

THE BOARD BITES BACK: *BILSKI* AND THE B.P.A.I.

By Justin M. Lee

After a period of considerable expansion in subject-matter eligibility,¹ the Federal Circuit announced in *In re Bilski* that a process patent claim can be patentable only if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.²

The patent at issue claimed processes for hedging risks in commodities trading. Because the applicants conceded that their claims were not limited to any specific machine or apparatus, the opinion focused on the eligibility of *Bilski*'s claim under the transformation prong of the court's test. It held that the required transformation must be of a physical article, or of data that represents a physical article. The court also rejected a slew of past and proposed tests, clarified that subject matter is a requirement of patentability separate from nonobviousness and other statutory sections, and affirmed that field-of-use limitations and extra-solution activity alone will not suffice for section 101.

Although the Federal Circuit specifically rejected categorical exclusions on domains of inventions (like software or business methods), the Board of Patent Appeals and Interferences (Board) has issued several opinions since *Bilski* severely curtailing the subject-matter eligibility of software patents. The Board has clearly rejected the "new machine" theory of *In re Alappat* and is split on whether it will allow software-on-media

© 2009 Justin M. Lee. The author hereby permits the reproduction of this Note subject to the Creative Commons Attribution 3.0 License, the full terms of which can be accessed at <http://creativecommons.org/licenses/by/3.0/legalcode>, and provided that the following notice be preserved: "Originally published in the Berkeley Technology Law Journal 24:1 (2009)."

1. See *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995) (mooting a case because the PTO Commissioner agreed to withdraw objection to a software method claim when claimed on physical media); *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994) (en banc) (allowing software methods when claimed on a general purpose computer); *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998) (allowing patents on business methods); *AT&T v. Excel Comm'ns*, 172 F.3d 1352 (Fed. Cir. 1999) (holding the scope of subject matter eligibility to be the same regardless of the form of the claim); ROBERT P. MERGES & JOHN F. DUFFY, *PATENT LAW AND POLICY: CASES AND MATERIALS* 154 (4th ed. 2007) (describing the "floodgates" of software patents starting in the mid-1990s).

2. *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008).

claims of *In re Beauregard*.³ These opinions have yet to make their way to the Federal Circuit, but they will inevitably force the court to decide how software patents should be treated.

This Note traces the early stages of this revival of Section 101 limitations on the patentability of computer software. Part I traces the background of the *Bilski* case. Part II examines its reasoning. Part III shows how the Board is applying *Bilski* to reject a large class of software patents and how some district courts have already rejected some business method patents. This Note concludes in Part IV by suggesting that the real bite in the new subject-matter rules are more categorical than they appear. It also suggests that the Federal Circuit should not adopt rules on software patents that encourage cumbersome formalities or that disallow protection for software inventions that may well be as innovative as technology in other fields.

I. BACKGROUND OF THE CASE

Bilski's application claimed a method of hedging risks in commodities trading. The broadest claim was a "method for managing the consumption risk costs of a commodity."⁴ The steps included techniques for "identifying market participants" and "initiating transactions" using "historical averages" of the market and the "risk position" of the market participants.⁵ Neither that claim nor any dependent claim had any reference to a computer or other machine. Indeed the claims specified no mechanism at all for performing the steps.

The examiner rejected the claims on section 101 grounds, stating that they were "not implemented on a specific apparatus," that they "merely manipulate[] [an] abstract idea," and that they were "not directed to the technological arts."⁶ On administrative appeal, the Board rejected this "technological arts" test out of hand as unsupported by the case law.⁷ It also rejected the idea that a specific apparatus was necessarily required for subject-matter eligibility, noting that chemical methods do not need to be tied to any specific apparatus.⁸ But it affirmed the examiner because the claims were too abstract—the claims "preempt any and every possible

3. *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994) (en banc); *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995); see *infra* Section III.A (discussing brief history of software claims).

4. *Bilski*, 545 F.3d at 949.

5. *Id.*

6. *Id.* at 950.

7. *Id.*

8. *Id.*

way of performing the steps of the claimed process, by human or by any kind of machine or by any combination thereof.”⁹ Finally the Board held that the claims did not pass the useful-concrete-and-tangible test of *State Street*.¹⁰

Bilski appealed to the Federal Circuit, and after arguments to a panel, the court *sua sponte* ordered a hearing *en banc*.¹¹ The Federal Circuit ordered briefing on five questions about subject-matter eligibility. These questions included whether *State Street* and *AT&T* should be reconsidered and what standard of subject-matter eligibility should be used. One of the questions pointedly asked “[w]hether a method or process must result in a physical transformation of an article or be tied to a machine . . . to be [patentable]?”¹² The Federal Circuit answered this question in the affirmative by settling on the machine-or-transformation test.

II. THE FEDERAL CIRCUIT OPINION

Federal Circuit affirmed *en banc* the Board’s rejection of Bilski’s patent application on section 101 subject-matter grounds. Nine members joined the majority, and two of the three dissenters dissented from the opinion but agreed with the judgment. Only one dissenter, Judge Newman, would have held the claims allowable under section 101.

A. The Machine-or-Transformation Test and Its Corollaries

Under 35 U.S.C. § 101, there are four patentable subject-matter areas: processes, machines, manufactures, and compositions of matter. At issue in *Bilski* was how to define the limits of the “process” category.¹³ The court has long held that laws of nature, natural phenomena, and abstract ideas are not patent-eligible subject matter.¹⁴ Dubbing these three subject-matter exceptions “fundamental principles,” the Federal Circuit sought to determine what test should be used to distinguish between these fundamental principles and patent-eligible subject matter.¹⁵

9. *Id.* (citations omitted) (internal quotations omitted).

10. *State St. Bank & Trust Co. v. Signature Fin. Group*, 149 F.3d 1368 (Fed. Cir. 1998).

11. *In re Bilski*, 264 Fed. Appx. 896 (Fed. Cir. 2008).

12. *Id.* at 897.

13. *Bilski*, 545 F.3d at 951. The Federal Circuit recently discussed the “manufacture” category in *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007).

14. *Bilski*, 545 F.3d at 952 (citing *Diamond v. Diehr*, 450 U.S. 175 (1981); *Parker v. Flook*, 437 U.S. 584 (1978); *Gottschalk v. Benson*, 409 U.S. 63 (1972)).

15. *Bilski*, 545 F.3d at 952.

