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Scope of Protection Problems with Patents and Copyrights on Methods of Doing Business

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Scope-of-Protection Problems With Patents and Copyrights on Methods of Doing Business

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INTRODUCTION

The problem of determining whether a method of doing business should be eligible for patent or copyright protection has become of increasing concern after the Federal Circuit's remarkable decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, and the Supreme Court's denial of further review.[1] The decision introduces substantial tension into patent law by opening up a whole new realm of potentially patentable innovations of a kind previously considered unpatentable in principle or patentable only by substantial indirection and elaborate apparatus-seeking gymnastics.[2] The problems of patenting business methods

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1. 149 F.3d 1368 (Fed. Cir. 1998), *rev'g* 927 F. Supp. 502 (D. Mass. 1995), *cert. denied,* 119 S. Ct. 851 (1999).

2. *See* Richard H. Stern, *Federal Circuit Equates Methods of Doing Business to Algorithms for Patentability Purposes*, 11 EUR. INTELL. PROP. REV. 496, 498-99, 500 (1994). The article discusses how one might, through such indirection and gymnastics, convert an appparently unpatentable business method into a hardware apparatus-utilizing and therefore patentable system. The article illustrates how to perform such a conversion with the subject matter claimed in the patent rejected in *In re Schrader,* 22 F.3d 290 (Fed. Cir. 1994). The problem for a claims drafter seeking to make this kind of conversion is to insert nominal

can be addressed instructively from several different vantage points.

A. *Several Approaches to the Problem*

One approach is classical doctrinal analysis. How do patents on methods of doing business square with previously accepted case law on patenting abstract ideas, methods of doing calculations, and methods of doing business? Another approach is that of economic policy. Will patents on methods of doing business bring forth more, and a richer variety of, new financial products and business services, to a sought-for extent? Or will that effect, if there is one, be outweighed by their hindering competitive vigor and the enterprise of other entrepreneurs?

Still another approach is philosophico-historical. Will recognition of property rights in business techniques, business models, and ideas for transacting business in more effective ways by use of computers or electronic-commerce expedients harm society? Would such patents push us into the abuses that led to the Statute of Monopolies,[3] The Boston Tea Party, and the French Revolution? Are the new patents on methods of doing business the modern equivalent of the hated *gabelle* and East India Company's tea monopoly? Will business-methods patents be perceived as so excessive as to initiate a cycle of hostile reaction against the patent system?

Finally, an ultra-pragmatic approach might ask whether patents on methods of doing business would do less overall harm to society than expansive copyright protection on them would. If that is so, should we therefore acquiesce in such patents as a lesser evil

apparatus limitations into the claim, such as a particular transducer or even an analog-to-digital converter at the front end of the system or an output-utilizing device at the back end. The device inserted must be one that would in any event be essential to operating the system, and thus one that would-be infringers could not avoid. Such a device limitation would not appreciably decrease the economic scope of the patent monopoly. The actual limitation that the carefully selected apparatus limitation imposed on claim scope would then be illusory, but the existence of the limitation would avoid § 101-invoking "preemption" of all ways to practice the business method. *See* Richard H. Stern, *Tales from the Algorithm War: Benson to Iwahashi, It's Deja Vu All Over Again,* 18 AIPLA Q.J. 371, 382-84 (1990); *see also* 35 U.S.C. § 101 (1994) (defining patent-eligible subject matter).

3. *Statute of Monopolies*, 21 Jac. I, ch. 3 (1623).

than copyright excess would be, even if not a greater good?[4]

Each of these approaches has its advantages and its shortcomings, some of which this paper explores. This paper seeks to complement the analyses of other contributions to this Symposium by examining patents and copyrights on methods of doing business from a different perspective. This paper focuses first on the problem *qua* problem: Why is there a sensed problem with patents and copyrights on methods of doing business? Is the problem, assuming that there is one, specific to patents and copyrights on methods of doing business or is it simply a facet of a more general problem in intellectual property law? Is the problem, again assuming that there is one, a problem with all patents and copyrights on methods of doing business or only some of them, a subset? If the problem is specific to a subset, what differentiates the subset from the rest of the set? Finally, if there indeed is a problem, and we want to deal with it, how might we go about doing so?

B. *The Relation of Scope of Protection to Location on an Abstractness-Specificity Continuum*

A thesis developed in this paper is that the perceived problem with patents and copyrights on methods of doing business is an aspect of one of the most fundamental and pervasive patent and copyright problems. This is the problem of establishing workable criteria for a line of demarcation in intellectual property law. On the one side of the line are the legally protectable, concrete, and specific aspects of innovative contributions. On the other side are the legally unprotectable, abstract, and general aspects of those contributions.

4. *See* Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222 (3d Cir. 1986), *cert. denied,* 479 U.S. 1031 (1987); Lotus Dev. Corp. v. Paperback Software Int'l, 740 F. Supp. 37 (D. Mass. 1990), *overruled by implication,* Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided Court,* 516 U.S. 233 (1996); Pearl Sys., Inc. v. Competition Elecs., Inc., 8 U.S.P.Q.2d 1520 (S.D. Fla. 1988).

The thrust of this argument would be that a parallel evolution of business-method copyrights to that of "look and feel" copyrights in the computer program field would, at least for a time, be more disastrous than stretching patent law. The underlying premise, perhaps valid, is that patent law arguably is not as bad a fit to the subject matter as copyright law is. I am indebted to Professor Dennis Karjala for this concept of according patent-eligibility as a damage control measure.

In copyright law, this is the problem of distinguishing legally protected *expression* from legally unprotected *idea*. (An idea is instantiated, so to say, by means of particular verbal, pictorial, or other concrete expressions of the idea. An archetype is projected or limned against the wall of the cave as a particular shadow.) The Supreme Court seminally addressed that problem in *Baker v. Selden*[5] and its attempted solution is now codified in large part in section 102(b) of our copyright statute.[6] Sometimes idea/expression is seen as a copyrightability issue and sometimes it is seen as an infringement or copyright scope issue.[7]

Courts often seek to resolve the problem in copyright law by applying the so-called merger rule. Under this legal rule, the court analyzes a work by characterizing it successively along a continuum from concreteness (specificity) to abstractness (generality). At each point, features of the work may be considered part of its protected expression or part of its unprotected idea. A principal factor in making this determination is whether holding that a given feature is a protected expression leaves little or no alternative possible unprotected expression available for use by others who might want to embody the same ideas into their own works in a functionally satisfactory way. When possible alternatives are few or non-

5. Baker v. Selden, 101 U.S. 99 (1879). *See* discussion, *infra*, Part I.A.

6. 17 U.S.C. § 102(b) (1994) (stating: "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.").

7. Under a copyrightability analysis, the issue is whether the subject is the kind of thing that copyright law will protect at all. Under an infringement or scope analysis, the issue is the extent to which and circumstances in which copyright law will protect the subject. The First Circuit, in such decisions as *Morrissey v. Proctor & Gamble Co.*, 379 F.2d 675 (1st Cir. 1967); and *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided Court*, 516 U.S. 233 (1996), has preferred a copyrightability analysis. Most other circuits, particularly the Ninth Circuit, have preferred a copyright scope/infringement analysis.. *See* Data East USA, Inc. v. Epyx, Inc., 862 F.2d 204 (9th Cir. 1988); *see also* Kregos v. Press, Inc., 937 F.2d 700, 705 (2d Cir. 1991). As Judge Boudin pointed out in his concurring opinion in the *Borland* case, a copyrightability analysis forces a less nuanced treatment of the issues, but it may be less costly to administer. *Borland*, 49 F.3d at 819 (Boudin, J., concurring). A copyrightability analysis leads to a yes/no "digital" determination while an infringement analysis leads to a sliding-scale "analog" determination. The digital analysis may lead to greater predictability and thus greater certainty of business and investment expectations, but the result may be less intuitively satisfying.

existent, expression is said to merge into idea, and thus become ineligible for copyright protection.[8]

In patent law, the corresponding problem, seminally addressed in *O'Reilly v. Morse*,[9] is that of distinguishing unpatentable *idea* and potentially patentable *embodiment of idea*. Courts have variously tried to bridle the problem with patent law's doctrine of nonstatutory subject matter and by requiring that disclosure must support claims. These doctrines are now embodied, respectively, in sections 101 and 112 of our patent code.[10] Probably, every patent that has been issued over the last century or more has addressed this problem to some degree, since under our "peripheral claiming" system a patent customarily ends with at least one independent claim and several claims depending from it, often drafted in a tree-like logical structure. Each level of remove along the logical tree away from the independent claim is characterized by the addition of at least one further limitation to the claim, i.e., an additional predicate defining, and thus narrowing the scope of, the claimed subject matter. Each time a drafter of claims progresses from independent claim to dependent claim to further dependent claim, the drafter moves from the generic to the specific, from the more abstract to the more concrete, from essence to accident.

Broadly stated, this pervasive copyright and patent law problem, by no means limited to methods of doing business, is one of titrating the scope of intellectual property rights. Scope of copyright or patent protection must be determined as a function of the

8. *See, e.g.,* Gates Rubber Co. v. Bando Chem. Indus., Ltd., 9 F.3d 823 (10th Cir. 1993); Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693 (2d Cir. 1992). The concept extends to treating form dictated by function as within the merger doctrine. Thus, when a particular medium of expression requires certain features or treatments, the similarity that results is not "substantial similarity" under copyright law. *See, e.g.,* Mitel, Inc. v. Iqtel, Inc. 124 F.3d 1366, 1374 (10th Cir. 1997); CMM Cable Rep, Inc. v. Ocean Coast Prop., Inc., 97 F.3d 1504, 1519-20 (1st Cir. 1996); Bateman v. Mnemonics, Inc., 79 F.3d 1532, 1546-47 (11th Cir. 1996); *Gates*, 9 F.3d at 838. As the *CMM* opinion points out, lack of originality is an alternative legal doctrine for reaching the same conclusion, 97 F.3d at 1521.

9. 56 U.S. (15 How.) 62 (1853). The decision and its facts are discussed *infra*, text accompanying notes 39-42.

10. 35 U.S.C. §§ 101, 112 (1994). The doctrine of nonstatutory subject matter is comparable to a copyrightability analysis, while upholding only those claims supported by the disclosure is comparable to a copyright scope/infringement analysis. Enablement and description are patent invalidity issues, however, not patent infringement issues.

values of appropriate factual parameters concerning the subject matter protected. Assuming that some kind of intellectual contribution is present, what should be the scope of the monopoly or property right that the public should concede to the person asserting a claim to such rights?[11]

At one extreme of a possible scope-of-protection continuum (the "stingy" end), legal protection to be accorded could be so narrow that it is limited to the contributor's specific disclosure. This could be, for example, the identical words of a poem or every mechanical feature of a machine, no matter how accidental and nonessential the feature is. Limiting legal protection to things at the stingy end of the continuum would defeat the policy of intellectual property law to encourage the progress of knowledge and technology by offering incentive payments. At the other end of the scope continuum (the "spendthrift" end) is a concept of protected subject matter so generic, sweeping, and abstracted in formulation that it extends to poems as yet unwritten and machines that are not now, and may never be, devised. Yet, the claimant of rights has by no means placed the public into possession of such things. Hence, according legal protection for things at the spendthrift end of the continuum would overpay authors and inventors, unwisely impede competition, and senselessly mulct the public. By what criteria or parameters should the appropriate scope of intellectual property

11. Scope, itself, may be described in terms of several different parameters. Temporal duration of protection is one parameter, for example. Another parameter is the kinds of acts against which protection attaches "for example, manufacture (reproduction), use, sale (distribution), offer for sale, and importation" are generic categories of this kind. *See* 17 U.S.C. § 106 (1994 & Supp. 98); 35 U.S.C. § 271 (1994). A related parameter is the kind of relief to which a proprietor of intellectual property rights is entitled to, such as "injunctions, the proprietor's lost profits, the infringer's profits, exemplary damages, and so on." A complementary parameter is the exceptions, or defenses, that the law carves out from a proprietor's rights "such as fair use, form dictated by function, the merger doctrine, pedagogical or noncommercial use, the first sale/exhaustion doctrine."

Another parameter is the breadth of legally protected subject matter similar to that which the innovator identified to the government, or claimed from it, at the time of the grant of statutory protection. This is the zone in which legal protection applies in relation to competitive subject matter accused of infringement. Intellectual property law has at times addressed this parameter in terms of such doctrines as substantial similarity (copyright law) and the doctrine of equivalents (patent law). In this paper, scope of protection is addressed mainly in terms of this parameter or sense of scope. The term "preemptive scope" is sometimes used in this paper to clarify that this sense of scope of protection is used.

protection be measured?

C. *Enabling Disclosure and Its Limits As a Measure*

One parameter, which patent law has emphasized, is the amount of disclosure made that enables the public to practice the invention. The sensed problem with patents on methods of doing business increases in proportion to the breadth of scope of protection i.e., in proportion to the preemptive scope of the intellectual property rights accorded their proprietors. At the same time, it may be concluded that the sensed problem decreases in proportion to the amount of enabling disclosure or in proportion to the ratio of such disclosure to the breadth of preemption. This principle may go a long way toward resolving at least some problems perceived with intellectual property rights in methods of doing business.

But the enablement principle has its limitations and perhaps it collides with other principles. The problem with intellectual property on methods of doing business may not always evaporate when vast enabling disclosure is made. To put it somewhat differently, it remains to be decided whether some quantum of legal protection proportionate to scope of disclosure is always appropriate for economically valuable advances. Consider, for example, a new kind of "poison pill" defense to corporate takeovers, a new style of attention-getting sales pitch, a new means of alleviating certain neuroses by novel and unobvious psychoanalytic techniques, a new futures contract providing a hedge against a different kind of market-affecting factor, and a new investment product (i.e., security) based on combining and collateralizing accounts receivable, and a new tax shelter expedient. Assume that these "inventions" need use of no special machinery; hence, they readily can be explained exhaustively for purposes of enablement. Nonetheless, would *any* patent on these presumably useful and economically valuable social contributions be appropriate? If not, there may be intractable problems with patents and copyrights for some kinds of methods of doing business. Should it make any difference if these inventions are practiced by means of a computer and computer program? Does that fact suffice to bring the invention within the patentable technological arts?

Case law in the Federal Circuit on patenting methods of doing business has taken a wrong turn, which copyright law has avoided. The *State Street* decision illustrates a shortcoming of patent law's treatment of methods of doing business.[12] Geared as it originally was to machinery and similar tangible embodiments of technology and applied arts, patent law failed to develop an effective limiting principle for abstract aspects of intangible innovations. The law has either entirely cast them out of patent-eligibility as mere abstract ideas or else, as in *State Street*, has let them into the patent system with no subject matter-related limitation at all.[13] Features for titrating the scope of legal protection to degrees of abstractness and to public need for access to some elements of expression in order to allow the expressions of other creators to be made available to the public have long been fixtures of copyright analysis, as the following review of intellectual property law history in this field demonstrates. The interests of the public might be better served if copyright law's rules were extended to patent law.

