

Patent Preparation and Prosecution under Uncertain Patent Eligibility Standards

By

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The dot-com boom² witnessed an increase in filing of applications for patents for business methods, and was soon followed by a Congressional outcry,³ which in turn was followed by increased scrutiny of applications directed to business methods by the Patent and Trademark Office.⁴ Meanwhile, a stream of decisions of the Federal Circuit expanded the scope of subject matter deemed to comply with the requirements of section 101 of the Patent Act:⁵

(i) *In re Alappat*⁶, holding that an anti-aliasing rasterizer for reducing jagged edges in pixilated displays cannot be denied a patent on the basis of the mathematical algorithm exception to section 101⁷;

(ii) *State Street Bank & Trust Co. v. Signature Financial Group*⁸ holding that claims directed to a data processing system for managing a financial services configuration of a mutual fund portfolio constituted statutory subject matter, and could not be denied patent coverage simply because they involve a mathematical algorithm or implement a business method⁹; and

(iii) *AT&T Corp. v. Excel Communications, Inc.*¹⁰, holding that a claimed communications method for generating a message record having a specific data structure constituted statutory subject matter, that “the claimed process applies the Boolean

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² See, for example, “Dot-com” in Wikipedia, available at <http://en.wikipedia.org/wiki/Dot-com>.

³ For example, on October 3, 2000, Representatives Berman and Boucher introduced H.R. 5364, entitled “Business Method Patent Improvement Act of 2000.” The bill proposed extensive changes to the handling of applications for business method patents. When introducing the bill, Representative Boucher said his legislation was “an effort to repair the system before the PTO awards more monopoly power to people doing the patently obvious.” The bill died in committee. See <http://thomas.loc.gov/cgi-bin/bdquery/z?d106:h.r.05364>.

⁴⁴ “A second-level review of all allowed applications in Class 705 is required to ensure compliance with the mandatory search requirements, clarity and completeness of reasons for allowance, and to determine whether the scope of the claims should be reconsidered.” United States Patent and Trademark Office White Paper, “Automated Financial or Management Data Processing Methods (Business Methods),” Section V “Quality,” available at <http://www.uspto.gov/web/menu/busmethp/quality.htm> (page 6 of 7).

⁵ 35 U.S.C. § 101.

⁶ *In re Alappat*, 33 F.3d 1526 (Fed.Cir.1994) (in banc).

⁷ 35 U.S.C. § 101; 33 F.3d 1544.

⁸ *Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. 1998)

⁹ 149 F.3d 1373 and passim; and moreover “that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result’” within the scope of § 101.

¹⁰ *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999).

principle to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle”, and that the requirement of a “physical transformation” is “merely one example of how a mathematical algorithm may bring about a useful application.”¹¹

Figure 1 shows the results of these activities. Indeed, the number of patents filed in Class 705 (which covers business methods¹²) doubled in 1999 over 1998. On the other hand, the number of applications filed a year later, in 2000, totaling 8,056, was more than five times the number filed in 1998. Part of this increase is certainly attributable not just to the *State Street Bank* decision but also to an economic environment in 2000 that rewarded entrepreneurial activity involving Internet-based businesses.¹³ Although the dot-com boom peaked in the year 2000,¹⁴ patent filings in Class 705 peaked a year later at 9,288. This one-year latency may reflect a delayed impact of the economic retreat. Following the dramatic drop in stock prices, particularly of technology-based start-ups following the dot-com boom in years after 2000, filings in Class 705 declined in 2002, but since then have climbed back rather steadily, so that in 2006 the number of filings—8,959—has nearly returned to 1999 levels

There are probably competing factors at work in causing the present level of patent filings. First, Internet-based businesses, such as those of Google and Yahoo, play a continuing and in fact growing role in the national and, indeed, the world, economy. Second, the experience of patent issuances in Class 705 in 1999 and later years has not been generally commensurate with the rise in application numbers. The number of issuances peaked at 845 in 2000, the same year in which the unsuccessful Berman and Boucher bill was introduced in the House of Representatives. It was also in 2000 when the second level of review was instituted by the Patent and Trademark Office.¹⁵ In 2004, there were 282 issuances, less than one-third of the number that issued in 2000. On the other hand, 2004 marks a floor. In the years 2005 and 2006, the number of allowances has risen, setting, in 2006, a new record of 1,190. Commenting on these statistics, Mr. Wyn Coggins, Group Director of Technology Center 3600 (which includes Art Units 3620 and 3690, devoted to business methods) at the Patent and Trademark Office, stated that “We have gotten through the majority of the ‘bubble’ cases that were filed in FY 2000 that contained very broad claims that were not allowable. The cases the examiners are now working on have noticeably narrower claims as a whole and we expect the