The mere presence of a fundamental principle does not make a claim ineligible since patented technology often applies the laws of science and mathematics. Therefore the court held, citing the Supreme Court in *Diamond v. Diehr*, that the principal question of whether something is a fundamental principle is whether the claim completely *preempts* all uses of the principle or whether it is merely one *application* of that principle.¹⁶ *Diehr* itself was a good example. In that case, the patent claimed a process for curing rubber. One of the steps in the process used the Arrhenius equation to calculate the time needed to cure the rubber. Because only one application of the Arrhenius equation was claimed, it did not preempt all uses of it.¹⁷ Others were free to use the equation for any purpose as long as they did not use it with all the other steps described in the claim. The application of the equation within a broader process yielded eligible subject matter.

The Federal Circuit contrasts *Diehr* with *Gottschalk v. Benson*, where the Supreme Court held the use of a software algorithm on a computer was subject-matter ineligible.¹⁸ There, the Court held that because the algorithm had no practical application other than on a computer, the patent claim preempted all uses of the algorithm.¹⁹ Thus, the patent claim was in effect a claim on the fundamental principle itself.

To determine whether use of a fundamental principle is an application or a preemption, courts must use the machine-or-transformation test: "A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing."²⁰ The Federal Circuit extracted this test from four Supreme Court opinions.²¹

The test is exclusive. In *Benson*, the Supreme Court stated, "Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines."²² Because the Court described this as "the clue" rather than "a

16. *Id.* at 953 (citing *Diamond v. Diehr*, 450 U.S. 175 (1981)).

17. *Diamond v. Diehr*, 450 U.S. 175, 187 (1981)

18. *Gottshalk v. Benson*, 409 U.S. 63 (1972).

19. *Id.* at 71-72.

20. *Bilski*, 545 F.3d at 954.

21. *Diamond v. Diehr*, 450 U.S. 175, 192 (1981); *Parker v. Flook*, 437 U.S. 584, 589 n.9 (1978); *Gottshalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780 (1876).

22. *Gottshalk v. Benson*, 409 U.S. 63, 70 (1972) (quoting *Cochrane v. Deener*, 94 U.S. 780, 780 (1876)).

clue,” the Federal Circuit read an imperative to make the machine-or-transformation test the *exclusive* test for subject-matter eligibility.²³

The Federal Circuit, however, does hedge this position. The Supreme Court itself was initially equivocal when it stated the machine-or-transformation test in *Benson*.²⁴ And the Federal Circuit spent some space of its opinion to acknowledge what is surely always true: either that the Supreme Court might alter the test, or that the Federal Circuit may “in the future refine or augment the test or how it is applied.”²⁵ Given the general universality of these facts, the court may not be finished opining on the test for eligible subject matter.

The Federal Circuit articulated two corollaries to the machine-or-transformation test from *Diehr*. First, “field-of-use limitations” are “generally” insufficient to satisfy subject-matter eligibility.²⁶ The concern here appears to be that simply limiting a claim on a fundamental principle to a particular “technological environment” does not do enough to address the fact that the claim may only cover an abstract principle or that it is a preemption rather than a specific application.²⁷

Second, adding insignificant post-solution activity to a fundamental principle will not satisfy the subject-matter requirement.²⁸ In formulating this rule, the Supreme Court had in mind claims that would preempt abstract formulas by adding a nominal post-solution concrete step. For example, one could not avoid preemption by simply noting in the claim that the Pythagorean theorem could be used in surveying techniques.²⁹ The Federal Circuit has since expanded the rule to include any insignificant extra-solution activity, regardless of when performed.³⁰ The court also added that a data-gathering step, even if a physical step, will not by itself be enough to make a claim subject-matter eligible.³¹

23. *Bilski*, 545 F.3d at 956 n.11.

24. After establishing the machine-or-transformation test, the *Benson* Court stated, “We do not hold that no process patent could ever qualify if it did not meet the [machine-or-transformation test].” *Gottshalk v. Benson*, 409 U.S. 63, 71 (1972). By *Diehr*, however, the Court seemed to have accepted this as *the* appropriate test. *Bilski*, 545 F.3d at 956.

25. *Bilski*, 545 F.3d at 956.

26. *Id.* at 957.

27. *Id.*

28. *Id.* (citing *Diamond v. Diehr*, 450 U.S. 175, 191-92 (1981)).

29. *Id.* (citing *Parker v. Flook*, 437 U.S. 584, 590 (1978)).

30. *Id.* (citing *In re Schrader*, 22 F.3d 290, 294 (Fed. Cir. 1994); *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir. 1989)).

31. *Id.* at 963 (Fed. Cir. 2008); *In re Grams*, 888 F.2d 835, 840 (Fed. Cir. 1989).

B. Overruled and Rejected Tests

The Federal Circuit considered and specifically rejected a number of tests.³² The court also settled a couple of collateral issues and potential confusions about its earlier precedents.

The *State Street* useful-concrete-and-tangible-result test is no longer valid.³³ The Federal Circuit noted that while a claim that satisfies the machine-or-transformation test “will generally produce a ‘concrete’ and ‘tangible’ result” and may provide “useful indications” of whether the claim is subject-matter eligible, it is nonetheless “insufficient.”³⁴ Though the precise deficiency of the test is not spelled out, the opinion seems to regard the test as both over-inclusive and under-inclusive.

The *Freeman-Walter-Abele* test for subject-matter eligibility is also no longer valid.³⁵ That test first examined whether a claim recites an algorithm, then determined whether that algorithm was “applied in any manner to physical elements or process steps.”³⁶ The Federal Circuit criticized this test because it appeared to dissect the claim into elements in a way foreclosed by *Flook* and because it appeared to conflict with other precedent.³⁷

The Federal Circuit also summarily rejected several amici’s calls to adopt the “technological arts” test.³⁸ “[T]he meanings of the terms ‘technological arts’ and ‘technology’ are both ambiguous and ever-changing.”³⁹ As an example, the court cited two conflicting amicus briefs that applied the test yet came to opposite conclusions. One brief considered business methods to be technological due to their kinship to economics, while the other would limit patents to applications of science and mathematics.⁴⁰ The Federal Circuit apparently saw this as evidence that this test is more easily linguistically manipulated than the machine-or-transformation test.

32. Since *Bilski*, the Federal Circuit has also rejected a test that would ask whether the claim “has more than a scintilla of interaction with the real world in a specific way.” *In re Ferguson*, No. 2007-1232, 2009 WL 565074, at *4 (Fed. Cir. Mar. 6, 2009).

33. *Bilski*, 545 F.3d at 958; see *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998); *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994) (en banc).

34. *Bilski*, 545 F.3d at 959.

35. *Id.* at 958; see *In re Freeman*, 573 F.2d 1237 (C.C.P.A. 1978); *In re Walter*, 618 F.2d 758 (C.C.P.A. 1980); *In re Abele*, 684 F.2d 902 (C.C.P.A. 1982).

