourage disclosure. Business methods are also hard to free ride on. They depend in strong ways on the social structure within the firms utilizing them—on compensation schemes, lines of reporting, supervising policies, and other business factors. Moreover, as we saw, sticky business methods are their own reward. With lock in, network effects, and even good old fashioned loyalty, lead time (the first mover advantage) goes a long way to assuring returns adequate to recoup costs and earn substantial profit. In sum, while business innovations are certainly desirable, it is not clear that business method patents are needed to spur people to create them.

On the costs side, matters are even more unfavorable for business method patents. All patents impose social costs. Patented products are more expensive; quantity and quality are less than they would be in a competitive market. Furthermore, there is deadweight loss created as those who would buy the product at the competitive price forgo purchase at the higher patent price. There is also an offsets problem. Because knowledge is cumulative, any rise in the price of using existing intellectual products also increases the cost of innovating future products. Without free and unfettered ability to—in Sir Isaac Newton's words—stand on the shoulders of giants,⁴⁸ innovators are not able to push the frontiers of science forward. Spillover benefits are likewise reduced, for the private right to control a new technology can be used to prevent others from applying that technology in ways the rights holder did not consider.

Of course, some patents impose more of these costs than do others. To determine how high costs would run for any particular patent, it is useful to conceptualize knowledge as a pyramid: the big ideas are on top; specific applications are at the bottom. Specific applications are largely dead ends. Private ownership of these

47. See, e.g., Rochelle Cooper Dreyfuss, *Intellectual Property Law*, in *FUNDAMENTALS OF AMERICAN LAW* 507 (Alan B. Morrison, ed. 1996); Edmund Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977).

48. See ROBERT K. MERTON, *ON THE SHOULDERS OF GIANTS* 31 (1965) (quoting a letter by Sir Isaac Newton).

applications does not entail high social cost because others will never need these inventions as a basis for their own inventiveness. But as one moves up the pyramid, the costs associated with privatization increase. As a result, the big inventions at the top—inventions denominated as ideas or principles—are not considered patentable. They must remain in the public domain because they have instrumental significance. Society needs them to generate other specific applications, and also to open new technological opportunities. The issue, then, is to locate business methods on this pyramid. In fact, they are towards the top. Partly that is so for the familiar reasons just discussed: they are instrumental in the traditional sense, as the basis for further inventiveness. But they are important in another, somewhat different sense as well: they are instrumental to the economy.

To see this, it is helpful to shift gears and to consider a somewhat related issue: should sports moves be patentable? What, for example, if Candy Cummings had patented the curve ball or Dick Fosbury, his high jump “flop?” Would sporting events be as popular? It seems unlikely. After all, sporting events are interesting because they pit humans against one another to determine whose abilities are superior. For that competition to be true, participants need to compete—literally—on a level playing field. Allowing one athlete to use a move that is denied to others would destroy the essence of the event.⁴⁹ The same can be said of business methods: winning and losing is supposed to depend on execution, not on exclusive rights to the moves that need to be executed. We want the best book store to dominate the market, not the store that makes it easiest to check out. Or, just as sporting events identify the best athlete and team, market competition is what this society relies on to determine the best use for particular resources. If that mechanism is distorted, then Adam Smith’s unseen hand is crippled.

Now, in sports, the problem of patented moves is somewhat reduced because competitions have organizers (for instance, baseball has a commissioner). These organizers can easily ban the use of moves (or products) that are not made available to all. But no one is positioned to do that with respect to business methods: Bud Selig is far more likely to bring John Rocker into line than Joel Klein is to tame Bill Gates.

The bottom line is this. The costs of business method patents are

49. See generally Jeffrey A. Smith, Comment, *It's Your Move—No It's Not! The Application of Patent Law to Sports Moves*, 70 U. COLO. L. REV. 1051 (1999).

very high. The benefits, at least the traditional benefits, are low. The ratio is terrible. The case for patents on business methods is simply not there, at least not in general. Indeed, it is almost unnecessary to say this here, at Santa Clara University School of Law in Silicon Valley, where the free flow of information among firms may well have had a great deal to do with economic success.⁵⁰ *State Street* now provides the opportunity to tie up such knowledge for the future, to privatize it, and prevent it from leaking out to all users. The firms of this Valley should be the ones most cognizant of the danger this poses to innovation.

III. WHERE TO GO FROM HERE

Given the problem of business method patents, a strong argument can be made that *State Street* should be reversed, either judicially or legislatively. However, these remarks have been coached in general terms; it is not implausible that there are specific areas where business method patents achieve socially useful results. John Thomas, for example, has suggested that method patents should be confined to what he calls the technological arts: production methods rather than lawyering methods; physical, not medical treatments; industrial as opposed to business applications. Thomas bases this suggestion on the Constitution's reference to the "useful arts,"⁵¹ which, he claims, is the 18th Century's word for what we in the 21st Century call "technology."⁵²

That would be one cut at the problem, but I am not convinced it is the right one. I do not know what the drafters of the Constitution meant by "useful arts." In addition, it isn't clear to me that the word "technology" is unambiguous enough to create a clear judicial line. Most important, I don't understand why that particular divide would distinguish between fields where patents make sense and fields where they do not. To me, the better way to define the scope of patent protection is by sticking with the question of rationales, by asking where a patent incentive is actually required to promote investment in innovation.