This paper attempts to develop a conceptual framework for enriching patent law's approach to methods of doing business by incorporating some features of copyright law analysis.

I. CASE LAW ON COPYRIGHTS AND PATENTS ON METHODS OF DOING BUSINESS

A. *Copyrighting Methods of Doing Business*

The first, greatest, and most familiar reported decision on copyrighting methods of doing business is *Baker v. Selden.*[14] This decision set the stage for everything that has come since. Charles Selden devised a peculiar, presumably novel, and quite useful method of double-entry bookkeeping.[15] Selden published a book, *Selden's Condensed Ledger*, explaining his bookkeeping system. The book included blank forms for practicing the system. Baker published a variation on these forms, but they were adapted for carrying out the same bookkeeping system. Accordingly, if the

12. 149 F.3d at 1373-77.

13. *Id.* at 1377.

14. 101 U.S. 99 (1879).

15. Selden's system, by a peculiar arrangement of columns and headings, presented the entire operation of a day's, week's, or month's business on a single page or two facing pages. *Id.* at 100.

copyright in the book protected Selden's system, then Baker was an infringer.[16]

The Court held that a copyright in a book did not protect the teachings of the book. The copyright protected the author's own verbal explanation of the teachings, but it did not prevent others from teaching the same concept in different words or other expressions of their own.[17] The copyright in the book did not protect the system that the book described because "there is a clear distinction between the book, as such, and the art which it is intended to illustrate."[18] That is to say, when $x \neq y$, a copyright on x is not a copyright on y and therefore does not protect y against infringement. As for y, the art illustrated, the Court said that copyright could not protect that at all. Copyright law operates by mere registration, not examination of novelty by technical experts as in the case of patents. Protecting the art described in a book "is the province of letters-patent, not of copyright."[19] Granting an exclusive right to an art or system without prior screening in the Patent Office "would be a surprise and a fraud upon the public."[20] The Court added, "Whether the art might or might not have been patented is a question which is not before us."[21]

With scant exception, that is where copyright law has stood ever since.[22] Moreover, section 102(b) of the 1976 Copyright Act substantially adopts much of the language and concept of the Su-

16. *See id.* at 107.

17. The Court said, "The use by another of the same methods of statement, whether in words or illustrations, in a book published for teaching the art, would undoubtedly be an infringement of the copyright." *See id.* at 104.

18. *See id.* at 102.

19. *See id.*

20. *See id.*

21. *Id.* at 104. An 1869 decision of the Commissioner of Patents, *Ex Parte Abraham*, 1869 C.D. 59, stated that "it is contrary to the spirit of the patent laws, as construed by the Office for many years, to grant patents for methods of book-keeping, to which the [claimed customs tax stamp and coupon] system in question is perfectly analogous."

22. For example, a book explaining a system of taking shorthand notes does not protect the copyright owner against another book explaining the same shorthand system and using similar symbols. *See* Brief English Sys. v. Owen, 48 F.2d 555 (2d Cir.), *cert. denied*, 283 U.S. 858 (1931). More recently, a set of commands for designating spreadsheet functions and syntax rules for combining them was held uncopyrightable. Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided Court*, 516 U.S. 233 (1995).

preme Court's opinion in *Baker v. Selden*.[23] Perhaps the closest that a copyright decision has come in recent years to addressing the protectability of a method of doing business is the district court opinion in *Merritt Forbes & Co., Inc. v. Newman Investment Securities, Inc.*[24] Merritt Forbes, a securities underwriter, sued Newman, another underwriter, for infringing copyright in a set of municipal bond offering documents for Merritt Forbes's Tender Option Program. The program was a new and popular investment package that a creative bond lawyer, Horowitz, developed for Merritt Forbes.[25] The special feature of the program was that it permitted investors to "put" or "tender" a tax-exempt bond back to the issuer prior to the bond's maturity date.[26] The program was described in several documents drafted to satisfy securities law requirements for such offerings. Within six months after Merritt Forbes began promoting the Tender Option Program, Newman began to offer its version of the program, Tender Option Securities, using offerings documents substantially similar to Merritt Forbes's copyrighted documents.[27] Merritt Forbes sued and Newman moved for summary judgment on the ground that copyright could not protect against competitive use of a securities offerings package.[28]

The district court held the legal documents copyrightable, in principle, just as any other literary creation is.[29] The question was the extent to which, or circumstances in which, the copyright extended to prevent the defendant's conduct, given the nature of the underlying literary work. Newman argued that bond underwriting documents were not a proper subject for copyright protection, for several reasons. Newman's experts stated that bond offerings documentation is prepared by marking up preexisting documentation to reflect the substantive differences that occur in a new bond

23. 101 U.S. 99 (1879); 17 U.S.C. § 102(b) (1994), See *infra* note 124 and accompanying text.

24. 604 F. Supp. 943 (S.D.N.Y. 1985).

25. *Id.* at 947.

26. *Id.*

27. *Id.* at 947-48.

28. *Id.* at 948.

29. Id. at 949-50.

package.[30] The markup practice reflects the need to comply with securities law requirements and precedents upholding or prohibiting use of particular language. Much "boilerplate" language is therefore common to different underwriters' documentation of similar offerings. In addition, the use of boilerplate and other standardized language is functional for investors, because it permits them to focus on the substantive differences between offerings, ignore common features, and make a meaningful comparison of competing offerings.[31] Newman argued that to let Merritt Forbes enforce a copyright on bond underwriting documents would preempt other underwriters from offering similar, competitive investment packages.[32] This would be to the detriment of the investing public and would threaten the efficient operation of the bond market.

The court denied summary judgment. It recognized that public policy considerations and the doctrine of fair use may affect the degree to which courts protect a copyrighted work against otherwise infringing conduct.[33] Conceivably, therefore, Newman's infringement might be justified on policy or fair-use grounds. But that issue was not before the court, as it perceived Newman's summary judgment motion.[34] It saw the summary judgment motion as a facial challenge to copyrightability of any and all bond documents rather than a factually based fair-use challenge.

The court also rejected Newman's generic claims about how bond documents are written.[35] The court said that Newman's experts testified about how bond documents generally are, and must be, written, but they did not substantiate that claim with specific evidence and illustrative examples.[36] Nor did they provide a detailed analysis of Newman's accused documents, showing how their concept could be expressed only in a limited number of ways. Furthermore, the author Horowitz testified that because the Tender

30. *See Merrit Forbes*, 604 F. Supp. at 945.
31. *Id.* at 951-55.
32. *Id.*
33. *Id.* at 950.
34. *Id.*
35. *Id*. at 952-53.
36. *Id.*

Option Program was a new investment package, he could not rely on document precedents and was obliged to create new material.[37] Accordingly, genuine issues of material fact precluded summary judgment. The court noted that Newman's claims "may well turn out to be accurate," and that perhaps no legally adequate bond documentation can ever be original and other than functionally dictated.[38] But the court could not resolve that by summary judgment.

Although the *Merritt Forbes* opinion is inconclusive as to the merits of the particular claim asserted in that case, it is nonetheless a suggestive illustration of how copyright law will treat claims to exclusive use of a business method by assertion of a claim of copyright in the underlying documentation. If the form of the documents is dictated by functional considerations, the merger doctrine will limit protection. Absent such merger, original documentation will probably be protected. But the protection accorded will be of the particular literary expression in the documents, not the method of doing business underlying the documentation. Moreover, the outcome will turn on a specific evidentiary showing rather than any abstract statement about general fact patterns seen in the industry.

B. *Patenting Methods of Doing Business*

Patent law early recognized the difference between ideas and embodiments of ideas into tangible products. The 19th century decisions in *O'Reilly v. Morse*[39] and *Rubber-Tip Pencil Co. v. Howard*[40] illustrate the principle, although not in the specific factual context of business methods.

The *Morse* case involved Morse's invention of the telegraph. Morse's telegraph overcame the problem of earlier devices that noise engulfed signal after a distance of about ten miles. To overcome the problem, Morse devised a number of expedients, including the well known Morse Code in which S-O-S is represented by three dots, three dashes, and three dots. Perhaps the most important of these expedients was Morse's "repeater circuit." The "re-

37. *Id.* at 952.
38. *See id.*
39. 56 U.S. (15 How.) 62 (1853).
40. 87 U.S. (20 Wall.) 498 (1874).

peater circuit" was a cascade of battery and relay circuits, in which the output current of each relay circuit operated the relay coil of the next circuit, causing its battery to provide current for the next relay down the line, and so on for any desired distance. By placing the relays no more than ten miles apart, Morse repeatedly elevated the signal above the noise level before noise engulfed the signal. Morse claimed these technical expedients in his claims 1-7, but in his claim 8 he more generally claimed the use of electromagnetism, "however developed, for marking or printing intelligible characters, signs, or letters, at any distances."[41]

The Supreme Court upheld claims 1-7 but invalidated claim 8 as excessive.[42] The *Morse* decision may be interpreted as a ruling that a claim is invalid if it purports to monopolize products or processes that the specification of the patent does not teach the public to make and use.[43] *Morse* may alternatively be understood as a ruling that at a certain level of preemptive abstraction for example, use of electromagnetism for telecommunications a patent claim is no longer directed to the *kind* of process or product that the patent system should protect. The first reading looks to the specification to determine what it teaches. The second reading of *Morse* examines the ontological texture of the claim and rejects unduly abstract subject matter. The second formulation of the doctrine of the *Morse* case asks such questions as: Is it a geometry theorem? Is it a method of doing arithmetic? Is it an equation or formula, as such? Is it a law of nature? Is it a natural principle? Is it a method of doing business?

In *The Rubber-Tip Pencil Case*,[44] the Court held unpatentable the combination of a pencil and a rubber eraser with a hole in it into which the pencil fitted. The implementation of the idea of a pencil and eraser handily associated together[45] seemed so simple and followed so readily from the idea that the Court considered, in effect, that idea and embodiment merged. The Court therefore

41. *Morse*, 56 U.S. (15 How.) at 91.

42. Id. at 124

43. Claim 8 covers fax machines and television sets, for example, although Morse's specification does not describe and enable them.

44. 87 U.S. (20 Wall.) 498 (1874).

45. Or the idea that rubber sticks to wood when you make a tight fit between them.

stated that the case was governed by the principle that "[a]n idea of itself is not patentable, but a new device by which it may be made practically useful is."[46] Under this test the patent was invalid.

Application of the principles of *Morse* and *Rubber-Tip* to patenting methods of doing business did not begin in earnest until around the beginning of the 20th century. This history is traced in other contributions to this Symposium and need not be rehearsed in detail here. Although commentary[47] and general statements in case law were common (indeed, universal) that methods of doing business were not patentable, there was hardly any explanation, apart from precedent, why that should be so.[48] The writer is aware of

46. *Id.* at 507; *accord* LeRoy v. Tatham, 55 U.S. (14 How.) 155, 174-75 (1852). Jefferson expressed a similar idea in his 1807 letter to Oliver Evans, when he said that he could not conceive of "how a principle abstracted from a machine" could be patentable. *See* 11 WRITINGS OF THOMAS JEFFERSON 201 (Mem'l Ed. and Lispscomb & Bergh eds. 1903); 5 WRITINGS OF THOMAS JEFFERSON 75 (Washington ed.). Curiously, Oliver Evans shortly after that brought a patent infringement suit on his patent (issued in 1808 by Jefferson), and the circuit court charged the jury that "a mere abstract principle cannot be appropriated by patent." *See* Evans v. Eaton, 16 U.S. (3 Wheat.) 454, 475 (1818).

Jefferson's statement goes beyond the degree of concreteness that the Supreme Court has required. Reduction or transformation of one substance to another, without limitation to specific machinery, is patentable as a process. *See* Gottschalk v. Benson, 409 U.S. 63, 69-71 (1972). The Federal Circuit subsequently extended patentable processes to transformations of "subject matter," including transformations of signals representative of physical parameters (e.g., temperature) to other signals. *See In re* Schrader, 22 F.3d 290 (Fed. Cir. 1994). *State Street* has now further expanded that concept to include the transformation of a first set of financial data to a second set of financial data. 149 F.3d 1368 (Fed. Cir. 1998).

47. *See, e.g.*, Robert I. Coulter, *The Field of the Statutory Useful Arts, Part I*, 34 J. PAT. & TRADEMARK OFF. SOC'Y 417, 418 (1952) (technological arts, or "useful arts," do not include business, teaching, and politics); Giles S. Rich, *Principles of Patentability*, 28 GEO. WASH. L. REV. 393, 393-94 (1960) (explaining that § 101 limits patentability to technological subject matter, so that "one of the greatest inventions of our time, the diaper service" is outside § 101 despite its usefulness). Other authorities are collected in Leo J. Raskind, *The State Street Decision: Economic Foundation and Antitrust Implications*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 61, n.2 (1999). *See also* Claus D. Melarti, *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.: Ought the Mathematical Algorithm and Business Method Exceptions Return to Business As Usual?*, 6 J. INTELL. PROP. L. 359, 362-65 (1999) (collecting commentary and cases, and asserting that "the business methods exception had become 'hornbook' law cast in stone").

48. Even the *amicus curiae* brief submitted by VISA and Mastercard to the Federal Circuit in *State Street* did not attempt to explain what adverse business or social consequences, if any, would result from patents on methods of doing business. Their brief explained that as financial services institutions they were concerned about the possible "far-reaching implications in the financial services industry" of the decision (Brief at 1, *State*

only two discussions in any detail of why patents on methods of doing business, as such, should not issue. One is the 1950 decision of the District of Columbia Circuit in *Seagram & Sons, Inc. v. Marzall*.[49] The other is the government's Supreme Court briefs in *Dann v. Johnston*.[50]

In the *Seagram* case, an alcoholic beverage manufacturer sought a patent on "blind testing" consumer beverage preferences as a way to determine what blends would be likely to sell best.[51] The Patent Office denied a patent on the ground that methods of doing business were unpatentable. The court of appeals affirmed the Office, stating that such a patent would be "a serious restraint upon the advance of science and industry."[52] The court did not expand more fully on this terse observation.