36. *In re Abele*, 684 F.2d 902, 905-07 (C.C.P.A. 1982).

37. *Bilski*, 545 F.3d at 958 (citing *In re Grams*, 888 F.2d 835, 838-39 (Fed. Cir. 1989)).

38. *Id.* at 960.

39. *Id.*

40. *Id.* at 960 n.21.

The Federal Circuit also denied having created a new test in *Comiskey*.⁴¹ After *Comiskey*, some argued that the Federal Circuit had created a new test that barred any claim reciting a mental process that lacked significant “physical steps.”⁴² Citing language from that opinion, the Federal Circuit clarified that *Comiskey* should be understood as an application of the machine-or-transformation test of *Bilski*.⁴³ In particular, *Comiskey*’s statement that a claim is subject-matter eligible when “it is embodied in, operates on, transforms, or otherwise involves another class of statutory subject matter”⁴⁴ is no different than the standard announced in *Bilski*.⁴⁵

The court also settled a couple of collateral issues. First, *Bilski* states clearly that neither novelty nor nonobviousness have anything to do with subject matter.⁴⁶ Although section 101 refers to “new and useful” subject matter, the legislative history shows that this was not intended as a distinct novelty or nonobviousness requirement from that laid out in sections 102 and 103.⁴⁷ Second, the court reemphasized that the claim should be examined as a whole—one element examined alone cannot cause a claim to be ineligible under section 101.⁴⁸ For example, the fact that one claim element in *Diehr* solely dealt with an abstract equation did not render the entire claim subject-matter ineligible.

III. EXAMINING THE MACHINE-OR-TRANSFORMATION TEST

A. Background on Software Patents

Most of the post-*Bilski* Board decisions that address subject-matter eligibility are on software claims. This Section lays out a brief background on the legalities of software patents.

Patents on software can be claimed in several different ways. They are typically claimed either as process claims or manufacture claims. Among manufacture claims, claims can be drafted as software as embodied on a medium (called *Beauregard* claims) or as general purpose computer loaded with software. Each type of claim has a different legal pedigree.

41. *In re Comiskey*, 499 F.3d 1365 (Fed. Cir. 2007).

42. *Bilski*, 545 F.3d at 960.

43. *Id.* at 960-61.

44. *Comiskey*, 499 F.3d at 1376.

45. *Bilski*, 545 F.3d at 961 n.24.

46. *Id.* at 958.

47. *Id.*

48. *Id.* (citing *In re Alappat*, 33 F.3d 1526, 1543-44 (Fed. Cir. 1994) (en banc)).

Since 1995, one technique for software has been to claim the software embodied on a software readable medium—an example originally would have been a floppy disk. This type of claim is considered a manufacture. It is called a *Beauregard* claim, after the case *In re Beauregard*.

One important aspect of *Beauregard* is that the Federal Circuit did not in fact hold these types of claims to be valid. The opinion actually dismissed the case as lacking a case or controversy after the PTO Commissioner withdrew his objection to the claims, stating to the Federal Circuit, “[C]omputer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. § 101. . . .”⁴⁹ This statement was later adopted by the PTO in a formal written policy⁵⁰ and added to the Manual of Patent Examining Procedure.⁵¹ Another important aspect is that *Beauregard* claims are considered manufactures, not processes.⁵² This has significance because *Bilski* purports to ascertain the appropriate test for evaluating process claims.

The “new machine” theory has in the past provided another justification to avoid the abstraction problem in software. The drafter claims an apparatus that is programmed to perform a series of steps, adding a limitation explaining that the steps of the method operate “on a processor” or some other similar physical limitation. This can be done, for example, in the preamble, as a single extra claim element, or as a clause added in each claim element. *In re Alappat* justified these types of manufacture claims, even on general purpose computers, by considering software on a processor to be a new kind of machine.⁵³

Under this precedent, the software steps of a given invention could potentially be drafted under *Beauregard* as embodied on a medium or drafted under *Alappat* as a general purpose computer programmed to perform those same steps. A few years later, in *State Street*, the Federal Circuit made it clear that applicants could simply claim those software steps as a process.⁵⁴ First, it held that manufacture claims and method claims should both be analyzed in the same way for subject-matter eligibility.⁵⁵

49. *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995).

50. Patent and Trademark Office, *Examination Guidelines for Computer-Related Inventions*, 61 F.R. 7478 (1996).

51. U.S. PATENT AND TRADEMARK OFFICE, *MANUAL OF PATENT EXAMINING PROCEDURE* § 2106.01 (8th ed. 2008).

52. *See, e.g., Ex parte Mazzara*, 2008-4741 slip op. at 20 (B.P.A.I. Feb. 5, 2009).

53. *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994).

54. Of course, there may well have been practical reasons to draft the manufacture claims, such as the ability to sue on direct infringement theories.

55. *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998).

Second, *State Street* held that algorithms could be subject-matter eligible as long as they were not mathematical algorithms.⁵⁶ After these holdings, a major patent drafting treatise wrote, “[a physical] element might be unnecessary in view of *State Street Bank*, so long as the process steps together are transformative.”⁵⁷ In other words, it appeared that software could be claimed as a series of steps without any clear reference in the claim that the steps be performed on a processor or some other piece of hardware.

It is helpful to remember that the machine prong of the *Bilski* test is not connected to the legal theories underlying the two manufacture theories discussed here. Nor is the transformation prong limited to process claims. A process claim can be found subject-matter eligible by meeting the machine prong *or* the transformation prong, as can a manufacture claim. Though *Bilski* conceded that his process did not meet the machine prong, the cases from the Board, discussed *infra*, show that the Board considers both prongs of the test regardless of the form of the claim.

Since *Bilski*, the PTO has issued a memorandum informing examiners that they should use the machine-or-transformation test until the MPEP can be revised.⁵⁸ The memorandum instructs examiners to look for field-of-use limitations and insignificant extra-solution activity. In particular, it states that “reciting a specific machine or a particular transformation of a specific article in an insignificant step, such as data gathering or outputting, is not sufficient to pass the test.”⁵⁹

Under *Bilski*, software and business methods are not *categorically* excluded. The Federal Circuit specifically rejected calls for any categorical exclusions except “the exclusion of claims drawn to fundamental principles set forth by the Supreme Court.”⁶⁰ All process claims are subject to the same machine-or-transformation test.