¹¹ 172 F.3d 1358 and passim; see also *Arrhythmia Research Technology v. Corazonix Corp.*, 958 F.2d 1053, (Fed.Cir.1992)(process claims including various mathematical formulae to analyze electrocardiograph signals to determine a specified heart activity are directed to statutory subject matter).

¹² “This is the generic class for apparatus and corresponding methods for performing data processing operations, in which there is a significant change in the data or for performing calculation operations wherein the apparatus or method is uniquely designed for or utilized in the practice, administration, or management of an enterprise, or in the processing of financial data. /This class also provides for apparatus and corresponding methods for performing data processing or calculating operations in which a charge for goods or services is determined.” *Manual of Patent Classification*, section 705, available at <http://www.uspto.gov/web/offices/ac/ido/oeip/taf/def/705.htm>.

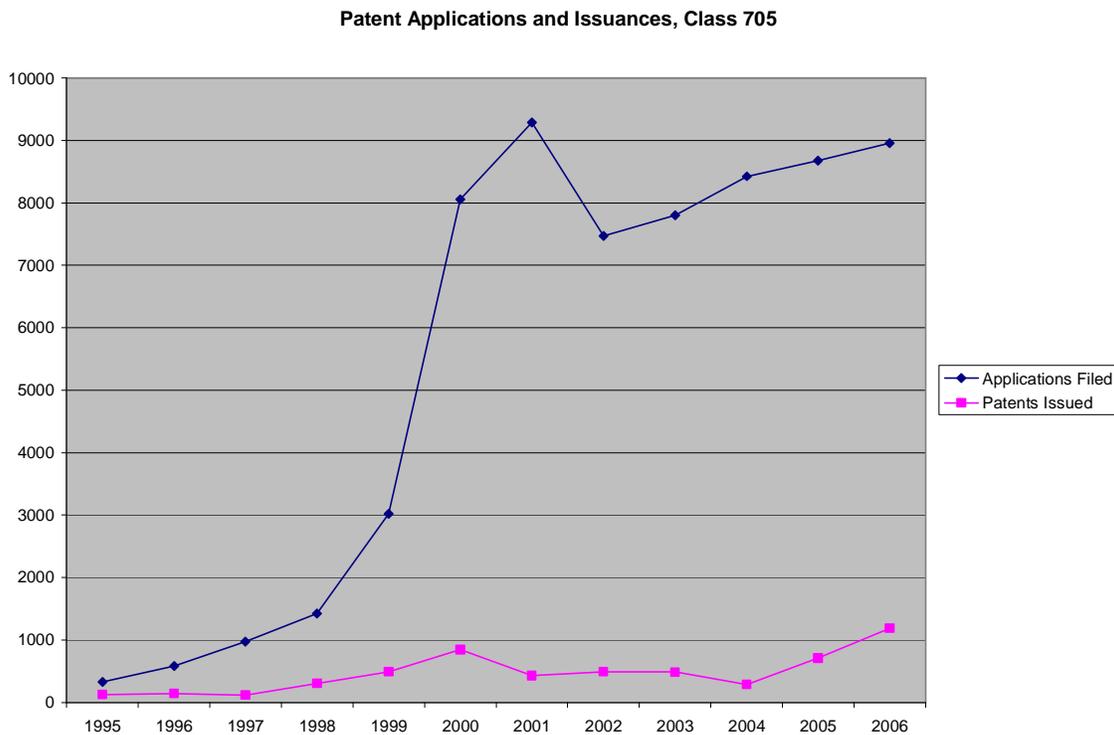
¹³ See “Dot-com” in Wikipedia, *supra*, available at <http://en.wikipedia.org/wiki/Dot-com>.