Johnston appears to be the only time that the issue of patenting a method of doing business came before the Supreme Court.[53] Johnston had devised a system of permitting banks to offer their customers monthly and annual subtotals for different categories of checks such as tax payments, fuel purchases, rent, or charitable contributions "by associating an additional numerical field with the numerical codes already on a check for account numbers and the like.[54] The Court of Customs and Patent Appeals reversed the Patent Office's rejection; the Supreme Court granted certiorari as to questions of patentability of the subject matter and also obviousness.

The government argued that the principle against patenting abstract intellectual concepts applied equally to business ideas "because patents on methods of transacting business would destroy legitimate competition, just as patents on scientific ideas would

Street (96-1327)), but their arguments were couched entirely in terms of legal doctrine. The farthest they went, in this direction, was to complain that business innovations "would become fair game for opportunistic patent applicants" if the court upheld the patent in suit. Brief at 19.

49. 180 F.2d 26 (D.C. Cir. 1950).

50. 425 U.S. 219 (1976).

51. *Seagram*, 180 F.2d at 27.

52. *Id.* at 28.

53. *Johnston*, 425 U.S. 219.

54. *Id.* at 221.

impede scientific progress," citing the *Seagram* case.[55] The government also invoked the *Morse* case for the principle that a business idea could not be patented apart from its embodiment in a novel apparatus or process.[56] Finally, the government argued that the business idea of providing customers with subtotal or subaccount information was so readily implemented, once one was in possession of the unpatentable idea, that no invention was involved that satisfied the statutory requirements of patentability.[57]

The *Johnston* Court did not pass upon the patentability of business methods. It simply held that the claimed subject matter was obvious, because the gap between the prior art and the claimed invention was too slight to warrant issuance of a patent.[58]

C. *The State Street Decision*

Against this background, in 1998 the Federal Circuit's *State Street* decision gave the rule against patenting methods of doing business what seems to be its *coup de grace*.[59] Independent of claim 1, the patent was directed to a data processing system for managing a partnership of pooled funds in accordance with certain provisions of the Internal Revenue Code and implementing regulations. Ordinarily a pool of this type will be deemed a taxable en-

55. Brief for the Petitioner at 21, *Johnston* (74-1033).

56. *Id*. at 22. A 1949 First Circuit opinion had made this point, using the Automat coin-operated cafeteria as an illustration. *See* Loew's Drive-In Theatres, Inc. v. Park-In Theatres, Inc., 174 F.2d 547, 552 (1st Cir. 1949). The court's opinion suggests that the idea of a coin-operated cafeteria was not patentable, but a specific coin-operated food-dispensing machine, such as that used in Horn & Hardart's Automat cafeterias, could be patented. In other parts of its brief, the government argued that the claimed invention involved no new apparatus, but simply was, at best, a conventionally implemented new use of an old computer. Brief for the Petitioner at 22, *Johnson* (74-1033).

57. Petitioner's Brief at 22-24; Reply Brief for the Petitioner at 11-12 ("In the present case, all we have is respondent's recognition that it might be profitable for banks to add, as an adjunct to their existing checking account business, the service of classifying checks and deposit slips into specified categories, *plus* respondent's devising conventional means of implementing this idea.").

58. 425 U.S. at 230. The Court's failure to pass on the issue of nonstatutory subject matter (i.e., patent eligibility) may be attributed to an excess of partisan zeal and thus tactical error on the part of government counsel: the present writer. The factual portion of the government's brief so vigorously denigrated the merits of the supposed invention, as a "softening up" technique before reaching statutory subject matter issues, that the Court never reached the latter. *See* Stern, *supra* note 2 at 498 and n.15.

59. *State Street*, 149 F.3d at 1375.

tity, so that it pays a corporate income tax on its profits and the ultimate taxpayers may also pay personal income tax on their dividends ultimately derived from the entity. However, when the pool's profits, losses, and expenses are allocated on a daily basis in accordance with IRS regulations, the pool is not taxed as an entity and its untaxed profits flow through to its members (the individual funds). The effect is that income taxation occurs only once, if at all, at the ultimate taxpayer level of distribution.[60] An incidental benefit may be economies of scale in administering the constituent funds on an integrated basis.

Claim 1 recited a supposed[61] combination of a general-purpose digital computer having a CPU, a data storage memory, and five means for performing various functions. The recited functions correspond to the requirements of the IRS regulations and underlying statutory provision, when carried out by means of instructions of a computer program.[62] In substance, therefore, we have statute and regulations to the effect that to obtain a single level of taxation (pass through of income) rather than suffer double taxation, *a & b & c & d & e* must be done. As a practical matter, since the Internal Revenue Code and its regulations require these accounting functions to be performed daily between the close of the market and

60. 26 U.S.C. § 706(d) (1994); IRS Reg. § § 1.704-1(b), 1.704-1(f) (1997). *See infra* Appendix A. In this system, it is contemplated that the funds (the so-called spokes) will be tax-free municipal bond funds, thereby avoiding taxes. The pool is termed the "hub," and hence the investment product goes by the name "Hub and Spokes." Curiously, Boes, the named inventor in the patent, was not the originator of the "Hub and Spokes" package, but was instead just the programmer or systems analyst. That raises the interesting question of who is the inventor in a business-method case: is it the programmer or systems analyst who designs the program to implement the method or is it the MBA who had the underlying idea of the financial product or business model? As the Federal Circuit has pointed out, in the context of enablement, the task of programming may on occasion require substantial effort but often it is a routine, clerical task for a skilled programmer, requiring only ordinary effort. *See* Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931 (Fed. Cir. 1990), *cert. denied*, 498 U.S. 920 (1990); *see also In re* Sherwood, 613 F.2d 809 (C.C.P.A. 1980).

61. I say "supposed" because the separate means-plus-function clauses of the claim are simply recited seriatim without any words coupling the elements of the claim to one another in the once-requisite "knee bone connected to the thigh bone, thigh bone connected to the hip bone" formulation, which distinguishes a combination from an aggregation of unrelated parts that do not cooperate with one another.

62. *See infra* Appendix A.

midnight, the functions must be performed with a computer.[63] The patent claims the combination of *means for performing a, means for performing b, . . . and means for performing e*. In other words, the patent claims *means for complying with tax law as to pooling funds*. Accordingly, the district court found that the effect of claim 1 was "to foreclose virtually any computer-implemented accounting method necessary to manage this type of financial structure [pooled fund partnership]."[64] The district court then concluded: "patenting an accounting system necessary to carry on a certain type of business is tantamount to a patent on the business itself. Because such abstract ideas are not patentable, either when regarded as methods of doing business or as mathematical algorithms, the '056 patent must fail."[65]

The Federal Circuit reversed on both of the grounds upon which the district court supported its conclusions.[66] As to the algorithm ground, the Federal Circuit held that claim 1 did not claim an abstract idea.[67] Although claim 1 was directed to a series of arithmetic calculations, the rule against patenting arithmetic calculations did not apply because here the calculations constituted a practical application of an algorithm. The reason was that the calculations produced "a useful, concrete and tangible result" namely a price figure "accepted and relied upon for regulatory purposes and other business purposes" as well (trading in the market).[68] The mere fact that claim 1 claimed a calculation did not make it unpatentable, even though "[u]nder *Benson*,[69] this may have been a sufficient indicium of nonstatutory[70] subject matter."[71]

63. Signature also contended that NASDAQ requirements for mutual funds offered to the public require daily share value calculations to be made within an hour and a half after the market closes (4 PM EST). Brief for Appellant at 4 n.3, State Street Bank & Trust Co. v. Signature Fin. Group, Inc., 927 F. Supp. 502, 504 (D. Mass. 1995) (94-11344-PBS).

64. *State Street*, 927 F. Supp. at 516. In addition, the patentee asserted to alleged infringers that it was not possible to manage a fund pool in accordance with IRS regulations without infringing the patent.

65. *Id*.

66. *State Street*, 149 F.3d at 1373-77.

67. *Id.* at 1376.

68. *Id.* at 1373.

69. Gottschalk v. Benson, 409 U.S. 63 (1972).

70. *See* 35 U.S.C. § 101 (1994).

71. *State Street*, 149 F.3d at 1374.

The Federal Circuit said that *Benson*'s legal rule no longer applied "[h]owever, after *Diehr*[72] and *Alappat*[73] the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a 'useful, concrete and tangible result.'"[74]

Decrypted, this passage states that under the Supreme Court's *Gottschalk v. Benson* opinion claim 1 would have been unpatentable under section 101, but after the Supreme Court's *Diamond v. Diehr*[75] opinion and the Federal Circuit's *In re Alappat en banc* opinion[76] claim 1 must be held to embody patentable subject matter, since the later decisions overruled or superseded *Benson*.[77] Curiously, the Supreme Court's *Diehr* opinion does not state that its *Benson* opinion is overruled or limited.[78] Rather, *Diehr* purports to follow *Benson* and explains that its holding is in harmony with the rule declared in *Benson*.[79] The *State Street* opinion therefore finds the Supreme Court's *Benson* decision no longer an authoritative precedent entirely on the basis of the Federal Circuit's own *Alappat* opinion. Even that is problematical, for the Federal Circuit's opinion in *Alappat* does not state that *Benson* has been superseded by later authority.[80] To the contrary, the *Alappat* opinion cites *Benson* several times for propositions forming part of the court's rationale in *Alappat*.[81] One might thus regard *State Street* as a remarkable treatment of precedent.

The Federal Circuit then turned to the business method rule:

72. Diamond v. Diehr, 450 U.S. 175, 192-93 (1981).

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

74. *State Street*, 149 F.3d at 1374.

75. *Diehr*, 450 U.S. at 192-3

76. *Benson*, 409 U.S. 63.

77. *In re Alappat,* 33 F.3d at 1526.

78. *See Diehr*, 450 U.S. at 192-3

79. *Id.* at 185-87, 191. Furthermore, *Diamond v. Chakrabarty*, 447 U.S. 303 (1980), a Supreme Court decision approximately contemporaneous with *Diehr*, stated that a "claim for an improved method of calculation . . . is unpatentable subject matter under § 101." *Id.* at 314 (quoting Parker v. Flook 437 U.S. 584, 595 n.18. (1978)). That is what *Benson* held when it determined that a method of converting binary-coded decimal numerals to binary numerals was unpatentable subject matter under § 101. *Benson*, 409 U.S. at 64.

80. *Alappat*, 33 F.3d 1526.

81. *See id.* at 1542-45.

"We take this opportunity to lay this ill-conceived exception [to patentability] to rest."[82] The court laid the business methods rule to rest by ignoring commentary and dismissing case law by finding all of it either *obiter dicta* or decided on grounds other than the business methods rule, for example, on obviousness grounds. If nothing else, the prior case law in the main preceded enactment of the 1952 recodification of the patent code, so that the case law could be disregarded on that basis alone.[83]

It had been argued that *Alappat* had acknowledged the rule against patents on methods of doing business. For example, *Alappat* stated at one point that an earlier decision, *In re Maucorps*,[84] was distinguishable for several reasons and therefore could be disregarded as a precedent pointing to a result opposite to that reached in *Alappat.*[85] One of the distinctions stated was that "*Maucorps* dealt with a business methodology for deciding how salesmen should best handle respective customers,"[86] and clearly such an "invention" did not come within the patent code's definition of patentable subject matter.[87] But this language could also be disregarded, the *State Street* panel said. The reason was that "closer scrutiny . . . reveals that the claimed inventions . . . were rejected as abstract ideas under the mathematical algorithm exception, not

82. *State Street*, 149 F.3d at 1375.

83. An exception, unmentioned in the *State Street* opinion, was the Federal Circuit's earlier panel opinion, *In re* Grams, 888 F.2d 835 (Fed. Cir. 1989). In *Grams* the court held that a system for diagnosing abnormalities in a patient by comparing subsets of clinical parameters in order to isolate subsets having an abnormal relation was unpatentable as essentially a claim to a mathematical algorithm. *Id.* at 841. By so ruling, the court extended the rule to include algorithms expressed in words (here, set theory language) rather than by an alphanumeric formula or equation. In commenting on the unpatentability of mathematical algorithms, the court stated, "Thus, mathematical algorithms join the list of non-patentable subject matter not within the scope of section 101, including methods of doing business, naturally occurring phenomenon [*sic*], and laws of nature." *Id.* at 837; 35 U.S.C. § 101 (1994). However, the court expressly noted elsewhere that because of its ruling on algorithms it was not addressing the PTO's alternate holding of unpatentability based on the claims being drawn to a method of doing business. *See id.* at 840. *Grams* was briefed to the Federal Circuit in the *State Street* case.

84. 609 F.2d 481 (C.C.P.A. 1979).

85. 33 F.3d at 1540-1541.

86. *Id.* at 1541.

87. *Id.* In the Court's language, "Clearly, neither of the alleged 'inventions' in those cases falls within any § 101 category." *Id.*

the business method exception."[88] That is indeed so, but that is *not* what the *Alappat* opinion said about *Maucorps*. It did not say that about *Maucorps* because it was necessary in *Alappat* to distinguish *Maucorps*, given the circumstance in *Alappat* of a fragmented *en banc* court with a very shaky one-vote majority for a judgment that came out on the opposite side of the *Maucorps* algorithm issue.[89] It seems fair to say that this, too, is a remarkable way to handle case law.

As for the district court's finding that claim 1 preempted pooled-fund partnerships satisfying the requirements of tax law, the Federal Circuit stated: "Assuming the above statement to be correct, it has nothing to do with whether what is claimed is statutory subject matter."[90] That is a question to which this paper will return.

In January 1999, the Supreme Court denied certiorari in the

88. 149 F.3d at 1376.

89. In *Alappat*, an algorithm case, the *en banc* Federal Circuit distinguished *Maucorps* by saying that it was a business-method case. *Id.* at 1541. In *State Street*, a business-method case (at least, for purposes of the pertinent part of the opinion), a panel of the Federal Circuit distinguished *Maucorps* by saying that it was an algorithm case. *See State Street*, 149 F.3d at 1376. Judge Rich spoke for the court in both cases. *Id.* at 1368.

Eleven Federal Circuit judges participated in *Alappat*. Two main issues were before the court. The substantive merits issue was whether the claim was directed to nonstatutory subject matter, as the PTO's administrative board had held. The other issue was jurisdictional. Had the administrative board been properly constituted or was it stacked? *State Street*, 33 F.3d at 1576 (Mayer, J., dissenting). Four members of the court considered the board improperly constituted and therefore considered its order under review to be a nullity, so that appellate jurisdiction was lacking. Seven members of the court, on various theories, determined that a true board decision was before the court, which was reviewable on its merits. Of the seven, two considered the claim to be directed to nonstatutory subject matter and therefore would have affirmed the board's order. The remaining five out of eleven participating judges considered the claim to be directed to statutory subject matter and therefore voted to reverse the board's order. In addition, one of the four judges who opined that the court had no jurisdiction to hear the appeal joined (without comment) the merits opinion of the five judges who concluded that the claim was directed to statutory subject matter, so that six of the eleven agreed on the substantive point. It is unclear, and the court did not address the matter, whether it would have been possible for the *en banc* court to render its judgment if all four of those dissenting on the jurisdictional issue had refused (as three did) to address the substantive merits, thereby providing only five out of eleven judges willing to vote that the claim was directed to statutory subject matter.