B. The Transformation Prong

1. The Doctrine

The basic test of transformation is whether the process “transforms an article into a different state or thing.”⁶¹ As the discussion of field-of-use

56. *Id.*

57. ROBERT C. FARBER, LANDIS ON MECHANICS OF PATENT CLAIM DRAFTING 4-21 (Release 5 2007).

58. Memorandum from John J. Love, Deputy Commissioner for Patent Examination Policy to Technology Center Directors (January 7, 2009), www.uspto.gov/web/offices/pac/dapp/opla/documents/bilski_guidance_memo.pdf.

59. *Id.*

60. *In re Bilski*, 545 F.3d 943, 960 n.23 (Fed. Cir. 2008).

61. *Id.* at 954.

limitations and extra-solution activity demonstrates, the transformation cannot be nominal or insubstantial.⁶² “[T]ransformation must be central to the purpose of the claimed process.”⁶³

The test is not strictly a “physical steps” test.⁶⁴ Even if a claim cites physical steps it might not be patentable, particularly if every step can be carried out in the human mind.⁶⁵ Thus, according to the Federal Circuit, it is “simply inapposite” to ask if performance on a computer is sufficiently physical.⁶⁶ In the case of *Bilski’s* hedging process, *Bilski* argued that the hedging process could only be accomplished by a series of physical steps—someone had to execute the trades. For the court, this argument demonstrated the difference between a pure physical-steps test and the machine-or-transformation test—although the hedging process required physically buying and selling the commodities options, the articles being transformed were neither physical nor did they represent physical articles. Therefore, even though the steps were physical, there was no transformation that could make the claim subject-matter eligible.

The term “article” clearly applies to physical objects or substances. But it also applies—in some circumstances—to intangible things that represent or have some other connection to a physical article.⁶⁷ The Federal Circuit, reexamining *Abele*, expanded on the kind of intangibles that can qualify. That case concerned two claims, only one of which was held subject-matter eligible. The ineligible claim was for “a process of graphically displaying variances of data from average values.”⁶⁸ This claim was insufficient because it failed to: (1) specify the type of data, (2) specify the nature of the data, (3) specify where the data was obtained, or (4) specify what the data represented. The eligible claim specified that the data was produced by a CAT scan. Because this data “represented physical and tangible objects” and the data was transformed into a visual display, that claim qualified for subject-matter eligibility. The court further clarified that the underlying physical objects need not be transformed—only the data representing them.

Bilski’s claim concerned manipulations of commodities trades. “Purported transformations or manipulations simply of public or private legal

62. *See supra* Section II.B.

63. *Bilski*, 545 F.3d at 962.

64. *Id.* at 960.

65. *Id.* at 960 n.26.

66. *Id.* at 960 n.25. The court also suggests that a subject-matter eligible claim could be “tied” to a machine without citing physical steps. *Id.*

67. *Id.* at 962.

68. *Id.*

obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.”⁶⁹ This spelled the end of *Bilski*’s patent application, and it would seem to foreclose many business method patents and patent applications. Interestingly, the court distinguishes between options for commodities and the commodities themselves. Arguably, an option for a commodity *represents* the commodity in some way, but the court drew the line here: it characterized options as being “simply legal rights.”⁷⁰

Thus, an important qualification to the transformation test is that a claim may be patentable if it manipulates an intangible, but only if that intangible *represents* something physical. It is left to future decisions to further explain what “representing” means.

2. *The Board Rejects Software Patents Under the Transformation Prong*

In several post-*Bilski* decisions, the Board has denied patent protection to several kinds of software claims under the transformation prong. This Section deals with method claims that may or may not make some reference to a computer. Under these decisions, it appears not to matter how specifically or clearly a method claim makes reference to a general purpose computer: the Board is rejecting them all.

Even claims that make specific reference to special-purpose parts of a processor (like a floating point unit) do not suffice. In *Ex parte Cornea-Hasegan*, the Board affirmed an examiner’s rejection of a patent on subject-matter grounds.⁷¹ The patent claimed a method for manipulating floating point numbers in software.⁷² The examiner rejected the claims as not producing a “real-world result.”⁷³

Citing *Bilski*, the Board noted that “incidental transformations or extrasolution activity” do not suffice to make a method claim subject-matter eligible.⁷⁴ The Board reiterated *Bilski*’s admonition that the key to subject-matter eligibility for patent claims that involve a fundamental principle is to determine if the claim preempts the principle or is merely an application of that principle.⁷⁵

69. *Id.* at 963.

70. *Id.*

71. *Ex parte Cornea-Hasegan*, 89 U.S.P.Q.2d 1557 (2009).

72. *Id.* at 1558.

73. *Id.*

74. *Id.* at 1559.

75. *Id.*

Claim 1 was a method claim. Each and every claim element included “by the processor,” emphasizing that each step was to be performed on a computer.⁷⁶ Under the transformation prong, the floating point numbers being manipulated did not qualify as physical objects, nor did they represent physical objects. “Rather, the data represent[ed] information about an abstract floating-point number, which is intangible.”⁷⁷ Use of a generic processor did not qualify the claim under the transformation prong either. “The recitation of a processor in combination with purely functional recitations of method steps, where the functions are implemented using an unspecified algorithm, is insufficient” for subject-matter eligibility under the transformation prong.⁷⁸ The Board considered this a field-of-use limitation of the type rejected by *Bilski* and *Diehr*.⁷⁹

Bilski allows patents on method claims that transform data where the data “represents” a physical article, but the Board has not been generous in interpreting this concept. In *Ex parte Gutta*, the Board sua sponte rejected software patent claims for a “computerized method performed by a data processor” that manipulated user history and made recommendations based on that history.⁸⁰

The Board rejected the claims on the transformation prong “because the data [did] not represent physical or tangible objects.”⁸¹ According to the Board, the claim manipulated data that represented user history, not anything physical. Arguably, there is at least some connection to a physical act—the user presumably took a physical action to select the items and generate the history. That data, “representing” past physical action, is in fact manipulated by the claimed process, though of course nothing physical is transformed as an “output” of the process.

The Board was similarly unwilling to stretch the representation theory in *Ex parte Atkin*. There, the Board sua sponte rejected claims covering a method to “convert between logical and display order of domain names.”⁸² These claims appear to be directed at the problems presented by displaying internet domain names in languages that display right-to-left.⁸³

The Board rejected the method claim under the transformation prong. Though the Board admitted that a “domain . . . represent[s] the address of

76. *Id.* at 1558-59.

77. *Id.* at 1560.

78. *Id.* at 1560-61.

79. *See In re Bilski*, 545 F.3d 943, 962 (Fed. Cir. 2008).

80. *Ex parte Gutta*, 2008-3000, slip op. at 5-6 (B.P.A.I. Jan. 15, 2009).