¹⁴ *Id.*

¹⁵ See for example, USPTO White Paper - Automated Business Methods Section V Quality, Part D, available at <http://www.uspto.gov/web/menu/busmethp/quality.htm> and Wired News, March 29, 2000, available at <http://wired-vig.wired.com/news/politics/0,1283,35267,00.html>.

allowance rate to continue to rise as a result.”¹⁶ The reported allowance rate as of mid-2007 was 20%.¹⁷

Figure 1. Applications Filed and Patents Issued in Class 705. Source: United States Patent and Trademark Office.¹⁸



¹⁶ Slide presentation: “Update on Business Methods for the Business Methods Partnership Meeting, June 19, 2007”, available on PTO web page devoted to business methods:

<http://www.uspto.gov/web/menu/pbmethod/>.

¹⁷ *Id.*

¹⁸ <http://www.uspto.gov/web/menu/pbmethod/applicationfiling.htm>

The hurdles faced by business method patent applications are not simply procedural. They are substantive as well. Like all applications, business method applications must be directed to subject matter that is new¹⁹ and non-obvious.²⁰ Like all applications, business method applications must also be directed to subject matter that is of the type which is protectable by a patent—that is, the subject matter must be statutory.²¹ This paper focuses on drafting and prosecution issues relating to statutory subject matter. We have begun our discussion with business method patents, but, as will become evident from our examples, we will not limit it to business method patents.

Unlike many other kinds of applications for a patent, business method patent applications target technology that often is not easy to characterize—particularly in a way that is consistent with requirements for statutory subject matter. It is for this reason that claims in the business method patent context are of singular importance. While the claims of course will critically affect the reception of any application by the Patent and Trademark Office, here the claims must be drafted with a view not just for novelty and non-obviousness but also for statutory subject matter.²² Normally, one considers that claim breadth and claim abstraction are closely related concepts if not synonymous terms, but we will see here that in dealing with business method patents, the patent draftsman will fare better by decoupling the two concepts. Instead, the draftsman should look to identify clearly the context in which the business method is being practiced and to make sure that context finds its way into the claim.

We begin by considering the seminal case of *O'Reilly v. Morse*,²³ decided by the United States Supreme Court in 1854. The party Morse to this case was Samuel F.B. Morse, inventor of the telegraph. The court held the following method claim to the telegraph valid:

1st. ... making use of the motive power of magnetism ... developed by the action of ... current as a means of operating ... machinery ... to imprint signals upon paper ... or to produce sounds ... for the purpose of telegraphic communication at any distances.²⁴

On the other hand, the Court found the following method claim to the telegraph invalid:

Eighth. ... the use of the motive power of the electric ... current, which I call electromagnetism, however developed, for marking or printing ... characters, signs, or letters, at any distances....²⁵

The Court was bothered by the manner in which claim 8 characterized the subject

¹⁹ 35 U.S.C. § 102.

²⁰ 35 U.S.C. § 103.

²¹ 35 U.S.C. § 101.

²² Clarity and enablement under 35 U.S.C. § 112 also enter the picture, but here we are concerned particularly with how clearly constructed claims are limited in the context of business methods.

²³ *O'Reilly v. Morse*, 56 U.S. 62 (1854).

²⁴ 56 U.S. at 112, 128-129.

²⁵ 56 U.S. at 112-120

matter. “If this claim can be maintained, it matters not by what process or machinery the result is accomplished. In fine he claims an exclusive right to use a manner and process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent. The court is of opinion that the claim is too broad, and not warranted by law. No one, we suppose will maintain that Fulton could have taken out a patent for his invention of propelling vessels by steam, describing the process and machinery he used, and claimed under it the exclusive right to use the motive power of steam, however developed, for the purpose of propelling vessels.”²⁶

At bottom—when one analyzes the differences between the acceptable claim 1 and the unacceptable claim 8, it was not really “undue breadth,” that prompted the Court to invalidate claim 8, for claim 1 has a breadth comparable to that of claim 8. The current of claim 1 must operate machinery to imprint signals or to produce sounds, whereas the current of claim 8 does not have to operate machinery. On the other hand, the current of claim 8 must still cause the printing of characters.²⁷ How else can the printing of characters be achieved without the use of machinery?