90. *State Street*, 149 F.3d at 1377.

State Street case,[91] leaving the Federal Circuit's decision apparently the law of the land. Absent congressional action, which would seem most improbable, and absent the Supreme Court's deciding to review a final judgment of infringement liability in some future patent infringement case appropriately raising and preserving this issue,[92] the books appear to be closed on the rule against patents on methods of doing business. It is unlikely that any Federal Circuit panel will repudiate or seriously limit the *State Street* decision, although this paper will revisit that point briefly before concluding. At any rate, in another panel's April 1999 decision, *AT&T Corp. v. Excel Communications, Inc.*, the Federal Circuit enthusiastically reaffirmed *State Street* and applied its approach to claims on a method for billing telephone calls at different rates depending on whether a caller places a call to someone using the caller's or a different long-distance carrier.[93]

The result is, in the first instance, what the PTO's Commissioner has termed a boom in business-method patent applications and patents.[94] At the same time, the financial community is enjoying the experience of future shock as it learns to its surprise about patents.[95] The *State Street* decision is little help to any of those affected by the boom, because its legal analysis is so cursory that its patentability standard is little better than Justice Stewart's test for recognizing hard core pornography.[96] Small wonder that *State Street* has been received with what the Commissioner has termed a "hysterical reaction."[97]

91. State Street Bank & Trust Co. v. Signature Fin. Group, Inc. 119 S.Ct. 851 (1999).

92. For a further comment on this point, see *infra* notes 161-168 and accompanying text.

93. 172 F.3d 1352, 1357-58 (Fed. Cir.) cert. denied. 120 S.Ct. 368 (1999).

94. *See "Boom" in Business Method Patent Filings Has Followed "State Street" Ruling, PTO Says*, ELEC. COM. & LAW REP. (BNA) 1393 (Dec. 16, 1998).

95. The House Report on H.R. 1907, 106th Cong., 2d Sess. (1999), comments: "The State Street decision has brought that industry [the financial services industry] abruptly to the foreground of cutting-edge patent law protection for subject matter that previously had been thought to be unpatentable."

96. *See* Jacobellis v. Ohio, 378 U.S. 184, 197 (1964) (stating "I know it when I see it").

97. *See "Boom" in Business Method Patent Filings Has Followed State Street Ruling, PTO Says*, PAT. TRADEMARK & COPR. J. (BNA) 115 (Dec. 10, 1998). Forbes Magazine suggests that e-commerce magnates may "try to turn patents into the barbed wire of

II. WHAT IS THE PROBLEM?

A. *Useful vs. Liberal Arts*

At the outset of exploring why a problem is perceived with patents on methods of doing business, one possible explanation for perceiving that problem should be considered and promptly put aside. This explanation is that business methods, like music and painting, are part of the liberal arts or the cultural arts rather than part of the "useful arts," and are therefore inappropriate subjects of patents. As a rationalizing principle this concept is about as helpful as would be the concept of the useless arts. There is no way to reach agreement on what is a useful art and, even more important, on what is *not* a useful art.[98]

the Internet." Josh McHugh, *Barbed Wire on the Internet*, FORBES, May 17, 1999, at 183. The American Banker asserts that the *State Street* decision "threatens to embroil the financial services industry in hundreds of patent infringement lawsuits," creating possible liability exceeding $2 billion. Jaret Seidberg, *Ruling Threatens Banks With Patent Lawsuits*, AM. BANKER, Sept. 2, 1998, at 3.

A story in IP Magazine warns that "a firestorm of litigation threatens to engulf corporate America" and predicts "large-scale disruption of U.S. commerce, as sharp operators move to patent business methods and assert patents against the unsuspecting." Robert M. Kunstadt, *Opening Pandora's Box*, IP MAG., Jan. 1999 (visited May 12, 1999) <http://www.ipmag.com/monthly/99-jan/kunstadt.html>. Kunstadt predicts a replay of the controversy over patenting surgical procedures, which led to the Ganske Amendment, 35 U.S.C. § 287(c) (1994), preventing enforcement of such patents against medical practitioners' performance of medical activities: "That controversy will be re-enacted on a grand scale when corporate clients start to feel the effects of the giant trap for the unwary now set by the Federal Circuit. . . ." *Id*.

Congress responded to this concern on November 19,1999 by enacting the First Inventor Defense Act of 1999, adding a new section to the patent code to create a "first inventor defense" to a charge of patent infringement for prior commercial users of methods of doing business. For an update on this controversial response, see *Signing of IP Reforms Amends Work-for-Hire, Leaves 'First Inventor Defense' Unclear*, 59 PAT., TRADEMARK & COPYRIGHT J. (BNA) 330, 331-32 (Dec. 2, 1999).

98. U.S. CONST., art. I, § 8, cl. 8, authorizes Congress "To promote Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries. . . ." The term "useful arts" is a unitary concept. It is no more definable, unless one begs the question, as the logical product of "useful" and "arts" than due process can be defined by taking the logical product of "due" and "process." "Arts," as the term is used in the Constitution, is definitely not "processes," the wisdom of the drafters of 35 U.S.C. § 100(b) (1994) to the contrary notwithstanding. Substituting "processes" for "arts" in art. I, § 8, cl. 8 clearly leads to a nonsensical interpretation. An art is a body of learning concerning a trade, or what was archaically termed a "mystery." *See* Baker v. Selden, 101 U.S. 99, 102-103

Some case law has attempted to resolve the definitional problem by defining the useful arts as those that involve application or utilization of technology, and thus equating the useful arts to the "technological arts."[99] But the concept of the technological arts is not a helpful tool to resolve this issue. Using it just shifts the same analysis to a different level, and the same problems remain. First of all, "technological arts" is not well defined, any more than "useful arts" is. Do we protect something because it is a technological or useful art, or is it a technological or useful art because we protect it?[100]

(1879) (describing arts as techniques and distinguishing between property rights in writings explaining arts, such as watchmaking and plough-making, and property rights in arts as such). The best modern synonym for the term "useful arts" that I can devise is "bodies of knowledge relating to the trades that artisans ply."

It may be argued that the Constitution does not authorize Congress to bring business methods under the patent laws, but I do not think that the argument will prevail. Rather, the question is what Congress must have intended in 1953 when it enacted 35 U.S.C. § 101 (1994) by using words that have appeared in the corresponding provisions of the earliest patent acts, and therefore must be taken as having the meaning accreted around them in the following 200 years of case law. Resolving that question is less easy than posing it. The Supreme Court has vacillated between conservative and expansive interpretations of the patent statute and its words of art. The conservative line of authority has said that it is for Congress to expand the scope of these terms, if it so wishes, and not for the courts. *See* Parker v. Flook, 437 U.S. 584 (1978); Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518 (1972); Gottschalk v. Benson, 409 U.S. 63 (1972). The more expansive view is reflected in *Diamond v. Chakrabarty*, 447 U.S. 303 (1980). S*ee also* Diamond v. Diehr, 450 U.S. 175 (1981). Since *Diehr*, no patent decision of the Court has illuminated its current attitude as to whether to interpret the patent law expansively or conservatively. However, the decision in *Feist Publications., Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991), construing the originality requirement of copyright law as precluding copyright protection of the mechanical results of "sweat of the brow," is definitely more in the first camp than the second one. Still, it should be recognized that the case is much stronger for regarding originality as implicit in the constitutional limitation of congressional power to writings of authors than is the case for regarding business methods as outside the possible scope of discoveries (inventions) of artisans or workers in the useful arts.

This kind of inquiry is pedagogically entertaining but necessarily inconclusive. Accordingly, this paper will not attempt to develop such an analysis. The focus of this paper, instead, is how courts should analyze the permissible scope of business-method patents, based on an assumption that they are not per se outside the scope of 35 U.S.C. § 101.

99. *See, e.g., In re* Waldbaum, 457 F.2d 997, 1003-04 (C.C.P.A. 1972)(Rich, J., concurring).

100. *See* United States v. Willow River Power Co., 324 U.S. 499 (1945)(addressing Professor Myres MacDougal's famous question, "Do we protect it because it's a property

Second, any business method of any significance now needs to be carried out in part by means of a programmed computer. Under the Federal Circuit's jurisprudence, as illustrated in *State Street*, that suffices to make the subject matter part of the technological arts. The concept of the technological arts is now so inclusive that it amounts to a universal class,[101] which makes it useless as a tool of legal analysis.[102]

Seeking congressional intent as to what should be potentially patentable subject matter, and in particular whether business methods should, is equally useless. On the one hand, the 1952 act was presented to Congress as a mere codification of existing law without modification.[103] In 1952, anyone asked would have assumed that business methods were in principle unpatentable, because that is what everyone had been saying for many decades. On the other hand, there is the well known, but plainly inaccurate, statement in the legislative history that "anything under the sun that is made by man" is patentable.[104] The intent of the founding fathers is even

right, or is it a property right because we protect it?"). Moreover, many arts well recognized as useful arts are not technological or are so "low tech" as not to deserve the designation of technological art. Examples are the arts of the tanner, shoemaker, blacksmith, silversmith, swordsmith, cooper, baker, miller, brewer, dyer, weaver, hatter, tailor, saltmaker and horsebreaker, all of which were useful, applied arts that were known, and practiced by artisans, at and prior to the time of adoption of the Constitution.

101. Accordingly, the class of subject matter outside the technological arts, and therefore nonstatutory subject matter, amounts to a null class, an empty set.

102. Professor Thomas, in his contribution to this Symposium, suggests adopting into our own patent statute European and Japanese patent law's requirement of capability of industrial application. *See* John R. Thomas, *The Post Industrial Patent System*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L. J. 1 (1999). Perhaps, a sense that nonindustrial innovations are not the proper stuff of patent law accounts for some of the perception that business-method patents should not be permitted. Nevertheless, using industrial arts as a defining category may turn out to be as inconclusive as using the concept of technological arts.

103. *See* Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 347 and n.2 (1961) (Black, J., concurring).

104. *See* S. Rep. No. 82-1979, at 5 (1952) reprinted in 1952 U.S.C.C.A.N. 2394, 2399; H.R. Rep. No. 82-1923, at 6 (1952); *see also* Diamond v. Chakrabarty, 447 U.S. 303, 309 and n.6 (1980). Federal Circuit opinions have pointed out the incorrectness of this sweeping statement by showing examples to disprove it. *See In re* Warmerdam, 33 F.3d 1354, 1358 (Fed. Cir. 1994); Arrhythmia Research Tech., Inc. v. Corazonix Corp., 958 F.2d 1053, 1056 (Fed. Cir. 1992). Diamond v. Diehr, 450 U.S. 175 (1981) (quoting the statement made in *Chakrabarty* and then going on to acknowledge the existence of exceptions to the supposed general rule).

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B. *Scope vs. Enablement*

One reason why a problem is perceived with patents on methods of doing business is the difficulty of properly titrating the scope of protection to enabling disclosure. That is a real problem, but it is not insurmountable. Patent law has addressed the scope problem in a variety of other contexts. Despite the difficulties in analysis, acceptable results have been realized at least for the traditional subject matter of patent law. For ordinary machines, compositions, articles of manufacture, and industrial processes, patent law has succeeded fairly well in distinguishing between unprotectable abstract ideas and protectable physical embodiments of ideas. There have been some difficulties and raw spots, but they certainly have not been calamitous and the accommodations reached are at least arguably satisfactory. (The rough spots include "single means" claims,[105] the controversy over who has the burden of proof as to scope of equivalency for a means-plus-function claim,[106] and the controversy over whether the doctrine of equivalents covers technology invented well after issuance of a patent.[107])

To be sure, patent law has had more difficulty in resolving scope problems in regard to computer-implemented inventions. In the case of algorithms claimed as programmed general-purpose computers or as computer-readable storage media encoding algorithms or computer programs, there has been a tendency in the PTO and Federal Circuit to accord patent protection to any computer use of an algorithm, whether or not specifically enabled in

105. *See In re* Hyatt, 708 F.2d 712 (Fed. Cir. 1983) (Rich, J.). A single means claim alleges that all possible ways of accomplishing the claimed result or function. Morse's claim 8, presented a variation on this theme. *See supra* text accompanying notes 39 - 41. Morse invented a particular telegraphic apparatus but broadly claimed the use of the motive power of electromagnetism, *however developed*, for telecommunications purposes.

106. *Compare In re* Donaldson, 16 F.3d 1189 (Fed. Cir. 1994) (*en banc*); *and In re* Bond, 910 F.2d 831 (Fed. Cir. 1990), which place the burden of showing equivalency with prior art devices on the Commissioner (i.e., PTO staff), *with* MPEP §§ 2183-84, which places the burden on the applicant to show non-equivalency once it appears to the examiner that the claimed and prior art devices perform the claim's recited function.

107. *See* Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 23-24 (1997).

the specification of the patent claiming the use of the algorithm.[108] The current tendency in the Federal Circuit is to encourage broad claims to the use of an algorithm (i.e., programmed general-purpose digital computer), where the algorithm is described as a series of means for performing a set of computations, divorced from any specific hardware context limiting the kinds of input or output. The *State Street* opinion encourages that further, since it approves claims of the pure numbers-in, numbers-out kind, so long as any economically useful end use is mentioned in the specification.[109]

The problem is not that carrying out the steps of a claimed algorithm invention is insufficiently enabled. That is not so, for enabling the number-crunching core of an algorithm claim for one purpose is enablement for any purpose, typically, and most of the time any means of storage, adding, or other function that is equivalent to any other means. The problem is instead that, while the number-crunching core of the algorithm is enabled for any purpose to which the algorithm can be put, the input means and output means needed for applications (end uses) other than those described in the specification may not be enabled, and yet the scope of the claims extends to any end use to which the algorithmic core can be put.

While that is often a problem for claims to computer implementation of algorithms, it is not necessarily a problem (or as much of a problem) for methods of doing business. In the *State Street* case, for example, independent claim 1 does not preempt anything but fund pooling partnerships.[110] Claim 1 does not extend, for example, to selling stocks over the Internet, arbitraging or even to other tax avoidance schemes besides fund pooling partnerships. The enablement is probably commensurate with the claiming. Suppose, instead, however, that the patentee in *State Street* had emulated Morse by claiming:

108. Thus, one of the controversies in the *Alappat* case, dividing majority and dissent, was over whether the claims for smoothing "jaggies" (irregularities in other than horizontal or vertical lines) were limited to an oscilloscope context (enabled) or extended to other uses (not enabled), such as printing on paper. *In re* Alappat, 33 F.3d 1526 (Fed. Cir. 1994).