81. *Id.*

82. *Ex parte Atkin*, 2008-4352 slip op. at 11 (B.P.A.I. Jan. 30, 2009).

83. *See id.* at 5.

a resource, such as a server” it did not find this to be a physical article. The opinion did not address the fact that a domain name arguably represents a physical device (a server).

The Board similarly rejected the system claim. Though *Bilski* purported to address the test for processes,⁸⁴ here the Board held that for purposes of section 101 the nominal addition of the word “system” in the preamble made no difference, because the claim read on methods as well as systems.⁸⁵

In *Ex parte Zybura*, the Board wrote one of the clearest statements of its understanding of the transformation test.⁸⁶ The Board stated that the transformation of an article into a different state or thing must be “central to the purpose of the claimed process.”⁸⁷ The transformation is of an “article” if it is a “chemical or physical transformation of physical objects or substances.”⁸⁸ But “transformation of data is sufficient to render a process patent-eligible if the data represents physical and tangible objects, i.e., transformation of such raw data into a particular visual depiction of a physical object on a display.”⁸⁹ On the other hand, data transformation does not suffice if the claim does not “specify any particular type or nature of data and does not specify how or where the data was obtained or what the data represented.”⁹⁰

The claims in *Zybura* addressed “namespaces” in software—technology for dealing with difficulties in software systems where many entities might have conflicting names. One claim was a “method” for accomplishing the task, and the other was written as a “technique.”⁹¹ The Board first held the technique to be a method and then held both claims to be subject-matter ineligible. Though the Board acknowledged that both claims transformed the “namespace,” it held that “the entity being transformed is not a physical object,” and therefore the claims failed under the transformation prong.⁹²

In *Ex parte Scholl*, the Board rejected a “computer-based method for production” because the claimed method did not actually transform any-

84. See, e.g., *In re Bilski*, 545 F.3d 943, 951 n.2 (Fed. Cir. 2008) (declining to address *Nuijten* because it was a manufacture, not a process).

85. *Ex parte Atkin*, 2008-4352 slip op. at 18 (B.P.A.I. Jan. 30, 2009).

86. And it is repeated verbatim in *Ex parte Nawathe*, 2007-3360 slip op. at 7 (B.P.A.I. Feb. 9, 2009).

87. *Ex parte Zybura*, 2008-2195 slip op. at 6 (B.P.A.I. Feb. 3, 2009).

88. *Id.* at 6-7.

89. *Id.*

90. *Id.* at 7.

91. *Id.* at 3.

92. *Id.* at 7.

thing.⁹³ Most of the Board's recent opinions concede that there is an entity being transformed but disagree that the article is physical or represents something physical. In this case, however, the Board focused on what it means to transform something, regardless of its physicality. Scholl's claimed steps included "receiving a hierarchical process flow description" and "associating a first item description" with a "first process element." The *Scholl* Board held that these elements did not transform an article into a different state or thing.⁹⁴ Evidently the Board did not consider "association" enough to qualify for transformation. The article itself must change in some way other than merely being associated with another article.

In *Ex parte Nawathe*, the Board rejected claims for a "computerized method" that read several XML computer files, formed an internal representation of those files, and reduced redundancy among them.⁹⁵ Though the Board rejected the claims under the transformation prong, it did acknowledge that the XML data was being transformed. The Board stated, somewhat confusingly, "[W]e find that the documents are not an article (i.e. physical entities). Rather they are mere data that represent such entities."⁹⁶ If "such entities" refers to "physical entities" then the documents here would appear to satisfy the transformation prong. Presumably, the Board meant that though the XML files represent *documents*, documents are not considered physical articles. If this is the case, then *Nawathe* may stand for the presumably practical proposition that software claims are not subject-matter eligible for merely operating on computer files.

The Board did accept one of *Nawathe's* claims, however.⁹⁷ Below is a comparison of the rejected claim and the accepted claim:

A computerized method comprising: [*rejected by the board*]
inputting multiple extensible Markup Language (XML) documents;
creating a data representation of said multiple XML documents; and
reducing redundancy across said multiple XML documents via a fixed set of tables.

An apparatus comprising: [*accepted by the board*]

93. *Ex parte Scholl*, 2008-2308 slip op. at 2 (B.P.A.I. Feb. 4, 2009).

94. *Id.* at 13.

95. *Ex parte Nawathe*, 2007-3360 slip op. at 2-3 (B.P.A.I. Feb. 9, 2009).

96. *Id.* at 8.

97. Claim 25.

means for creating a graph based data structure representing multiple standard XML tree structures;
means for transforming said graph based data structure to a fixed set of tables; and
means for using said fixed set of tables.

The Board was swayed by Nawathe's argument that the different means-plus-function limitations in the apparatus claim "correspond to the different modules in the computer for performing the recited functions." Therefore, according to the Board, "the claim recites a different physical apparatus with physical modules for transforming a data structure into a fixed set of tables." The Board was not interested in a "new machine" theory of software; it seems to have been solely interested in the idea that different parts of the software were to execute in different parts of hardware.

Unfortunately, it is difficult to further understand the Board's reasoning. A close examination of the briefing cited in the opinion reveals little to support the Board's conclusion. The various parts of the specification used to support this characterization actually emphasize that these claims "may be implemented using computer software" and executed on a "variety of hardware platforms."⁹⁸ As shown above, there is little difference in the claim language itself, except that the allowed claim is an "apparatus" claim and it is in means-plus-function form.

The Board will also not grant patents when the physical steps appear incidental to the beginning or ending of the process. In *Ex parte Barnes*, the Board sua sponte rejected claims on a method for identifying geological faults using seismic data.⁹⁹ The claims were remarkably simple, comprising a generic data gathering step followed by mathematical analysis. The Board rejected the claims on subject matter grounds because they "call for the gathering, analyzing and displaying of data without any details as to how the data is gathered, analyzed or displayed."¹⁰⁰ Addressing the display of the data, the Board held this to be insignificant postsolution activity, and therefore insufficient. Thus, this case shows that data gathering and data display will not necessarily make a patent claim subject-matter eligible.

98. U.S. Patent Application No. 10/112,147 col.25 l.3-5; Appellant's Appeal Brief Under 37 C.F.R. § 41.37 at 33, *Ex parte Nawathe*, 2007-3360 slip op. at 2-3 (B.P.A.I. Feb. 9 2009) (citing U.S. Patent Application No. 10/112,147 figs. 2, 5, 6, 7, 8, 15, 16, 17, col.16 l.13-17, col.13, col.20 l.3-23, col.21 l.1-8, col.24 l.3-13, col.25 l.8-12).

99. *Ex parte Barnes*, 2007-4114, slip op. at 11-13 (B.P.A.I. Jan. 22, 2009).