The real operative principle here is that abstract principles will not be protected. Instead, a patent claim must reflect structure, namely, the structure by which principles are harnessed to practical effect. Judge Newman of the Federal Circuit explained this decision 140 years later in this manner in her concurring decision in the *Alappat* case:

Phenomena of nature and abstract scientific and mathematical principles have always been excluded from the patent system. Some have justified this exclusion simply on the ground of lack of ‘utility’; some on the ground of lack of ‘novelty’; and some on the ground that laws of nature, albeit newly discovered, are the heritage of humankind. On whatever theory, the unpatentability of the principle does not defeat patentability of its practical applications.²⁸

The present law has continued to echo the principles of *O’Reilly v. Morse* as interpreted by Judge Newman. The seminal *State Street Bank* case held that (1) merely abstract ideas are not “useful” and not patentable and (2) an algorithm applied in a useful way is patentable.²⁹

The Patent and Trademark Office revised its guidelines for examination of business method patents in the wake of the *State Street Bank* decision, and the revised guidelines appear in section 2106 of the Manual of Patent Examining Procedure.³⁰ Under these guidelines, there is a discussion of a “safe harbor”, for claims being considered in relation to the statutory subject matter requirement, involving “Computer-Related Processes Limited to a Practical Application in the Technological Arts”. This section includes a discussion as follows:

²⁶ 56 U.S. at 113.

²⁷ Interestingly claim 8 is narrower than claim 1 in that a current used only to produce a sound at a distance would not infringe claim 8.

²⁸ *In re Alappat*, 33 F.3d 1526, 1569 (Fed. Cir. 1994)(J. Newman concurring), citing *O’Reilly v. Morse*.

²⁹ *State Street Bank & Tr. Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (Fed Cir. 1998) (*Alappat* followed).

³⁰ Available at http://www.uspto.gov/web/offices/pac/mpep/documents/2100_2106.htm#sect2106.

For such subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. See *Alappat*, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond v. Diehr*, 450 U.S. at 192, 209 USPQ at 10). See also *Alappat* 33 F.3d at 1569, 31 USPQ2d at 1578-79 (Newman, J., concurring) ("unpatentability of the principle does not defeat patentability of its practical applications") (citing *O'Reilly v. Morse*, 56 U.S. (15 How.) at 114-19). A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452. Likewise, a machine claim is statutory when the machine, as claimed, produces a concrete, tangible and useful result (as in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601) and/or when a specific machine is being claimed (as in *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557 (in banc)). For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory.³¹

The holdings of the *State Street Bank* case do not end with these pronouncements, however. As mentioned above, *State Street Bank* also stands for the proposition that Patents cannot be invalidated just because they claim "business methods." The court in *State Street Bank* thus found directed to statutory subject matter a system for managing a mutual fund investment structure.³² On the other hand, patents can, as usual, be invalidated for claiming subject matter that is not novel or non-obvious or that fails to comport with the requirements of section 112.³³ The obvious consequence of *State Street* is that if a statutory subject matter rejection is not available to the Patent and Trademark Office, then a rejection for novelty or obviousness or failure to satisfy section 112 is by no means ruled out.

The import of *State Street* is that "Anything under the sun that is made by man" can be patented if it is new, non-obvious, and harnessed to practical effect as claimed.³⁴

³¹ *Manual of Patent Examining Procedure* § 2106. In its annual Business Methods Partnership Meeting in April 2004, there was discussion of the view of Technology Center 3600, which examines applications in Class 705, that a business method claim must (1) "produce a useful, concrete, and tangible result" and (2) produce that result using the technological arts in a nontrivial manner. There is considerable debate whether this second requirement exists under case law or whether it is distinct from the first requirement. This excerpt from the *Manual of Patent Examining Procedure* does not resolve the question, since it merely presents a safe harbor, not a requirement that must be met in all cases. It is submitted, however, that the approach suggested in this paper to developing claims to business methods will in many cases permit surmounting any obstacle otherwise posed by a "technological arts" requirement.

³² 149 F.3d at 1376-1377.

³³ 149 F.3d at 1377.

³⁴ 149 F.3d at 1373 and 1377. A comparison with European law is instructive. Under the European Patent Convention, an invention to be patentable must be "suceptible of industrial application" EPC Art. 52(1) (a requirement that is narrower than 35 USC § 101 utility). Moreover, business methods, software, and mathematical methods are not patentable "as such". EPC Art. 52(2) and (3). On the other hand, when a

As a warm-up exercise, let us consider a hypothetical business method claim to distinguish between a claim that is too abstract, like claim 8 of Mr. Morse, and a claim that is sufficiently anchored in a specific environment. Claim 1 of this example is directed to a method of advertising the availability of a house for sale. Claim 1 of our hypothetical reads as follows:

1. *A method of advertising availability of a house for sale comprising: putting up a “for sale” sign.*

Is this claim directed to novel subject matter? Of course not. But if we disregard that problem, could the claim be rejected on any other grounds? We do not know where the “putting up” occurs, an uncertainty making the claim vulnerable for unintelligibility under section 112. As importantly, however, the claim is vulnerable under section 101 as not directed to statutory subject matter. We have said that we put up a sign, but our “putting up” process that we have invoked lacks a specific context. Our sign, as it were, exists only in air. Our claim is thus too abstract, and can be rejected, just as Samuel Morse’s claim for a communication method that uses electromagnetism, under section 101.