109. 149 F.3d 1368, 1373-1375 (Fed. Cir. 1998).

110. *Id.* at 1371-1372.

> [A] system for avoiding multiple levels of taxation at entity and shareholder levels by use of [or, in modern, rather than Morse's, patent parlance, *said system comprising*] a general-purpose digital computer programmed with first means for complying with an IRC provision concerning whether income of an entity is taxable to the entity and second means for complying with IRS implementing regulations for said IRC provision.[111]

Thus, whether enablement of full claim scope is a problem with business-method patents depends on the ambitiousness (or Napoleonic delusions) of the patentee and the particular business context.[112]

C. *Preemption of Scènes à Faire*

The difference between the hypothetical claim (call it claim *H*) of the preceding paragraph and actual claim 1 in *State Street*[113] is a matter of degree. Instead of an all-inclusive "IRC provision" and its regulations, claim 1 essentially substituted "26 U.S.C. § 706(d)" and its regulations, at least insofar as pooled-funds partnerships are concerned. As developed in more detail in Appendix A, and as the district court found and the Federal Circuit assumed,[114] claim 1 thoroughly foreclosed compliance with tax law requirements for avoiding multiple taxation of pooled fund partnerships. It claimed, in substance, any "computerized system for complying with 26 U.S.C. § 706(d)'s requirements for pooled-fund partnerships, where the system is any computer and any computer program carrying out this task."[115]

The difference between the hypothetical claim *H* and the patentee's actual claim 1, therefore, is one of claim scope. Claim 1 is a species of genus claim *H*, just as Morse's claims 1-7 were species of his genus claim 8. Surely claim H is objectionable per se.

111. 149 F.3d 1368.

112. For a recent example of extreme ambition, see Interactive Gift Express, Inc. v. Compuserve Inc., 47 U.S.P.Q. 1797, 1998 WL 247485 (S.D.N.Y. 1998). In that case, the patentee unsuccessfully urged a claim construction that would have made the patent extend to virtually any commerce transacted over the Internet.

113. 149 F.3d at 1372-73.

114. *See supra* text accompanying note 1.

115. *State Street*, 149 F.3d at 1376-77; 26 U.S.C. § 706(d) (1994).

Despite the Federal Circuit's lack of concern, claim 1 of the *State Street*[116] case is objectionable, too, for preempting compliance with this portion of federal tax law. The patent system was not intended to confer exclusive rights over compliance with any part of the Internal Revenue Code.[117] It is a perverse result, to say the least, to permit a patentee to command payment of a royalty (or in principle to have the right to an injunction against infringement[118]) where federal tax law imposes fines and imprisonment, or other penalties, on taxpayers who fail to comply with the requirements of federal tax law.[119]

116. 149 F.3d at 1372-73.

117. A comparable objection was raised to copyrighting judicial opinions in *Wheaton v. Peters*, 33 U.S. (8 Pet.) 591 (1834) (holding that the Court's former reporter Wheaton could have no copyright in the text of Supreme Court opinions, and that the Court's present reporter Peters was free to copy them from Wheaton's Reports). Moreover, works of the federal government, such as federal statutes, federal agency regulations, and congressional documents, are not subject to copyright protection. *See* 17 U.S.C. § 105 (1994).

118. *But see* Milwaukee v. Activated Sludge, Inc., 69 F.2d 577 (7th Cir. 1934) (denying on policy grounds injunction against municipality for infringing patent on sewage disposal system). Apparently, an injunction in this case would have resulted in extreme pollution of Lake Michigan by raw sewage, in the general vicinity of the court of appeals's courthouse. The principle may extend more generally, since courts "may" grant injunctions against patent infringement "in accordance with the principles of equity." 35 U.S.C. § 282 (1994).

119. To be sure, in the *State Street* case the counter-argument may be made that taxpayers are not obliged to take advantage of the benefits of partnership fund pooling under 26 U.S.C. § 706(d) (1994). They can either pay double taxes or eschew partnership fund pooling.

The argument, however, is questionable. If this were a state law, rather than federal patent law, surely the state law would be preempted under the doctrine of such cases as *Barnett Bank v. Nelson*, 517 U.S. 25, 26 (1996) and *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941) (holding state law preempted if it "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress" in enacting a federal statute). The statute here is federal, however, rather than state and therefore principles of supersession or statutory construction apply rather than those of preemption. Nonetheless, the result should be the same. As a matter of statutory construction, the intent of Congress is to extend the benefits of the tax law, in order to promote whatever policy Congress sought to effectuate by allowing a single level of taxation of partnerships, without qualification and without permitting anyone to erect a toll booth across compliance with the Internal Revenue Code.

Furthermore, the facts of the *State Street* case do not limit the principle. Even if 26 U.S.C. § 706(d) (1994) is optional for taxpayers, much of the IRC is not. A patent of this type could just as well apply to a mandatory provision of the IRC, with which taxpayers cannot avoid complying.

Furthermore, the problem is not limited to preempting compliance with tax laws. Compliance with many governmental regulatory schemes requires complex record-keeping or adherence to rules defined in terms of numerical parameters. Compliance with SEC, FDA, or EPA regulations could therefore be as much the subject of a patent as pooling funds is.[120] Moreover, there are quasi-governmental record-keeping requirements that also affect business and industry. For example, generally accepted accounting principles ("GAAP") pervasively affect compliance with state and federal securities and corporation laws. How should we regard a patent on the combination of a computer, a memory, and computerized means for complying with GAAP or with some aspect of GAAP?

Revisiting the *Merritt Forbes* case reminds us of other extensions of *State Street*.[121] The Tender Option Program, or any other new securities product, could be an appropriate candidate for a patent after *State Street*. There is a difference, however, between that kind of business-method patent and the kind suggested in the previous paragraph. There are a multitude of conceivable securities products or investment packages. Hence, "monopolization" of any one of them arguably means only that users can choose to pay the patentee for the use of the product or else they can do something different instead.

On the other hand, there may be few or no available alternative choices when it comes to paying taxes, complying with FDA and EPA regulations, and following GAAP. This suggests that the severity of the business-patent problem may be simply a matter of delineating the "relevant market."[122] In antitrust law, the construct of relevant market defines the subject of legal scrutiny (specifically, the arena in which competition is alleged to have been

120. A program named "Interdict PC" is currently advertised on the Web as a system for facilitating banks' compliance with Office of Foreign Asset Control Regulations, 31 C.F.R § 501.601 (1997). S*ee* < http://jmjconsulting.com/jmjcons2.htm>, (last visited Nov. 19, 1999) Doubtless, a *State Street* type of claim could have been written that would have preempted compliance with these regulations by computer means.

121. *Merrit Forbes*, 604 F. Supp. 943; *State Street*, 149 F.3d 1368.

122. *See, e.g.*, Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 481-482 (1992); United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 391-97 (1956).

harmed) in an economically meaningful context. Applying this concept to methods of doing business would require determining whether a method of doing business for which patent protection is sought is a meaningful arena of business competition or activity, or is just one of several approximately interchangeable species of a business genus. Arguably, there is a problem, or at least a perceived problem, with patents on methods of doing business when and only when the patents confer real economic power over a relevant business market. In short, the policy embodied in the Statute of Monopolies[123] applies only to real monopolies. Or does it?

Copyright law may be suggestive. Copyright law's resistance to awarding exclusive franchises over ideas, systems, and abstractions is not limited to cases of true monopoly power. Even under the merger doctrine, what is termed an art, idea or system need not be a relevant market for monopolization purposes. Thus Selden's copyright would not monopolize the entire art of bookkeeping; it would only monopolize the art or sub-art of keeping books in accordance with Selden's particular system. Of course, this may force us into controversies over "what is the art?" which is a relevant market argument of sorts.[124] In the area of literary works and comparable imaginative works, copyright law has developed idea and expression as a continuum. Copyright law has also developed

123. *Statute of Monopolies*, 21 Jac. I, ch. 3 (1623).

124. Thus, some courts in applying the merger doctrine have found the idea in question to be at such a high level of abstraction that almost unlimited opportunities exist for alternative expression. This would be comparable to holding bookkeeping to be the art at stake in *Baker v. Selden*, 101 U.S. 99 (1879), rather than bookkeeping in accordance with Selden's particular system. *See e.g.,* Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240 (3d Cir. 1983), *cert. dism'd by stip.*, 464 U.S. 1033 (1984). In that case, the court of appeals defined the idea of a compiler program, which was targeted at a particular microprocessor chip (the 6502) and a particular programming language (Basic), as the idea of a compiler for any microprocessor chip and for any language. This led the court to conclude that the merger doctrine did not apply, since many microprocessor chips and many programming languages exist. *Id.* at 1253. Of course, users of Apple computers, which utilized a 6502 microprocessor chip and Basic language programs, had no need or ability to compile code for other microprocessor chips and other languages. *Apple*'s concept of the relevant market for idea/expression purposes is not only inconsistent with *Baker v. Selden*, 101 U.S. at 102, but it is inconsistent, as well, with the Supreme Court's recent approach to relevant market in *Eastman Kodak,* 504 U.S. at 463 (ruling that the possible relevant market was replacement parts for Kodak's proprietary imaging machines — in effect, a brand-defined aftermarket). *See Apple*, 714 F.2d at 1252-54.

the expedient of treating this issue as a question of scope of protection against infringement, which copyright measures in analog or fuzzy logic terms, rather than as a matter of copyright-eligibility or not, measured in 1/0 digital terms.[125] To be sure, copyright law has not developed the merger doctrine in quite the same way for systems, procedures, processes, and methods of operation as it has for ideas.[126] For these categories of subject matter, the all-or-nothing approach suggested in *Baker v. Selden,* and used in patent law to address statutory subject matter and nonstatutory subject matter, seems instead to have held sway. Thus, if some aspect of a computer program is considered a system "for example, the syntax and vocabulary of its commands" that aspect of the computer program will be held entirely ineligible for copyright protection.[127] Nonetheless, copyright law's treatment of merger of idea and expression points to a more nuanced approach to eligibility for intellectual property protection.

Moreover, copyright law has an additional conceptual tool for dealing with abstractions and higher-level generalities for copyrightable works. Copyright law has a doctrine akin to the merger doctrine, "the doctrine of *scènes à faire.*" This doctrine recognizes

125. *See supra* text accompanying note 7.

126. *See* 17 U.S.C. § 102(b) (1994), which uses this terminology. That provision of the Copyright Act declares that copyright protection does not extend to "any idea, procedure, process, system, method of operation, concept, principle, or discovery." *Id.*

127. *See* Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided Court,* 516 U.S. 233 (1996). In *Borland* the First Circuit held the "command structure" of the spreadsheet program *Lotus 1-2-3* to be a method of operation and therefore entirely ineligible for copyright protection. *Id.* at 815. The command structure was the set of keystrokes, and syntax rules for combining them, that a user employs to cause a spreadsheet to perform its functions. Thus, for *Lotus 1-2-3* the keystrokes "/ F R" cause execution of the retrieve-a-file command. The syntax rules define the ways to combine keystrokes. Thus "/ F R" has a different meaning, and thus different effect, from "/ R F" as a command. (Similarly, "the dog bit the man" and "the man bit the dog" have different meanings.)

In *Borland* Judge Boudin suggested the possible benefits of substituting a "more nuanced" treatment for the all-or-nothing approach of determining whether the command structure was a system. *Id.* at 819-22 (Boudin, J., concurring). The more nuanced approach would accord copyrightability to the command structure and then use the doctrine of fair use, *see* 17 U.S.C. § 107 (1994), to temper scope of protection. 49 F.3d at 821. He nonetheless concurred in the majority's absolute approach because of the significant administrative costs associated with the more nuanced approach. *Id.* at 822.

that certain genres require certain elements, or at least almost always utilize them. Without these stock elements, those to whom the work is directed may fail to receive cues or may have their expectations disappointed. Can a movie featuring Nazi soldiers as part of the action, as in *Casablanca*, fail to have them at some point sing *Deutschland Über Alles*? Can a film with a saloon in the Old West lack a madam or prostitute with a heart of gold? This doctrine has been extended to aspects of computer programs that necessarily result from hardware standards and mechanical specifications, software standards and compatibility requirements, computer manufacturer design standards, programming practices, and practices and demands of an industry being served.[128] These, too, are now part of *scènes à faire*. Different courts differ on the extent to which setting must compel, or merely be likely to cause, use of the same elements in the original and accused work before *scènes à faire* applies. Thus, in one case the Second Circuit said expansively that a motion picture about the South Bronx would need to feature drunks, prostitutes, vermin, and derelict cars to be perceived as realistic, and therefore these features were within the *scènes à faire* doctrine.[129] The same court held that placing a dino-

128. Mitel, Inc. v. Iqtel, Inc., 124 F.3d 1366, 1375 (10th Cir. 1997); Engineering Dynamics, Inc. v. Structural Software, Inc., 46 F.3d 408, 410 n.2 (5th Cir. 1995) (discussing *Gates Rubber*'s definition of *scènes à faire*); Gates Rubber Co. v. Bando Chem. Indus., Ltd., 9 F.3d 823, 838 (10th Cir. 1993). The *Mitel* court suggested that *scènes à faire* and originality were alternative doctrines that could preclude copyright protection of features of a work whose adoption was caused by such external factor or constraints. Thus, even if the copyright owner could convince the court that the facts of the case fell outside the merger doctrine for some reason, nevertheless, *scènes à faire* or originality might result in a conclusion of no copyright infringement liability. 124 F.3d at 1373 n.6.

A similar observation is made in *CMM Cable Rep, Inc. v. Ocean Coast Props., Inc.* where the court said that the two doctrines were similar in that they sought to prevent monopolization of ideas. However, merger applied when idea and expression were inseparable but *scènes à faire* applied where an external common setting (idea) caused use of common elements and thus similarity of expression. 97 F.3d 1504, 1522, n.25 (1st Cir. 1996).