100. *Id.* 12.

This opinion also picks up on part of the *Bilski* opinion that takes pains to emphasize that the machine-or-transformation test is not a physicality test. The data gathering and display do involve physical actions, but the article being transformed (the seismic data) is not itself physical, and therefore—according to the Board—the article is not transformed into a different state or thing. Similarly in *Bilski*, the commodities trades had to be performed physically, but the thing being transformed was an intangible legal right, not a physical article. The Board opinion does not address whether the seismic data could be held to be representative of a physical article. In fact, a plausible analogy could be made to the rubber-curing process in *Diehr*, though here the Earth’s crust that the seismic data represents is not physically changed as an output of the process, unlike the rubber in the *Diehr* process. This opinion may provide a more interesting case to test the boundaries of the “representation” theory of transformation.

C. Machine Prong Examined

Bilski left open the question: “Are the ‘specific’ machines of *Benson* required, or can a general purpose computer qualify?”¹⁰¹ After oral arguments in *Bilski* but before the decision was published, the Board had begun to say to say no, general purpose computers alone cannot qualify.¹⁰² Since *Bilski* was published, the Board has generally—but not consistently—hewed to this position.

1. Software Method Claims

As discussed above, some software claims drafted as methods make some reference to a computer or a processor. In the most generic form, this manifests as a reference to a general purpose processor in the preamble of the claim. Other drafting forms might specify that each step in the method is limited to execution on a processor. Even more specific claims might specify on what part of the processor or what kind of processor a given step is to be performed.

For example, in *Cornea-Hasegan*, the Board rejected one of these types of software claims under the machine prong of *Bilski*. The claimed process predicted the results of a floating point operation in software so that it could avoid using floating point hardware when possible.¹⁰³ As dis-

101. *In re Bilski*, 545 F.3d 943, 1015 (Fed. Cir. 2008) (Rader, J., dissenting).

102. *See Ex parte Wasynczuk*, 2008-1496, slip op. (B.P.A.I. June 2, 2008); *Ex parte Langemyr*, 2008-1495, slip op. (B.P.A.I. May 28, 2008); *see also* John F. Duffy, *The Death of Google’s Patents?*, PatentlyO.com (2008).

103. *Ex parte Cornea-Hasegan*, 89 U.S.P.Q.2d 1557, 1558 (B.P.A.I. Jan. 13, 2009).

cussed earlier, each and every claim element either included “by the processor” or “using floating-point hardware,” emphasizing that the claim only read on steps performed on a computer.¹⁰⁴ Citing *Comiskey*, the Board noted that mere use of a computer for data collection is not enough for the “machine” prong of the *Bilski* test.¹⁰⁵ The Board also noted that “[n]ominal recitations of structure in a method claim” do not suffice to make a method claim subject-matter eligible.¹⁰⁶ This is a very broad view of “nominal” recitations, given that different steps ran on different types of specific hardware. Indeed, depending on the outcome of the claimed process, floating point hardware would or would not be used to perform a calculation—an arguably physical effect. Nonetheless, the Board held that the “recitation of a ‘processor’ performing various functions fails to impose any meaningful limits on the claim’s scope.”¹⁰⁷ The Board went on to explain that this would mean the inclusion of “nothing more than a general purpose computer” and that to allow the claim would “exalt form over substance and would allow pre-emption of the fundamental principle present in the non-machine implemented method by the addition of the mere recitation of a ‘processor.’”¹⁰⁸

In *Gutta*, the Board also explored the machine prong when it rejected several software patent claims.¹⁰⁹ The claim was for a “computerized method performed by a data processor” that manipulated user history and made recommendations based on that history. The Board repeated that a recitation of a general-purpose processor is a field-of-use restriction and therefore insufficient to qualify for subject-matter eligibility under the machine prong.¹¹⁰

The claims in *Gutta* also displayed the results of the calculation to the user. This did not, however, qualify for the machine prong either because “the step of ‘displaying’ need not be performed by any particular structure. It may be accomplished simply by writing the resulting score on a piece of paper.”¹¹¹ Characterizing this as insignificant post-solution activity, the Board held that displaying a result does not satisfy the machine prong.

104. *Id.* 1558-59.

105. *Id.* 1559.

106. *Id.*

107. *Id.* 1560-61.

108. *Id.*

109. *Ex parte Gutta*, 2008-3000, slip op. at 5-6 (B.P.A.I. Jan. 15, 2009).

110. *See also Ex parte Becker*, 2008-2064, slip op. at 10-11 (B.P.A.I. Jan. 26, 2009) (rejecting pure software claims because they do “not require a particular machine or apparatus”).

111. *Gutta*, 2008-3000 at 5-6.

In *Scholl*, the Board rejected a “computer-based method for production” under the machine prong for similar reasons.¹¹² The patent generally dealt with using a computer to incorporate safety information into manufacturing techniques.¹¹³ But aside from the “computer-based” language in the preamble, there were no other references to a machine or apparatus in the claim language. The Board held that the broadest reasonable construction¹¹⁴ of the claim does not “require [a] computer or machine implementation,” nor was the claim “directed to a machine, manufacture, or composition of matter.”¹¹⁵ The Board therefore held that the claim did not meet the machine prong.¹¹⁶

One general theme throughout these cases is that the Board simply is not granting patents on software method claims that run on general purpose computers, no matter how the software method is claimed. It is irrelevant if the claim limitation is in the preamble or in the claim elements—it does not even matter if different parts of the processor are specified for different steps. Another theme is that the Board is inclined to interpret claims to read on performance of the method in the absence of a computer. This is so even when the claims explicitly include a computer or when they specify steps that seem intended to run on a computer, such as displaying data on an output device.

2. *Beauregard Claims*

The Board appears split on whether *Beauregard* claims survive *Bilski*. One line of cases expressly recognizes the PTO’s traditional recognition of these claims and grants claims written in this form even while denying claims written in method form. The other line combines *State Street*’s admonition to treat manufacturing and method claims the same with the test from *Bilski*. This line of cases denies all software claims, regardless of form.

112. *Ex parte Scholl*, 2008-2308 slip op. at 2 (B.P.A.I. Feb 4, 2009).

113. See U.S. Patent Application No. 10/261,163 at Summary ¶¶ 5-10.

114. This is required during examination. *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989).

115. *Scholl*, 2008-2308 at 11.