Let us consider an alternative claim directed to similar subject matter:

2. *A method of advertising availability of a house for sale, the house being situated on a lot, the method comprising:*
 - a. *providing a sign having a mounting arrangement for affixation of the sign to an item of real property, the sign including a text message indicating that the item of real property to which the sign is affixed is for sale; and*
 - b. *using the mounting arrangement to affix the sign to at least one of the house and the lot.*³⁵

The language in claim 2 is much more specific. The sign has a mounting arrangement and includes a text message. A second process claimed requires using the mounting arrangement in relation to the house or the lot. It would seem that all of this structure would substantially narrow the breadth of the claim, but in reality there is little, if any, narrowing of the claim, because claim 1 implies similar limitations even though it does not recite them. The trick of claim 2 is to identify the limitations that were implicit in claim 1 and to call them out.

“technical effect” is present in the claimed invention, then it is not non-patentable “as such”. VICOM/Computer related invention, T 0208/84, O.J. EPO 1987, 14 (a holding that is narrower than State Street).

³⁵ The language of this claim may instructively be compared with the language of United States patent 6,751,596, directed to a system and method for tracking, monitoring, and supporting self-procuring principals in real estate transactions. The method of claim 1 cannot be carried out except with the use of a computer system.

Claim 2 has more benefits over claim 1 as well. The more specific structure of claim 2 allows us to add further limitations to the claim for the purpose of dealing with potential rejections for lack of novelty or obviousness. So mounting a sign on the real property is not new?—then what about more details on the mounting arrangement?

We have referred to the ground-breaking holding of *State Street*. The patent practitioner should be prepared for the prospect that *State Street* will not always be the law. Although *State Street* is the law, it is under attack. The Supreme Court last rendered a decision on statutory subject matter in 1981 in *Diamond v. Diehr*³⁶—holding that a method of manufacturing molded articles is not precluded from being patented “simply because it uses a mathematical formula, computer program, or digital computer”.³⁷ The Supreme Court therefore has not endorsed *State Street*’s sophisticated analysis. Indeed, in *Laboratory Corp. of America Holdings v. Metabolite Laboratories, Inc.*³⁸, decided in 2006, Justice Breyer, joined by Justices Stevens and Souter, wrote a dissent that would have found non-statutory a claim drawn to a method of detecting vitamin deficiency, because the method is drawn to “an unpatentable ‘natural phenomenon’”.³⁹

The majority decision in the case dismissed the writ of certiorari as improvidently granted (since the issue of statutory subject matter had not been considered below). Regardless how this patent fared in litigation on the merits, the fact is that claim 13—as far as three justices of the Supreme Court are concerned—fails to pass statutory muster because it fails to add “anything more of significance” than the “unpatentable ‘natural phenomenon’”. If the drafter of claim 13, with the benefit of hindsight, were to undertake drafting claim 13 right now, how would claim 13 differ?

Claim 13 in the patent at issue (which is 4,949,658⁴⁰) reads as follows:

“A method for detecting a deficiency of cobalamin or folate in warm-blooded animals comprising the steps of:
“assaying a body fluid for an elevated level of total homocysteine; and
“correlating an elevated level of total homocysteine in said body fluid with a deficiency of cobalamin or folate.”⁴¹

It bothered the dissent that the “correlating” step involved no apparent activity. What if instead we drafted the claim to flesh out steps that arguably are implied by the short-hand of the claim? Consider claim 13 amended thus:

A method for detecting a likelihood of deficiency of cobalamin or folate in a warm-blooded animal[s] subject comprising [the steps of]:

assaying a body fluid of the animal subject for a [an elevated] level of total homocysteine;

³⁶ *Diamond v. Diehr*, 450 U.S. 175 (1981).