Trademark law has a similar limiting principle against protecting functional features of a work by trademarks. *See* Qualitex Co. v. Jacobson Prods. Co. Inc., 514 U.S. 159, 164-65, 169 (1995). However, the Supreme Court's present concept of functionality in trademark law appears to go beyond *scènes à faire* to embrace any competitively significant feature even if the competitive significance is slight. *See id.*

129. Williams v. Crichton, 84 F.3d 581, 583 (2d Cir. 1996) (commenting on Walker v. Time Life Films, Inc., 784 F.2d 44 (2d Cir.), *cert. denied*, 476 U.S. 1159 (1986)).

saur zoo on an island far from the mainland was no more than *scènes à faire* in a dinosaur adventure story.[130] Other courts may view the doctrine somewhat more narrowly.[131]

Patent law, however, has no comparable doctrine. Patent law has little in the way of limiting doctrines. It particularly lacks analog doctrines of scope limitation, as contrasted with digital, yes/no rules. But perhaps copyright law may instruct patent law on this point, at least in the context of patenting methods of doing business. A governmental grant of the exclusive right to engage in a particular business may well be perceived as objectionable on policy grounds, even if the business does not amount to a relevant market for purposes of laws against monopolization. Even the antitrust laws recognize restraints of trade[132] and arrangements substantially lessening competition[133] as problematic despite their falling short of full-blown monopolization.[134]

Accordingly, the problem perceived with business-method patents may be perceived as more akin to that perceived with copyrights on *scènes à faire* than with monopolization of a relevant market or the problem occurring when idea merges with expression. The rationale of the doctrine of *scènes à faire* is that exclusivity over *scènes à faire* is a substantial impediment to the expressions of other persons (and the public's enjoyment of such expressions), even though the impediment is not a complete barricade. By the same token, little benefit to society (indeed, mainly or only detriment) is seen as flowing from grants of copyright exclusivity over *scènes à faire*. In a business and computer program context, the doctrine of *scènes à faire* and its policies have been

130. *Id.* at 589.

131. *See* Reyher v. Children's Television Workshop, 533 F.2d 87, 91 (2d Cir. 1976) (finding *scènes à faire* in "similarities of treatment, details, scenes, events and characterization"); *cf Williams*, 84 F.3d at 589 (basing *scènes à faire* on the total concept and feel.").

132. *See* Sherman Anti-Trust Act § 1, 15 U.S.C. § 1 (1994).

133. *See* Clayton Anti-Trust Act, ch. 323, § § 3,7, 15 U.S.C. §§ 14, 18 (1994).

134. *See, e.g.*, Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752, 768-69 (1984); United States v. Penn-Olin Chem. Corp., 378 U.S. 158, 170-71 (1964); United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 589 (1957). *Cf.* FTC v. Sperry & Hutchinson Co., 405 U.S. 233, 243-44 (1972)(extending concept of unfair acts and practices under section 5 of the FTC Act beyond incipient antitrust violations).

extended to practices and demands of an industry that the computer program serves, so that the concept of expression and *scènes à faire* are already defined or circumscribed in terms of business functionality.[135] The resistance to copyright protection of business practices amounting to *scènes à faire* suggests why a similar problem is perceived with patents on methods of doing business.

Do these copyright concepts appropriately translate to the domain of patent law? That is a separate question from whether and why any problem is perceived with patenting business methods. That further question remains to be addressed. But the doctrine of *scènes à faire* provides us with both reasons why a problem is perceived with patenting business methods and why the perceived problem is not limited to those patents that confer a monopoly in the antitrust or economic sense of that term.

III. DOES PATENT LAW NEED A DOCTRINE LIKE SCÈNES À FAIRE?

Whether *scènes à faire* translates appropriately to patent law has several aspects, and one can approach them separately in any order. One issue is whether it would be better just to rest with the Federal Circuit panel's treatment of business-method patents and forget about trying to address them in any special way because, on the merits, the Federal Circuit has it right. Another issue is how, if one plans to adapt *scènes à faire* to the issue of patenting business methods, to go about doing so (and how feasible that is). Another issue is whether patenting methods of doing business is really a section 101 issue (statutory subject matter) or more properly an issue under other sections of the patent code, as the *State Street* opinion says it is.[136] This paper addresses those issues in inverse order.

The question, "Does patent law need a doctrine like *scènes à faire*?" means, first, asking whether patent law may not already have some other way to deal with the issue besides treating it as a

135. *See, e.g.*, Engineering Dynamics, Inc. v. Structural Software, Inc., 46 F.3d 408, 410 n.2 (5th Cir. 1995). Under this test, the tender option program of the *Merritt Forbes* case would be considered a business genre subject to *scènes à faire*, irrespective of whether it also qualified as merged, inseparable idea-expression under the merger doctrine. Merrit Forbes and Co., Inc. v. Newman Inv. Sec. Inc., 604 F.Supp. 943 (S.D.N.Y. 1985).

136. *State Street*, 149 F.3d at 1373-75.

matter of lack of eligibility for patenting. I will try to test that by using the business methods of the *State Street* and *Merritt Forbes* cases as test examples.[137]

The *State Street* panel said that claim 1 was unobjectionable for section 101 patentability purposes, and proposed that any problems with claim 1's patentability should be addressed under some other section of the patent code, such as section 112 or section 103.[138] Pursuing that route would probably be illusory. If section 101's limitations on patent eligibility do not filter out a business method, probably nothing else will.

Section 112 has three possibly relevant requirements. The specification of a patent (and patent application) must describe[139] and enable[140] the invention, to the full extent of the claims, and the claims must particularly point out what the inventor regards as his invention.[141] It is unlikely that any of these three requirements would effectively limit the preemptive scope of claim 1 of the *State Street* case (or would likely be successful in regard to a hypothetical patent claiming the tender option program of the *Merritt Forbes* case).[142] It cannot be said that the hub-and-spokes specification fails to enable the described means for carrying out the invention or that it fails to describe the preempted scope of claim 1. Nor is there any basis for believing that the patentee failed to regard the claimed invention as preempting the field of complying with tax requirements for pooling fund partnerships and receiving the benefit of no more than a single level of taxation. Finally, it cannot be said that the claim is insufficiently definite in the ground that it fails the test that a person skilled in the art must be able to

137. *See id.* at 1371-72; *Merrit Forbes*, 604 F.Supp. at 949.

138. There is no room for application of 35 U.S.C. §102 (1994) here, because there is no art identically disclosing every element of claim 1. *See, e.g.,* Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461, 1473 (Fed. Cir. 1997). That is ordinarily true in any serious case of this kind, for the case would likely be disposed of at an early stage if true anticipation could be shown.

139. *See* Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1560 (Fed. Cir. 1991).

140. *See In re* Borkowski, 422 F.2d 904, 909 (C.C.P.A. 1970).

141. *See In re* Conley, 490 F.2d 972, 976 (C.C.P.A. 1974); *In re* Miller, 441 F.2d 689, 692 (C.C.P.A. 1971).

142. *State Street*, 149 F.3d at 1371-72; *Merrit Forbes*, 604 F. Supp at 947.

understand the reach of the claim.[143]

Section 103's theoretical ban on patenting the obvious is not likely to be of any help, either, although perhaps an argument could be crafted. What the patentee did here was to combine the tax statute and regulations (or their substance) with the idea of using a computer to effectuate compliance with the statute and regulations.[144] The problem in *State Street* or any similar case would be to persuade the Federal Circuit that it is obvious to computerize the procedure. The Federal Circuit has made it extremely difficult, in recent years, for an accused infringer to prevail under a section 103, obviousness defense. First, the burden of proof is "clear and convincing evidence."[145] Second, because no single reference contains all elements of the claimed combination, the accused infringer must show that motivation existed in the art to combine the various elements into the claimed combination.[146] Finally, the Federal Circuit rarely overturns a jury's factual determinations supporting a conclusion of nonobviousness and juries strongly tend to favor patentees over accused infringers on validity issues.

Thus, returning to *State Street* as an illustration, the accused infringer may argue that it would be obvious to a person of ordinary skill, if confronted with the applicable provisions of the tax laws (set out in Appendix A) and desiring to computerize compliance with those laws for a pooled fund partnership, to write a program

143. See Amgem, Inc. v. Chugai Pharm. Co, 927 F.2d 1200, 1217 (Fed. Cir. 1991) (stating that test).

144. Once one decides to computerize compliance with these provisions of tax law (which are set out in Appendix A), it requires no flash of inventive genius to carry out the routine programming that is needed. The catch is the part of the preceding sentence that comes before the parenthesis.

145. C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1351 (Fed. Cir. 1998); Rockwell Int'l Corp. v. United States, 147 F.3d 1358, 1366 (Fed. Cir. 1998).

146. Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re* Dembiczak, 175 F.3d 994, 998 (Fed. Cir. 1999); *In re* Chu, 66 F.3d 292, 297 (Fed. Cir. 1995); Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc., 21 F.3d 1068, 1072 (Fed. Cir. 1994) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination."); *In re* Jones, 958 F.2d 347, 351 (Fed. Cir. 1992).

falling within the language of claim 1. The Federal Circuit's likely response to that argument is to state that it represents a "20-20 hindsight" view, and to ask, "Where is the *ex ante* motivation to computerize those provisions of the tax laws?" If it cannot be shown to be in the prior art, the Federal Circuit would continue, "Case closed, guilty as charged."[147]

A significant part of the perceived problem with business-method patents is a sense that the subject matter is typically obvious but the patent system is now set up in a way that business-method patents will not be adjudicated as obvious. This may or may not be a misperception; perhaps the characterization is too sweeping. In any event, it is very doubtful that sections 112 or 103 are tools that could cope with the perceived problem with patenting business methods.[148] That leaves it a matter of statutory subject matter under section 101 or nothing.[149] Unless *scènes à faire* or something like it is understood as a part of section 101's limitation on the kind of processes, machines, and so on that are eligible for patents, it is not likely that a substitute patent doctrine is available. That is unobjectionable, of course, if one believes that business methods should ordinarily be patented. But whether they should is

147. *See Dembiczak*, 175 F.3d at 998. For computer-related examples of this approach, see *In re* Zurko, 111 F.3d 887, 889-90 (Fed. Cir. 1997), *reh'g en banc on other grounds*, 142 F.3d 1447 (Fed. Cir.), *rev'd on other grounds*, _ U.S. _ , 119 S. Ct. 1816 (1998); *In re* Pardo, 684 F.2d 912, 917 (C.C.P.A. 1982). For a criticism of the Federal Circuit's approach in *Zurko* and that of its predecessor court and the similar approach of its predecessor court in *Pardo*, *see* John Kasdan, *Obviousness and New Technologies*, 10 FORDHAM INTELL. PROP. ENT. & MEDIA L. J. 159 (1999). *See also* Julie E. Cohen, *Reverse Engineering and the Rise of Electronic Vigilantism: Intellectual Property Implications of "Lock-Out" Programs*, 68 S. CAL. L. REV. 1091, 1169-71, 1174-75 (1995) (advocating "innovative programmer" test for obviousness).

In the present writer's view, it would be more sensible to adopt a rebuttable presumption that a person of ordinary skill in any computer-using art would be motivated to computerize any procedure that lent itself to computerization. *See* Richard H. Stern, *Tales From the Algorithm War: Benson to Iwahashi, It's Deja Vu All Over Again*, 18 AIPLA Q.J. 371, 394-96 (1991). Certainly, in the case of the financial industry, the securities industry, and any business involving accounting, which all use computers extensively, a person of ordinary skill in the art will, if given the opportunity, computerize virtually any procedure that can be computerized efficiently. The Federal Circuit's presumption to the contrary is irrational, at least in the factual context of computerization of business processes.

148. 35 U.S.C. §§103, 112 (1994).

149. 35 U.S.C. §§101 (1994).

not the issue that this portion of this paper addresses.

IV. How Could Patent Law Include Scènes à Faire?

If patent law dealing with methods of doing business would be improved by incorporation of a limiting doctrine such as *scènes à faire*, a threshold problem in adapting *scènes à faire* to patent law must be considered. Copyright law's preferred mode of addressing scope of protection as a function of creative contribution is to concede copyrightability in principle to a work and then to adjust the scope of protection. Fact works and compilations of preexisting material get "thin" protection while imaginative works, such as poems and novels, get "thicker" or "fatter" protection.[150] Elements of a work that are considered ideas or *scènes à faire* get little or no protection, while expressive elements get a great deal of protection.[151] The doctrine of fair use may excuse or justify conduct that would otherwise cause copyright infringement liability.[152] In contrast, patent law operates much more on an all-or-nothing basis. Either the subject matter is unpatentable and gets no protection[153] or is patentable and gets the full possible protection specified in the claims.[154]

In large part, this all-or-nothing approach is a function of the peripheral-claiming system applicable to patents, in contrast to the *gestalt* work system of copyright law, which is like the central-claiming system of patent law that preceded the present system in

150. *See e.g.*, Feist Publications., Inc. v. Rural Tel. Serv. Co., 499 U.S. 340 (1991).

151. *See e.g.*, Gates Rubber Co. v. Bando Chem. Indus., Ltd., 9 F.3d 823 (10th Cir. 1993).

152. *See, e.g.*, Sega Enters., Ltd. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1992), *cert. denied*, 113 S. Ct. 1582 (1993) (excusing wholesale disassembly of video game computer program to find and overcome copyright owner's expedients preventing compatibility); Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc., 964 F.2d 965 (9th Cir. 1992), *cert. denied*, 507 U.S. 985 (1993) (excusing video game accessory that improves ability of players to play games by temporarily modifying video game computer program). *But see* Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided Court*, 516 U.S. 233 (1996) (eschewing the use of the fair use doctrine to titrate copyright protection and instead holding subject matter uncopyrightable).

153. *See e.g.*, Rubber-Tip Pencil Co., Inc. v. Howard, 87 U.S. (20 Wall.) 498 (1874).

154. *See* Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17 (1997) (confirming that the doctrine of equivalents gives patentees legal protection over technical expedients equivalent to those described and claimed in patent).

which claims measure and define the scope of the grant.[155] The basic test of copyright infringement is whether the accused work, considered as a whole, is "substantially similar" in its expression to the expressive aspects of the copyright-protected work.[156] It is thus much less difficult to expand or curtail copyright protection as a function of parameters considered legally significant than it is to attempt the same exercise with a patent claim, which speaks for itself.[157]

Even patent law recognizes some exceptions, however, particularly in the area of equivalency. Thus, a pioneer patent is accorded a greater range of equivalents than a patent in a crowded art. Moreover, a means-plus-function claim is interpreted to extend to the structural expedients that the specification describes for carrying out a function and expedients recognized as equivalent to them, but not to materially different structures. Finally, a claim will be interpreted narrowly to preserve its validity against prior art, if that is reasonably possible. Despite these perhaps marginal deviations, the claims system of determining patent infringement is orders of magnitude less flexible or latitudinarian than copyright law's "substantially similar," *gestalt* system for determining copyright infringement.

For these reasons, one must recognize that there is some difficulty in adapting the doctrine of *scènes à faire* to patent law. Nevertheless, the difficulties are not insurmountable. Moreover, patent law has opened the door to some steps in this direction.