116. The Board has rejected similar claims for similar reasons under several other opinions. *Ex parte Barnes*, 2007-4114, slip op. at 11-13 (B.P.A.I. Jan. 22, 2009); *Ex parte Atkin*, 2008-4352 slip op. at 15-16 (B.P.A.I. Jan. 30, 2009); *Ex parte Zybur*, 2008-2195 slip op. at 5-11 (B.P.A.I. Feb. 3, 2009); *Ex parte Nawathe*, 2007-3360 slip op. at 2-3 (B.P.A.I. Feb. 9 2009); *Ex parte Mitchell*, 2008-2012 slip op. at 11 (B.P.A.I. Feb. 23, 2009).

One early Board decision actually reversed the examiner's *State Street* rejection.¹¹⁷ In *Ex parte Li*, the Board reversed subject-matter rejections on two different claims, both *Beauregard* claims. The claims involved generating reports using several software "modules," such as a "logic processing module, a configuration fill processing module, a data organization module," and so forth. It is clear that the claims covered ordinary data processing software intended to run on a general purpose computer. One claim referred to the computer readable medium in the preamble, and the other referred to it in a claim element. Neither claim made any specific reference to a processor or other type of computing hardware.

The Board's analysis proceeded by rejecting the *State Street* arguments of the examiner and the applicant. Instead, the Board stated, "It has been the practice for a number of years that a 'Beauregard Claim' of this nature be considered statutory at the USPTO as a product claim. (MPEP 2105.01, I)." The Board also noted that *Beauregard* claims were consistent with *In re Nuijten*.¹¹⁸ In *Nuijten*, the Federal Circuit rejected a claim on an electromagnetic signal as subject-matter ineligible, but it repeatedly noted that *Nuijten* successfully claimed the same signal as embodied in a medium—though those claims were not in fact in front of the court.¹¹⁹ Next, citing the several "software components" in the patent's written description, the Board held the claim to be subject-matter eligible under *In re Lowry*.¹²⁰ In *Lowry*, the Federal Circuit reversed the Board's rejection of a software claim on a data structure. "More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory."¹²¹

In *Ex parte Mazzara*, the Board offered a more detailed explanation of *Beauregard* claim eligibility.¹²² The Board addressed the subject-matter eligibility of "computer software recorded on a storage media [sic]."¹²³ Noting that the PTO had long allowed *Beauregard* claims as a subject-matter-eligible manufacture, the question for the Board to answer is whether the claim element describing the computer media, read in light of

117. *Ex parte Li*, 2008-1213 slip op. at 2-4 (B.P.A.I. Nov. 6, 2008).

118. *Id.* at 9; *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007). *But see Nuijten*, 500 F.3d at 1366 (Linn, J., dissenting) ("As a matter of principle, there is little reason to allow patent claims to otherwise unpatentable, deemed abstractions just because those deemed abstractions are stored in a tangible medium, while rejecting the same inventions standing alone.").

119. *Nuijten*, 500 F.3d at 1351, 1356 n.6.

120. *Li*, 2008-1213 at 9; *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994)

121. *Lowry*, 32 F.3d at 1583.

122. *Ex parte Mazzara*, 2008-4741 slip op. (B.P.A.I. Feb. 5, 2009).

123. *Id.* at 20.

the specification, is to be read so broadly as to include clearly subject-matter ineligible scope.¹²⁴ The Board cited to two examples. In one decision the specification expressly defined the computer readable media to include paper, which is not subject-matter eligible.¹²⁵ Another decision had claims that included intangible media, like a carrier wave.¹²⁶ This is not a separate test for *Beauregard* claims—the board is simply looking to see if the claim scope includes traditionally subject-matter ineligible areas, like printed matter and carrier waves.

The claim in *Mazzara* specified that it was for software embodied on a “computer usable medium,” but the specification did not expressly define that term. Refusing to categorically invalidate all *Beauregard* claims that failed to make such a definition, the Board held that any subject-matter ineligible scope that the term might cover was “incidental.”¹²⁷ The Board accordingly held the claim eligible.

Some other decisions have apparently followed this line of reasoning. For example, the *Zybura* Board rejected Claim 24, a *Beauregard* claim, but only because the “claims recite a storage medium that encompasses a carrier wave or signal”—the specification specifically so defined it.¹²⁸ Thus the *Zybura* Board did not categorically reject *Beauregard* claims, but rejected only those that include in their scope general network transmission as “computer-readable media.” And in *Atkin*, the Board did not address the subject-matter eligibility of Claim 5, which was a *Beauregard* claim, though it sua sponte raised subject-matter objections on other non-*Beauregard* software methods and held them ineligible.¹²⁹

Other Board decisions are in direct conflict with these decisions. In *Ex parte Mitchell*, the board squarely rejected the idea that limiting software to a computer-readable medium made it subject-matter eligible. The Board, having already held another claim in method form to be subject-matter ineligible, refused to allow the *Beauregard* claim:

124. *Id.*

125. *Id.* at 21 (citing *Ex parte Shealy*, 2006-1601 slip op. (B.P.A.I. Apr. 23, 2007)). Printed matter has long been subject-matter ineligible. *See, e.g., In re Rice*, 132 F.2d 140 (C.C.P.A. 1942) (holding a method of writing music subject-matter ineligible).

126. *Mazzara*, 2008-4741 at 21 (citing *Ex Parte Casazza*, 2006-2228 slip op. (B.P.A.I. Sept. 6, 2007)). Electromagnetic signals are also ineligible. *See, e.g., In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007).

127. *Mazzara*, 2008-4741 at 21 (citing *In re Warmerdam*, 33 F.3d 1354, 1359 (Fed. Cir. 1994)).

128. *Ex parte Zybura*, 2008-2195 slip op. at 9 (B.P.A.I. Feb. 3, 2009).

129. *Ex parte Atkin*, 2008-4352 slip op. at 15-16 (B.P.A.I. Jan. 30, 2009).

We see no reason why a “computer readable medium” containing “instructions” for the otherwise ineligible method should be treated any differently from the [other ineligible method claim]. Although a “computer readable medium” may nominally fall within the statutory class of “manufacture,” [the *Beauregard* claim] would effectively pre-empt the abstract idea represented by [the other ineligible method claim].¹³⁰

A footnote omitted in this passage directly conflicts with *Mazzara*'s default-rule analysis: “A computer readable ‘medium’ that comprises ‘instructions’ as recited in [the *Beauregard* claims] does not necessarily fall within any statutory class.”¹³¹ Thus, where the *Mazzara* Board was prepared to assume that media limitations by default create eligible subject-matter, *Mitchell* assumes precisely the opposite.