³⁷ 450 U.S. at 187.

³⁸ *Laboratory Corp. of America Holdings v. Metabolite Laboratories, Inc.*, 126 S.Ct. 2921 (2006).

³⁹ 126 S.Ct. 2928.

⁴⁰ See Joint Appendix, for *Laboratory Corp. of America Holdings v. Metabolite Laboratories, Inc.*, 2005 WL 3939545 (Supplemental Appendix).

⁴¹ 126 S.Ct. 2924.

comparing the assayed level of total homocysteine with a normative range of levels thereof determined by analysis of levels of total homocysteine in a relevant population of subjects having no apparent deficiency of cobalamin or folate; and

classifying the animal subject as likely deficient in cobalamin or folate if the assayed level is above the normative range so determined.

[correlating an elevated level of total homocysteine in said body fluid with a deficiency of cobalamin or folate.]⁴²

Our hypothetical improved claim now has three processes that require human activity: (1) assaying for level of total homocysteine, (2) comparing the assayed level of total homocysteine with a normative range for a relevant population of subjects having no deficiency, and (3) classifying as likely deficient if the assayed level is above the normative range. It appears from the record that assays for homocysteine existed in the prior art, so the first element of our claim is not new. However, the patent apparently marks the first observation that subjects with elevated homocysteine levels are likely deficient in cobalamin or folate. In our hypothetical claim, we have removed the problematic “correlating” limitation of the claim. Instead, we have this process:

“comparing the assayed level of total homocysteine with a normative range of levels thereof determined by analysis of levels of total homocysteine in a relevant population of subjects having no apparent deficiency of cobalamin or folate”.

First of all, the concept of “a normative range of levels ... determined by analysis of levels of total homocysteine in a relevant population of subjects having no apparent deficiency of cobalamin or folate” is supported by the patent.⁴³ Second, this same concept captures the insight of the discovery, but now, at least arguably, it is harnessed to “practical effect”, as required by the case law, because now the comparison is founded on a protocol and on data, developed by the researchers, that did not previously exist.

We could have limited the claim to use of a specific new test for total homocysteine level, and indeed, the patent discloses such a test. The problem is that there are other tests for homocysteine level, and we want a broader claim to cover all tests used for the purpose of identifying a deficiency of cobalamin or folate.

Justice Breyer and his dissenting colleagues may have anticipated our approach by the following comment:

At most, respondents have simply described the natural law at issue in the abstract patent language of a “process.” But they cannot avoid the fact that the process is no more than an instruction to read some numbers in

⁴² Note that we have taken other steps to improve the claim. We have made clear that the claim concerns a single subject not a plurality of subjects. We have limited the claim to identifying a subject that likely has the deficiency, not one that certainly has the deficiency. The patent makes clear that the elevated level of homocysteine does not guarantee the deficiency but rather makes it likely. And we have not called the limitations of the claims “steps”, so as to avoid a possible risk of the application of 35 U.S.C. § 112, last paragraph, to the claim.

⁴³ See Table 3 of patent 4,940,658 beginning at column 35 and discussion *passim*.

light of medical knowledge. Cf. *id.*, at 192, 101 S.Ct. 1048 (warning against “allow [ing] a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection”). One might, of course, reduce the “process” to a series of steps, e.g., Step 1: gather data; Step 2: read a number; Step 3: compare the number with the norm; Step 4: act accordingly. But one can reduce any process to a series of steps. The question is what those steps embody. And here, aside from the unpatented test, they embody only the correlation between homocysteine and vitamin deficiency that the researchers uncovered. In my view, that correlation is an unpatentable “natural phenomenon,” and I can find nothing in claim 13 that adds anything more of significance.⁴⁴

Have we done anything to get past Justice Breyer’s objections? — Perhaps not. Yet, if Justice Breyer were our patent examiner or were establishing the law of statutory subject matter, we have at least made it harder to reject the claim on statutory subject matter grounds, because each limitation of the claim is grounded in the context of the subject matter.