If one wanted to adapt the doctrine of *scènes à faire* to patent law, through legislation or case law, it would not seem overly difficult. In a sense, *scènes à faire* is a doctrine using an abstraction continuum, just as the idea/expression doctrine and the ordinary patent doctrine relating to natural principles and abstract ideas do. It is less overt under *scènes à faire*, yet nonetheless the case. Any

155. *See id* at 26 n.4. A peripheral claim specifies the elements of claimed subject matter and is intended to specify precisely the boundaries between claimed and unclaimed subject matter. A central claim identifies the core inventive concept and reviewing courts decide how much penumbra is protected.

156. *See, e.g.,* Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693 (2d Cir. 1992).

157. *See* Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 344 (1961). In theory, the claim is the sole measure of a patent grant.

analytic category, so long as it defines neither a null class nor a universal class, must involve some sort of continuum. For example, consider the Second Circuit's ruling that the *scène à faire* for a movie about the South Bronx would feature drunks, prostitutes, vermin (rats, in the accused and copyrighted works), and derelict cars. The principle must have a limit, so that *something* is outside *scènes à faire* for South Bronx movies. Perhaps, cockroaches, gangs, and muggings are also part of the *scène à faire*, but having as characters a slumlord with a heart of gold and a policeman who is a Zen Bhuddist and lives in a garage surely goes beyond the South Bronx *scène à faire*. There must be some expression possible even in a cliche-ridden genre.

The same should be true for business *scènes à faire* as well. In the case of a computer program for complying with tax laws governing pooled-fund partnerships, there is clearly considerable room for arbitrary expression. The order in which particular operations are carried out, which operations are combined in particular subroutines, and a host of other programming choices are likely to be arbitrary and reflective of individual programmers' respective design or style preferences. In the case of a patent, there are always dependent claims. Claim 1 may be within *scènes à faire*, but claim 19 need not be. To be sure, the claims drafter will *want* to have generic claim 1 that preempts the relevant *scène à faire*, but the point of any doctrine here is to deny such claims and allow only non-preemptive claims.

Of course, every claim "preempts" whatever is the subject matter of that claim. The task of applying a doctrine against undue preemption is to limit the preemptiveness of allowed claims to an extent as will allow others to operate within the applicable business genre that has the given *scène à faire*. Addressing that comprehensively in this or any other paper is no more practicable than addressing how long a piece of string should be. Perhaps, it is sufficient simply to state that the task should be performed in the same way that courts decide *scènes à faire* issues. If one must use analogies, the process amounts to retreating from whether there is domination of the market for purposes of monopolization[158] to

158. *Compare* United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377 (1956)

whether there is the kind of competitive impact qualifying as a substantial lessening of competition[159] or an undue restraint of trade.[160]

The simplest way patent law could embrace *scènes à faire* would be merely to let the doctrine inform the courts' interpretation of section 101. Until the *State Street* panel opinion, case law on statutory subject matter uniformly spoke of methods of doing business as unpatentable. It would be no great wrench simply to go back to the status quo ante. However, the Federal Circuit clearly chose not to do that *sua sponte* by setting the case for rehearing *en banc* after the *State Street* draft opinion was circulated, apparently for a year or more before it was published.[161] Moreover, the Supreme Court showed no present interest in addressing the matter when it denied *certiorari*.[162] Arguably, a different Fed-

(finding lack of monopoly power), *with* United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966) (finding monopoly power).

159. For purposes of Clayton Anti-Trust Act, ch. 323, § 3, 15 U.S.C. § 14 (1994), *compare* Tampa Elec. Co. v. Nashville Coal Co., 365 U.S. 320 (1961) (finding no substantial lessening of competition), *with* Standard Oil Co. of Calif. v. United States, 337 U.S. 293 (1949) (finding substantial lessening of competition). For purposes of Clayton Anti-Trust Act, ch. 323 § 7, 15 U.S.C. § 18, *compare* United States v. Philadelphia Nat'l Bank, 374 U.S. 321 (1963) (finding substantial lessening of competition); Brown Shoe Co. v. United States, 370 U.S. 294 (1962) (same), *with* United States v. Baker Hughes Inc., 908 F.2d 981 (D.C. Cir. 1990) (finding no substantial lessening of competition). *See also* Gulf Oil Corp. v. Copp Paving Co., Inc., 419 U.S. 186, 201 (1974) (sections 3 and 7 of the Clayton Act were "intended to complement the Sherman Act and to facilitate achievement of its purposes by reaching, in their incipiency, acts and practices that promise, in their full growth, to impair competition in interstate commerce.").

160. *See* Jefferson Parish Hosp. v. Hyde, 466 U.S. 2 (1984) (presuming that restraint of trade embracing less than 30% of market does not unreasonably restrain trade).

161. 149 F.3d 1368. Oral argument occurred well over a year before publication of the opinion.

162. Admittedly, a reversal of a summary judgment is not the best vehicle for *certiorari* in a test case. Conceivably, the Court might be more hospitable to a final judgment raising the same legal issues. Moreover, the denial of *certiorari* at this time should not be considered a decision on the merits nor even a determination by the Court that it has no interest in the matter. It is almost 20 years since the Supreme Court last addressed the patentability of computer software. During that interval, the Federal Circuit has increasingly distinguished prior Supreme Court decisions in this field to the point of extinction, and in *State Street* said in almost so many words that at least one of those decisions, Gottschalk v. Benson, 409 U.S. 63 (1972), is no longer good law. 149 F.3d at 1374. That the Federal Circuit has put itself into the business of overruling the Supreme Court may have been insufficiently emphasized in the *State Street certiorari* petition. The time may simply not

eral Circuit panel might decline to follow the *State Street* panel opinion, on the basis of its inconsistency with statements, in earlier Federal Circuit opinions[163] and other court opinions that methods of doing business were unpatentable. Arguably, this inconsistency invokes an exception to the Federal Circuit's rule that a later panel opinion must follow an earlier panel opinion unless and until it is reversed *en banc*. Under that theory, the *State Street* panel decision would be non-precedential, as *ultra vires*.[164] To be sure, whether a Federal Circuit panel would take this course is, at best, unpredictable. More likely, this is not the kind of issue that the court, as now constituted, would wish to address. Indeed, in April 1999 a different Federal Circuit panel went out of its way to approve the reasoning of *State Street* and repudiate earlier opinions inconsistent with it.[165] Even if, as it is only reasonable now to pre-

have been good for *certiorari* in still another patent case. The Court just granted *certiorari* in two other patent cases, *Lehman v. Zurko*, 119 S. Ct. 401 (1998) (concerning the application of the Administrative Procedure Act to the PTO), and *Florida Prepaid Educ. Board v. College Sav. Bank*, 119 S. Ct. 2219 (1998) (concerning state sovereign immunity under the 11th amendment in patent infringement cases), both of which may have seemed to present more urgent demands for the Court's attention, and the Court had just handed down its decision in another patent case, *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55 (1998) (concerning proper statutory construction of "on sale" bar of 35 U.S.C. § 102 (b)).

163. *See e.g.*, *In re* Alappat, 33 F.3d 1526 (Fed. Cir. 1994); *In re* Grams, 888 F.2d 835 (Fed. Cir. 1989); and *In re* Maucorps, 609 F.2d 481 (C.C.P.A. 1979). *See supra* text accompanying notes 64-72.

164. *See generally* Atlantic Thermoplastics Co. v. Faytex Corp., 974 F.2d 1279 (Fed. Cir. 1992) (discussing when a later panel is entitled to disregard an earlier panel opinion on the ground that the latter ignored or flouted applicable law such as determinative Supreme Court precedent).

165. AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352 (Fed. Cir. 1999), *cert. denied*, 68 U.S.L.W. 3079 (U.S. Oct. 12, 1999) (No. 99-95). The author of the panel opinion expressly repudiated as passé the approach of an earlier Federal Circuit decision, *In re Schrader*, 22 F.3d 290 (Fed. Cir. 1994), which he had authored and which had sought to synthesize and harmonize the prior body of case law. In *Schrader*, in direct contradiction of *State Street*, the court had held that transformation of a first data set representative of financial information to a second data set representative of other financial information was unpatentable. *Schrader*, 22 F.3d 290, 294; *State Street*, 149 F.3d 1368. Like *State Street*, the *Excel* opinion accepts as appropriately patent-eligible a claim to such a data manipulation, so long as the result is economically useful. *Excel*, 172 F.3d at 1357-58; *State Street*, 149 F.3d 1368. Since the claim in the *Excel* case was for a method permitting a telephone carrier to bill customers at differential rates depending on whether they called persons using the same carrier or a different one, this clearly useful and doubtless profitable expedient qualified as statutory subject matter under 35 U.S.C. § 101 and under the *State Street* test. *Excel*, 172 F.3d at 1357-58.

dict, the Federal Circuit proves unwilling to reverse the course taken in *State Street*, losing defendants in patent infringement cases will give the Supreme Court another opportunity to clarify the law.[166] Moreover, as has already been suggested in commentary,[167] corrective legislation is a possibility.[168]

The supposed invention in the *Excel* case involved creating an additional data field in a message record for a telephone call, so that a first datum indicating the caller's carrier and a second datum indicating the called person's carrier would be provided. 172 F.3d at 1354. For example, datum-1 and datum-2 are respectively 1 for AT&T and 0 for non-AT&T. The billing method "ANDs" the data in this field (i.e., takes the logical product of the data values). If the result is 1, that means that an AT&T customer called another AT&T customer. Any other combination produces a 0. Messages for which the result is 1 are billed at the AT&T-to-AT&T rate; other messages are billed at another rate.

166. *See supra* note 162.

167. *See supra* note 97.

168. There has already been a very limited legislative response to *State Street*. *See* H.R. 1907, 106th Cong., 2d Sess. (1999), The Patent Reform and PTO Reorganization Bill (short title, "American Inventors' Protection Act of 1999"), which passed the House of Representatives on August 4, 1999, 376-43 (roll call; the bill passed the preceding day by voice vote). Title II of the bill (§ 202 of the bill) adds a new §273 to the patent code (to be codified as 35 U.S.C. § 273), which creates a "first inventor defense" to a charge of patent infringement of a method claim. In new § 273(a)(3), "method" is defined "a method of doing or conducting business." An accused infringer that reduced the business method to practice at least a year before the filing date of the patent, and actually used the method commercially before the filing date, is excused from infringement liability and so, too, are its customers for products of the method. 35 U.S.C. §273(b)(1)-(2). In debate, the floor manager (Rep. Coble) for the bill explained that this provision was intended to limit the effect of the *State Street* decision. CONG. REC. H6942 (Aug. 3, 1999 daily ed.). Later in the debate, a supporter of the bill described this provision as a response to a decision that had "changed patent law." *Id.* at 6943. Other remarks of the same speaker, however, indicate that the real point of the provision, which was a narrowed version of an earlier more pervasive prior use defense applicable to all inventions, was not so much to cut back on *State Street* as it was to narrow the prior use defense as much as possible to satisfy opponents of that defense. *Id.* at 6944.

As worded, the bill fails to cover the Boes patent that the *State Street* decision upheld, since the bill is limited to method claims. The means-plus-function claims of the Boes patent are apparatus claims rather than method claims, although, as the Federal Circuit has repeatedly recognized, the distinction is not meaningful. *See, e.g.*, AT&T Corp. v. Excel Communications, Inc., 172 F.3d at 1357 (Fed. Cir. 1999), ("[W]e consider the scope of § 101 to be the same regardless of the form—machine or process—in which a particular claim is drafted."); *State Street*, 149 F.3d at 1372 ("for the purposes of a § 101 analysis, it is of little relevance whether claim 1 is directed to a 'machine' or a 'process'"); *In re* Alappat, 33 F.3d 1526, 1581 (Fed. Cir. 1994) (Rader, J. concurring) ("In fact, whether the invention is a process or a machine is irrelevant [under § 101]."); *In re* Trovato, 42 F.3d 1376, 1382-83 (Fed. Cir. 1994), *vacated on other grounds*, 60 F.3d 807 (Fed. Cir. 1995). To accomplish its purpose, however, since form rules over substance in

If one wanted to apply the *scènes à faire* doctrine to patent law in the least obtrusive manner, that could be done by revisiting the issues of *State Street* in another business-method patent infringement case. The legal rule that I would propose follows:

Where a claim is directed to a business method, irrespective of whether it is claimed as a machine, process, or other patent category, public policy concerns underlying section 101[169] require that

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patent law, the provision in this bill should cover methods of doing business, whether claimed as a process or otherwise.

Despite the plain wording of the bill limiting its coverage to process patents, the House Report states:

> An invention is considered to be a process or method if it is used in connection with the production of a useful end-product or -service and is or could have been claimed in the form of a business process or method in a patent. A software-related invention, for example, that was claimed by the patent draftsman as a programmed machine when the same invention could have been protected with process or method patent claims is a process or method for purposes of 273.

H.R. Rep. No. 106-287 (1999).

It is questionable that the Federal Circuit, or other courts, would give much weight to this legislative history statement which seems to contradict the narrowness of the statutory definition. *See, e.g.,* Chicago v. Environmental. Defense Fund, 511 U.S. 328, 337 (1994) ("But it is the statute, and not the Committee Report, which is the authoritative expression of the law . . . .); Arcadia v. Ohio Power Co., 498 U.S. 73, 81 n.2 (1990) ("In any case, the legislative history is overborne by the text."). That would seem particularly so when it would have been quite easy to have written the definition more broadly. For example, the definition of method could have been made "a method of doing or conducting business, *whether claimed as a process, apparatus, or otherwise,*" where the italicized words are my addition.

169. 35 U.S.C. §101 (1994). The public policy concerns include *The Statute of Monopolies*, 21 Jac. I, ch. 3, §§5-6, on which the patent system is ultimately based. Graham v. John Deere Co., 383 U.S. 1, 5-6 (1966) (stating that the patent clause of Constitution "was written against the backdrop of practices "eventually curtailed by the Statute of Monopolies of the crown in granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public."); Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225, 229 (1964); Standard Oil Co. v. United States, 283 U.S. 163, 169 n.2 (1931); Pennock v. Dialogue, 27 U.S. (2 Pet.) 11, 20 (1829). The East India Tea Company's detested monopoly on tea (terminated by the Boston Tea Party) has also been said to be part of the backdrop of the patent clause. United States v. Line Material Co., 333 U.S. 287, 329-31, 337-38 (1948) (Burton, J., dissenting) (asserting also that resentment of the tea monopoly precipitated the American Revolution). *See also In re* Shao Wen Yuan, 188 F.2d 377, 380 (C.C.P.A. 1951) (stating that inclusion of preamble words "to promote the progress of science and useful arts" was placed in patent clause because "those who formulated the Constitution were familiar with the long struggle over monopolies so prominent in English history, where exclusive rights to engage even in ordinary business

certain broad claims be considered as not directed to the *kind* of machine or process (or other category of subject matter) that the patent system was intended to protect. This rule applies when a business-method patent claims what amounts to the *scène à faire* of the business that it impacts. The doctrine of *scènes à faire* applies when those wishing to engage in the affected business cannot, as a practical matter, engage in the business without infringing the patent.