As to that, let us step back to the *State Street* decision one more

50. See Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete*, 74 N.Y.U. L. REV. 575 (1999).

51. See U.S. CONST. art. I, § 8, cl. 2.

52. See Thomas, *supra* note 25, at 1164.

time. As we saw, the first part of Judge Rich's opinion made patent protection for software easier to obtain. At one time, I might have had many of the objections to software patenting that I've already voiced with regard to privatizing business knowledge. For instance, it would have slowed progress in this Valley. But at this point in time, the software industry is mature; new developments are hard-fought—increasingly expensive to create, yet they remain cheap to copy. Given that secrecy is also sometimes a real option with software developments, I think we can assume that the first part of the *State Street* decision is good law. If so, then perhaps those business methods that partake of the "software rationale" should also be candidates for protection. That is, I could easily imagine denying protection to the likes of frequent flyer miles, junk bonds, curve balls, and Fosdick flops. But we saw that getting the productivity numbers up after the introduction of computers required both killer and routine applications; encouraging these applications with patents may make some sense. Note, however, that the business method patents that would be allowed under this rationale would be highly limited. *Only* applications—new and nonobvious computer-implementations—would merit protection. In essence, these patents would run to the software, not to the business model that the software implements.

Such an approach has much to recommend it. First, as a theoretical matter, it would achieve congruence with the way that intellectual property law has always treated principles. As we saw, both patent law and copyright distinguish between principles and instantiations of those principles (expressions or applications). An instantiation can be privately owned, but the abstraction must go into the public domain.⁵³ Under the move suggested here, business models would be dealt with similarly. The abstract model would remain free for all to utilize. However, specific implementations of the model would be considered the subject matter of patent law.

Second, this approach would eliminate the specter of patents in areas that do not need the special incentives of exclusive rights regimes. Junk bonds, for example, are good examples of inventions that generate their own rewards. They do not need patent protection and would not merit it under this system because they do not require software implementation.

Third, this approach would focus the courts on the inventiveness of the software: any sort of "gee wiz" factor deriving from using banal real world business models on the Internet would be eliminated.

53. See discussion *supra*.

That in itself would be a substantial accomplishment. As we saw in the quote from Forbes,⁵⁴ what strikes many observers as wrong about business method patenting is that it can be used to protect processes whose only inventive features involve the transfer of a well known business model, such as the Dutch auction, to cyberspace.⁵⁵ Under the approach suggested here, Internet utilization of real world models might still be patentable, but now only when the translation actually required inventiveness, that is, the creation of nonobvious implementing technology.

Most important, this approach would yield patents of rather narrow scope. The protection would run only against the specific implementation disclosed in the patent; anyone who could implement the business with new software, or utilize it without a computer, would know that such use would escape infringement. Thus, it would be clear to all that the United States could continue to use its method for selling treasury bills even if Walker's Priceline patent is valid. And since other online businesses could imitate the patented business method (Priceline's auction or Amazon.com's one-click) with different software, the distortive impact of these patents on market competition would be minimized.

In the final analysis, there is an irony in *State Street*. The main reason for the increase in business method applications was because *Freeman-Walter-Abele* made patent eligibility for software turn on placing the program into the context of a process. Now that the subject-matter requirement can be met by generating numbers that produce useful, concrete, and tangible results, there is no longer a need for what was, quite frankly, always a bit of a dodge. As we saw, business method patents make little sense from an economic perspective; if they are not even needed to create legal fictions, why recognize them at all?

54. See Winn, *supra* note 24 and accompanying text.

55. Other examples include two of Amazon.com's best known patents: the patent on one-click basically covers the concept (particularly well known in bars) of asking the seller to put a particular purchase "on my tab." Amazon also has a patent on its affiliates program, which allows web sites to refer customers to Amazon in exchange for a fee. See *Amazon.com Patent Covers Fee Program On Customer Referral*, WALL ST. J., Feb. 28, 2000, at B8; Mo Krochmal & Jason Coombs, *Amazon Associates Plan Wins Patent Protection* (Feb. 25, 2000) <<http://www.techweb.com/wire/story/TWB20000225S0013>>. That business model is also quite prevalent in the real world (particularly among lawyers): it is known as the kickback.

IV. CONCLUSION

Of late, the information sector has done a very good job at attracting the attention of law makers. That is why so many new intellectual property rights have been recognized. The time has come for this community—especially this Valley—to think about whether things have gone far enough, whether privatization is starting to chill innovation rather than promote it. As to business method patents in particular, there is an expression about throwing the baby out with the bath water. Perhaps what we are dealing with here is the opposite situation: we are keeping the bath water (business method patents) when all we really need or want is the baby (patents on software).