What our claim drafting cannot cure, however, is the proximity of the claimed subject matter to the discovery. Here there is little in the way of “physical transformation”. Although under *AT&T Corp. v. Excel Communications, Inc.* (discussed above), a “physical transformation” is “merely one example of how a mathematical algorithm may bring about a useful application”⁴⁵, we would like to develop claims that have the potential to withstand a narrower standard for statutory subject matter.⁴⁶ At this point, however, our claim-drafting results are limited by the nature of the invention, the desired claim breadth, and the prior art; we have taken claim drafting as far as possible, and will have to hope that the subject matter claimed will be found to be statutory. Put another way, the extent to which we can claim subject matter wherein a discovery has been harnessed to achieve a physical transformation diminishes the risk the subject matter will be found non-statutory.⁴⁷

From this exercise, we can glean three principles:

Sunstein principle 1: Claim breadth does not require abstraction.

Sunstein principle 2: Claim structure needs the context of the subject matter.

Sunstein principle 3: A claim directed to a physical transformation from harnessing a discovery may fare better.

The first two of these principles are intimately related. A claim’s breadth comes from its coverage of varied schemes for implementation, but a claim that is abstract is one

⁴⁴ 126 S.Ct. 2921 at 2928, citing *Diamond v. Diehr*, 450 U.S. 175 (1981).

⁴⁵ 172 F.3d 1352 at 1358.

⁴⁶ And to the extent that we are successful, we will also make much less likely rejections by the Patent and Trademark Office using the present broad standards.

⁴⁷ Compare *Laboratory Corp. of America Holdings v. Metabolite Laboratories, Inc.*, 126 S.Ct. 2921 at 2927: “the process described in claim 13 is not a process for transforming blood or any other matter”.

from which the context has been stripped. Stripping out the context of a claim does not necessarily broaden the claim, but in the business method context, it is likely to make the claim too abstract and therefore non-statutory. So in drafting business method claims, focus on supplying a context for the subject matter being claimed. Once you have supplied the context for the subject matter being claimed, you can avoid the problem of language that is too abstract. If you have specified the context in the claim with sufficient clarity, you can still have a broad claim.

Whether the claim defines subject matter wherein a discovery has been harnessed to achieve a physical transformation—perhaps regrettably—depends more on the invention than on the patent attorney, but nevertheless it is a factor affecting the treatment of the claim as directed to statutory subject matter.

Let us consider another example, the claims at issue in *Ex parte Bilski*⁴⁸, the subject of a lengthy and thoughtful decision by the Board of Patent Appeals and Interferences. Claim 1 reads as follows:

1. A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:
 - (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;
 - (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
 - (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.⁴⁹

The Board points out that this claim is not limited to a specific context, and is not limited to processes performed in a computer.⁵⁰ How does this claim stack up against our principles:

1. Claim breadth does not require abstraction. The claim is abstract.

⁴⁸ Ex Parte Bernard L. Bilski and Rand A. Warsaw, 2006 WL 4080055 (Bd. Pat. App. & Int. 2006). Board decisions are also published at <http://www.uspto.gov/web/offices/dcom/bpai/>. This decision is made available by the Board as an “Informative Opinion” at http://www.uspto.gov/web/offices/dcom/bpai/informative_opinions.html.

⁴⁹ Ex parte Bilski, 2006 WL 4080055 at *1.

⁵⁰ “This appeal involves ‘non-machine-implemented’ method claims, i.e., the claims do not recite how the steps are implemented and are broad enough to read on performing the steps without any machine or apparatus (although performing the steps on a machine would, of course, infringe). The steps of claim 1: do not recite any specific way of implementing the steps; do not expressly or impliedly recite any physical transformation of physical subject matter, tangible or intangible, from one state into another; do not recite any electrical, chemical, or mechanical acts or results; do not directly or indirectly recite transforming data by a mathematical or non-mathematical algorithm; are not required to be performed on a machine, such as a computer, either as claimed or disclosed; could be performed entirely by human beings; and do not involve making or using a machine, manufacture, or composition of matter.” 2006 WL 4080055 at *2.

2. *Claim structure needs the context of the subject matter.* No context is supplied by the claim.

3. *Claims directed to a physical transformation from harnessing a discovery may fare better.* The claim does not involve a physical transformation.

The Board of Patent Appeals and Interferences held this claim to be non-statutory.⁵¹ We should not be surprised.

As another example, consider patent 5,960,411, the Amazon “One-Click” patent. Claim 1 of this patent reads as follows:

“1. A method of placing an order for an item comprising:
under control of a client system,
displaying information identifying the item; and
in response to only a single action being performed, sending a request to order the item along with an identifier of a purchaser of the item to a server system;
under control of a single-action ordering component of the server system,
receiving the request;
retrieving additional information previously stored for the purchaser identified by the identifier in the received request; and
generating an order to purchase the requested item for the purchaser identified by the identifier in the received request using the retrieved additional information; and
fulfilling the generated order to complete purchase of the item
whereby the item is ordered without using a shopping cart ordering model.”