A *business*, for this purpose, is defined as, dealing in any product or service whose marketing is recognized by the public or trade as a distinct, definable product or service, irrespective of whether it constitutes a relevant market in the sense of statutes using that concept.[170] Thus, what courts will consider a genre for purposes of the doctrine of *scènes à faire* in copyright law is more expansive than the relevant market in which dealers in works in the genre compete with one another, for works in different genres compete for the same consumer dollar.[171] The business of managing a pooled-fund partnership in a way that complies with the applicable provisions of the Internal Revenue Code is an example of a business for purposes of the patent law analog of *scènes à faire*. By the same token, it would be a business for purposes of section 101 of the patent code, as the understanding of that section is informed by the public policies underlying section 101 as well as those sup-

activities were granted so frequently by the Crown").

For an extended discussion of the effect of 16th century monopoly grants on the development of both the patent and copyright systems. *See* Lasercomb Am., Inc. v. Reynolds, 911 F.2d 970, 974-75 (4th Cir. 1990).

170. *See, e.g.*, 35 U.S.C. §271 (d) (1994):

> "No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having. . .(5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned."

Id.

171. *See, e.g.*, Williams v. Crichton, 84 F.3d 581, 583 (2d Cir. 1996) (commenting on Walker v. Time Life Films, Inc., 784 F.2d 44 (2d Cir.), *cert. denied*, 476 U.S. 1159 (1986)). The motion picture found to be in a genre having unprotected *scènes à faire* was clearly in competition with other motion pictures of other genres.

porting a doctrine of *scènes à faire*.[172] Similarly, any investment product, such as the tender offer program of the *Merritt Forbes* case,[173] if recognized by investors or underwriters as a distinct securities product, would be comparable to a genre under the copyright doctrine of *scènes à faire* and it would be a business under the proposed patent law analog of that doctrine.

V. SHOULD PATENT LAW TREAT BUSINESS METHODS UNDER SCÈNES À FAIRE?

Over at least the last decade, copyright law has been more successful than patent law in deciding the extent to which computerrelated or computer-implemented innovations should be accorded legal protection. That is especially true for business-method, computer-implemented innovations. Of course, this involves comparing bodies of law so different that the value of any very general comparison can properly be questioned. Nonetheless, I believe that treating business methods under a version of the doctrine of *scènes à faire* makes more sense than the Federal Circuit's approach, which is to abolish section 101's filter against nonstatutory subject matter while offering only an illusory promise that sections 102, 103, and 112 will address whatever problems there are.[174]

Right now, an open season appears to be in effect for patents directed to every new (or old) IRS regulation or comparable governmental or quasi-governmental requirement. At the same time, an Oklahoma land rush is proceeding in which patent-happy entrepreneurs try to stake out their claims to plots of electronic commerce in cyberspace. Whether objecting to this is a hysterical over-reaction[175] or the same justifiable dislike of business monopo-

172. 35 U.S.C. § 101 (1994). The *State Street* panel of the Federal Circuit cannot be faulted for failure to consider this point. This issue was not specifically brought to the attention of the court in that case, and therefore the court had no opportunity to pass upon it. Another Federal Circuit panel could emphasize this factor as a basis for not considering itself bound by the *State Street* decision on this point. Moreover, if the banking and financial services industries were sufficiently concerned to seek legislation in this field, such matters as *stare decisis* and distinguishing case law would have little weight.

173. Merrit Forbes & Co., Inc. v. Newman Inv. Sec., Inc., 604 F.Supp. 943 (S.D.N.Y. 1985).

174. 35 U.S.C. §§102, 103, 112 (1994).

175. *See supra* note 95.

lies that led to the Boston Tea Party remains to be seen. In my view, to encourage speculation of this kind is as bad for the patent system as it would be to encourage submarine patents, and for much the same reasons.[176] It does not significantly augment the delivery to the public of business innovations. It does generate litigation costs, and it raises the cost of actually delivering business innovations to the public, by unproductively mulcting businesses engaged in delivering such innovations to the public.

Other papers prepared for this Symposium treat the policy merits of the *State Street* opinion in depth, and it would be redundant for this paper to attempt to cover the same ground. Accordingly, only one facet of the policy merits question is addressed here. This facet concerns the wisdom of adopting the *scènes à faire* doctrine and other Symposium papers do not focus on it. The fundamental rationale of the patent system is that monopoly awards are a constitutionally sanctioned means for promoting the progress of science and useful arts. Therefore, if copyright law does not protect business methods as such should not patent law fill in this gap in legal protection?

Support for that argument might be gleaned from a passage in *Baker v. Selden* stating that a grant of a monopoly over the art taught in a book "is the province of letters-patent, not of copyright."[177] This passage might be read to suggest that bookkeeping systems, and by extension business schemes such as those of the *Merritt Forbes* and *State Street* cases, are not properly the province of copyright law, but they are properly the province of patents. For several reasons, this reads too much into the remark. Given the overwhelming weight of authority at the time and continuing until recently that methods of doing business were unpatentable, the

176. *See* Atlantic Works v. Brady, 107 U.S. 192, 200 (1883).

177. The statement reads:

> To give to the author of the book an exclusive property in the art described therein, when no examination of its novelty has ever been officially made, would be a surprise and a fraud upon the public. That is the province of letters-patent, not of copyright. The claim to an invention or discovery of an art or manufacture must be subjected to the examination of the Patent Office before an exclusive right therein can be obtained; and it can only be secured by a patent from the government.

Baker, 101 U.S. at 102.

Court could not have meant to hold the contrary. The Court's comments do not even rise to the level of *obiter dicta*, moreover, since the Court made it clear elsewhere in the opinion that it declined to address the matter.[178]

More pervasively, that something is unpatentable does not of itself make it a proper subject of copyright protection, and *vice versa*. Many things are subject to neither copyright nor patent protection. Examples are abstract ideas, laws of nature, and mathematical algorithms. So, too, are style schemes, such as *terza rima*, gangsta rap, sonata allegro, and cubism. Even aside from enablement and inoperativeness issues, spells and incantations, and revelations from the beyond, are protectable neither by patents nor copyrights, for they are putative facts or putative laws of nature. That business schemes are not protected by copyright does not, of itself, make them patentable.

Finally, the question is not quite so absolute as "either/or." Adoption of a version of the doctrine of *scènes à faire* is not an absolute rule against patenting any and all systems or methods of doing business. As has been suggested earlier in this paper, not every element in a cliche-ridden work is non-expressive. *Scènes à faire* is a doctrine against preempting a genre (or, at least, seriously impairing the ability of others to express themselves in the genre), not one stripping non-preemptive protection from works in a genre. Where, and to the extent that, patents claiming business methods do not substantially prevent others from engaging in the same business, a doctrine of *scènes à faire* will not bar the patents. Accordingly, I suggest that incorporation of the doctrine into patent law for business systems would significantly improve the performance and rationality of patent law.[179]

178. Thus, the Court said, "Whether the art might or might not have been patented is a question which is not before us." *Id.* at 104.

179. Brief mention should be given an objection that may be raised against incorporation of *scènes à faire* into patent law or this part of it. It may be said that *scènes à faire* is just a fancy name for analytical dissecting out certain parts of a claim and treating them as if they were in the prior art, à la *Parker v. Flook*, 437 U.S. 584 (1978). Alternatively, this may be said to be resurrection of the point-of-novelty approach, now taboo in the Federal Circuit. Compare *Flook*, 437 U.S. at 594-5 which adopted the point-of-novelty approach to algorithm-related inventions) *with Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1543 n.3 (Fed. Cir. 1984); *In re Gulack*, 703 F.2d 1381, 1385 n.8

CONCLUSION

The *State Street* opinion is magisterial only in the pejorative sense. Its cavalier treatment of precedent and cursory legal analysis should earn it *Atlantic Thermoplastic* treatment.[180] No basis exists, however, for predicting that result in the foreseeable future. Accordingly, a line of subsequent poor decisions based on *State Street* should be anticipated. Given the boom or land rush in applications for patents on methods of doing business, particularly in regard to electronic commerce, the matter is urgent. That was, of course, a reason for this Symposium.

The copyright doctrine of *scènes à faire*, adapted to patent law, offers a realistic and workable limiting doctrine for scope of patents on methods of doing business. It is a minimalist doctrine and requires no wholesale overhaul of patent law. Further, it is suitable for judicial application. A substantial body of copyright precedent already exists.[181] The argument is available, moreover, that *State*

(Fed. Cir. 1983); *In re Walter*, 618 F.2d 758, 765-57 (C.C.P.A. 1980) which states that application of point-of-novelty approach to algorithm-related inventions "would immeasurably debilitate the patent system." *See also* Diamond v. Diehr, 450 U.S. 175, 188-89 (1981) (declining to follow *Flook* analytic dissection of algorithm out of claimed subject matter before determination of whether subject matter is patent-eligible).

Both of these would be incorrect characterizations of the proposed approach. The proposal here is not to dissect elements out of the claim as a preliminary matter before evaluating whether the subject matter is statutory. Rather, the proposal is to determine whether the claim, considered as a whole, preempts a business. If the claim is not thus preemptive, it does not fail under the doctrine of *scènes à faire*. If the claim is preemptive of a business, a *scènes à faire* analysis will conclude that the claimed subject matter is not the kind of process or machine that section 101 makes eligible for patent protection. If anything, this is just an elaboration of the doctrinal approach of *Diehr,* which holds that a claim is directed to nonstatutory subject matter if it preempts an algorithm. 450 U.S. at 193, n.14. Indeed, the language of this approach is much the same as that of *Diehr* - with the term *business* substituted for *algorithm* or *equation*. *See, e.g., id.* at 187 ("Their process admittedly employs a well-known mathematical equation, but they do not seek to pre-empt the use of that equation."), 191 ("We recognize, of course, that when a claim recites a mathematical formula (or scientific principle or phenomenon of nature), an inquiry must be made into whether the claim is seeking patent protection for that formula in the abstract. A mathematical formula as such is not accorded the protection of our patent laws . . . .").

180. *See* Atlantic Thermoplastics Co. v. Faytex Corp., 974 F.2d 1279 (Fed. Cir. 1992).

181. Moreover, since these methods are typically computer-implemented, in fact computer software-implemented, a generally parallel patent and copyright treatment of abstraction in this manner would contribute toward harmonization, and would further rationalization, of law. No legitimate public policy is advanced by disparate treatment of busi-

Street, itself, did not foreclose its application because *State Street* did not present or decide any *scènes à faire* issue. The doctrine does not appear to have any unsettling, unintended side effects — none have emerged so far under copyright law.

For these reasons, legislative or case law adaptation of *scènes à faire* to the patent law of methods of doing business would provide a useful limiting principle for addressing the perceived problems that such patents have raised. It would provide a way to titrate the scope of legal protection of business methods to degrees of abstraction, tangibility, and preemptiveness, in terms of a known and rational organizing principle.

ness-method computer programs under 35 U.S.C. § 101 on the one hand and under 17 U.S.C. § 102(b) and related judicial doctrines on the other hand.

APPENDIX A
Side-by-side Comparison of Boes Patent 5,193,056 and Tax Law Concerning Flow-Through of Pool Income to a Partner and Avoidance of Taxation of the Pool Entity

Patent	**Tax Law**
1. A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:	
(a) computer processor means for processing data; (b) storage means for storing data on a storage medium; (c) first means for initializing the storage medium;	[This part of claim 1 is directed to a computer for processing data and having access to a source of stored data to be processed in the computer.] ——
	26 U.S.C. § 706(d)(2)(A): [I]f during any taxable year of the partnership there is a change in any partner's interest in the partnership, . . .each partner's distributive share of any allocable cash basis item shall be determined—(i) by assigning the appropriate portion of such item to **each day** in the period to which it is attributable, and (ii) by allocating the portion assigned to any such day among the partners in proportion to their interests in the partnership at the **close of such day**. IRS Reg. 1.704-1(b)(2)(iv) (a): Except as otherwise provided in paragraph (b)(2)(ii)(i) of this section,

	an allocation of income, gain, loss, or deduction will not have economic effect under paragraph (b)(2)(ii) of this section, and will not be deemed to be in accordance with a partner's interest in the partnership under paragraph (b)(4) of this section **[i.e., qualify for partnership flow-through treatment]**, unless the capital accounts of the partners are determined and maintained throughout the full term of the partnership **[i.e., daily]** in accordance with the capital accounting rules of this paragraph (b)(2)(iv). . . .(b)(2)(iv): [T]he partners' capital accounts will be considered to be determined and maintained in accordance with the rules of this paragraph (b)(2)(iv) if, and only if, each partner's capital account: . . .
(d) second means for processing data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds, assets and for allocating the percentage share that each fund holds in the portfolio;	is increased by (1) the amount of money contributed by him to the partnership. . .and is decreased by (4) the amount of money distributed to him by the partnership
(e) third means for processing data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and	is increased by (3) allocations to him of partnership income and gain. . .and is decreased by (6) allocations to him of expenditures of the partnership. . .and (7) allocations of partnership loss

for allocating such data among each fund;	
(f) fourth means for processing data regarding daily net unrealized gain or loss for the portfolio and for allocating such data among each fund; and	IRS Reg. 1.704-1(f) A partnership agreement may, upon the occurrence of certain events, increase or decrease the capital accounts of the partners to reflect a revaluation of partnership property. . . Capital accounts so adjusted will not be considered to be determined and maintained in accordance with the rules of this paragraph (b)(2)(iv) unless— . . . (2) The adjustments reflect the manner in which the unrealized income, gain, loss, or deduction inherent in such property (that has not been reflected in the capital accounts previously) would be allocated among the partners if there were a taxable disposition of such property for such fair market value on that date
(g) fifth means for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.	26 U.S.C. § 706(d)(1): [I]f during any taxable year of the partnership there is a change in any partner's interest in the partnership, each partner's distributive share of any item of income, gain, loss, deduction, or credit of the partnership for such taxable year shall be determined by the use of any method prescribed by the Secretary by regulations which takes into account the varying interests of the partners in the partnership during such taxable year.