This claim as well clearly has substantial physical context. In fact, all of the processes recited are “under control of a client system”.⁵² Moreover, the placing of an order is “in response to only a single action being performed”, so that the single mouse click of the consumer is transformed into an avalanche of events in completing a purchase.⁵³ The Amazon one-click patent was the subject of litigation in *amazon.com v. barnesandnoble.com*,⁵⁴ in which the grant of a preliminary injunction was vacated, on the ground that substantial questions were raised as to patent validity, based on prior art.⁵⁵ On the other hand, there was no question as to whether the claim was directed to non-statutory subject matter, and the claims were held likely infringed.⁵⁶ After this decision,

⁵¹ “We do not believe the outcome in this case is controlled by the Federal Circuit decisions in *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998) and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999) because we interpret those cases to involve the ‘special case’ of transformation of data by a machine.”

⁵² “Client” is here a term taken from the computer art.

⁵³ It may be argued that the physical transformation should result from harnessing a discovery, whereas here the transformation results from, as it were, harnessing the consumer’s mouse-click. In response, one case says that the discovery is that a series of commercial processes can be triggered by a single-mouse click, and in that sense the discovery is indeed harnessed to achieve a physical transformation.

⁵⁴ 239 F.3d 1343 (Fed. Cir. 2001).

⁵⁵ 239 F.3d at 1367 and *passim*.

⁵⁶ 239 F.3d at 1358.

Amazon settled with barnesandnoble.com.⁵⁷

We are left with two related questions:

- (1) Can a patentable business method involve something other than software?
- (2) Are business method patents inherently different from software patents?

As to the first question, we might answer, in theory yes, but because business has been practiced for centuries, and even millennia, there is an enormous amount of prior art! *Cf. Hotel Security Checking Co. v. Lorraine Co.*, 160 F. 467 (2d Cir. 1908) (patent 500,071 for cash-registering and account-checking designed to prevent frauds held not inventive).

As to the second question, we might answer that, despite the theory, the abundance of prior art makes non-software business methods rare. Thus the lesson from *State Street* that sections 102 and 103 can be used to challenge business method patents here has real teeth. Moreover, because most business method patents are software patents, they pose problems to practitioners and the Patent and Trademark Office that are similar, if not identical, to those of software patents.

In addressing questions of statutory subject matter in the context of business method patents, we have been led repeatedly to issues relating to prior art. Prior art is important in the context of business method patents for a number of reasons. Software patents and business method patents often use vocabulary that is not standardized, so finding prior art is difficult, even when it exists. Additionally, as in the case of all patents, failure to cite and to know relevant prior art undermines patent validity. Furthermore, knowledge of prior art has been made more critical by new patent rules of the Patent and Trademark Office making patent prosecution potentially more compact⁵⁸; without knowledge of the prior art one risks needlessly extending prosecution by claiming more broadly than warranted by the prior art, and thereby potentially wasting the limited number of continuation and requests for continued examination available under the rules. Moreover, prior art, when known, can be used to provide a practical context in which to claim subject matter—a help in making subject matter statutory.

There are thus a number of practical lessons one can derive from looking at business method patenting (and other areas of patenting at the edge of eligibility) through the lens of *O'Reilly v. Morse* and its progeny. First, work to identify extensive prior art and use it to provide a practical context for the subject matter to be claimed. Second, develop language in the claims to tie the subject matter to the practical context: “a useful, concrete and tangible result” (*State Street*). In drafting the claims, think of structures that are inevitably needed to implement the methods and make those structures explicit in the claims. Look where possible to claim subject matter wherein a discovery has been harnessed to bring about a physical transformation. Finally, uncover and make a record of extensive prior art to establish firmly both novelty and non-obviousness. In this way one can increase the chances that one’s business method application will be found to be directed to subject matter that is statutory and worthy of issuance as a patent.

⁵⁷ See The Register Newswire, March 8, 2002, available at http://www.theregister.co.uk/2002/03/08/amazon_settles_1click_patent_dispute/

⁵⁸ 72 F.R. 46716 (August 21, 2007).