Two other Board decisions agree with *Mitchell*. In *Ex parte Isaacson*, the Board rejected a *Beauregard* claim where the computer-readable medium limitation had no definition in the specification.¹³²

The broadly claimed “medium” in the [claim preamble] is not necessarily required to be embodied in a tangible computer-readable medium. Indeed, the subject matter is so broadly disclosed that there is no discussion of what the claimed “medium” is supposed to be¹³³

The Board accordingly held the claim scope to include general carrier waves in violation of *Nuijten*.

The Board also cited *AT&T* and *State Street* for the proposition that manufacture claims are to be analyzed the same as process claims. The Board used similar reasoning on the *Beauregard* claims in *Cornea-Hasegan*, where the Board also invalidated similar method claims.¹³⁴ In this way, the board turned the liberalizing effect of *State Street* on its head—before *Bilski*, *State Street* could be used to avoid the formalities of claiming software on a computer-readable medium, but after *Bilski*, *State Street* is being used to eliminate subject-matter eligibility on both types of claims.

130. *Ex parte Mitchell*, 2008-2012 slip op. at 8 (B.P.A.I. Feb. 23, 2009) (footnote omitted).

131. *Id.* at 8 n.3 (emphasis in original).

132. *Ex parte Isaacson*, 2008-1884 slip op. (B.P.A.I. Feb. 26, 2009).

133. *Id.* at 10.

134. *Ex parte Cornea-Hasegan*, 89 U.S.P.Q.2d 1557, 1561-62 (B.P.A.I. Jan. 13, 2009).

Note that there is as yet no case following *Mitchell* that has affirmed a *Beauregard* claim where the specification specifically defined the medium limitation. Thus, at least some members of the Board may be willing to hold all *Beauregard* claims ineligible, regardless of the claimed medium. The Board is free to do so, as the Federal Circuit has never specifically ruled on this matter.¹³⁵

3. Apparatus Claims

In addition to method claims and *Beauregard* claims, there are also general apparatus claims, potentially justified under the “new machine” theory of *Alappat*. Though some Board cases examine apparatus claims, there seems little distinct in their analysis.¹³⁶ One exception is the apparatus claim in *Nawathe*, discussed *supra* Section III.B.2. There an apparatus claim was allowed even though the corresponding method claim was denied. But as already discussed, the justification for *Nawathe*’s holding is opaque.

D. Business Methods

A recent order from the Central District of California provides an example of how courts may use *Bilski* to invalidate a class of business method and tax patents that manipulate solely legal and financial obligations. The independent claims in *Fort Properties, Inc. v. American Master Lease, LLC*, recited various manipulations of deedshares and other real estate and tax mechanisms.¹³⁷ The patent holder conceded that the machine prong of *Bilski* did not apply.¹³⁸ The district court then invalidated the patent by using the transformation prong. All of the independent claims “transform or manipulate legal ownership interests in real estate” and therefore failed the transformation prong of the *Bilski* test.¹³⁹

Addressing the patent holder’s argument that some of the claims manipulated “deedshares,” the court noted that the deedshares are not physical objects or substances.¹⁴⁰ Analogizing to *Bilski*’s rejection of options as physical objects, the court ruled that the deedshares represented only legal ownership in physical property. This seems consistent with *Bilski*’s interpretation of when an article does not “represent” a physical object: a legal

135. See *Ex parte* Mazzara, 2008-4741 slip op. at 20 (B.P.A.I. Feb. 5, 2009).

136. See *Ex parte* Mitchell, 2008-2012 slip op. (B.P.A.I. Feb. 23, 2009); *Ex parte* Becker, 2008-2064, slip op. (B.P.A.I. Jan. 26, 2009).

137. *Fort Props., Inc., v. Am. Master Lease, LLC*, No. SACV07-365 AG (JCx), 2009 WL 249205, at *1 (C.D. Cal. Jan. 22, 2009).

138. *Id.* at *4.

139. *Id.*

140. *Id.*

interest in a physical object does not represent that physical object for the purposes of the machine-or-transformation test.

Since *Bilski*, the Federal Circuit has invalidated a “method of marketing a product” and a “paradigm for marketing software” on subject-matter grounds.¹⁴¹ The method claims dealt with establishing a “shared marketing force.” The Federal Circuit held that the method claims did not satisfy the machine prong because a marketing force cannot be a machine, in the sense that a shared marketing force is not “tied to any concrete parts, devices, or combination of devices.”¹⁴² The claim did not qualify under the transformation prong because the claims were “directed to organizing business or legal relationships in the structuring of a sales force (or a marketing company).”¹⁴³

These cases undoubtedly spell the end for a large category of business method patents. Though *Bilski* clearly held that there are no categorical prohibitions against business methods, in order for the claim to be upheld, it needs to be more than a how-to manual for conducting a business or executing a financial or legal transaction.

IV. CONCLUSION: ABSTRACTION BY ANOTHER NAME?

Judge Rader dissented in *Bilski* from the machine-or-transformation test, writing that the entire opinion could have been written in one line: “Because *Bilski* claims merely an abstract idea, this court affirms the Board’s rejection.”¹⁴⁴ Rader criticizes the majority’s reading of Supreme Court decisions because of the statement in *Diehr* that the Supreme Court holdings on subject matter are merely restatements of the traditional rules against patenting abstractions or natural phenomena.¹⁴⁵ Rader would focus on the abstractness of the claim and whether the claim “would appear in a form that is not even susceptible to examination against prior art under the traditional tests of patentability.”¹⁴⁶

Indeed, the post-*Bilski* Board opinions use both tests side by side. For example, *Ex parte Scholl* seems to use the two tests almost interchangeably.¹⁴⁷ And in *Ex parte Nawathe* the examiner rejected the claims as ab-

141. *In re Ferguson*, No. 2007-1232, 2009 WL 565074 (Fed. Cir. Mar. 6, 2009).

142. *Id.* at *3.

143. *Id.* at *4.

144. *In re Bilski*, 545 F.3d 943, 1011 (Fed. Cir. 2008) (Rader, J., dissenting).

145. *Id.* at 1013 (Rader, J., dissenting).

146. *Id.* (Rader, J., dissenting).

147. *Ex parte Scholl*, 2008-2308 slip op. at 12 (B.P.A.I. Feb 4, 2009).

stract and the Board affirmed after applying the machine-or-transformation test.¹⁴⁸

Under *State Street*, a patent claim was subject-matter eligible if it produced a useful, concrete, and tangible result. Given that patent law has a separate utility requirement, “useful” is probably redundant. What is left is the requirement that there be a result which is concrete and tangible. It is unclear exactly how different this test actually is from the traditional prohibitions against abstract claims—that which is concrete and tangible would seem to be by definition not abstract.

Perhaps the problem is that the *State Street* test focuses on the result, not the process itself. So though *Bilski*’s claim generated a concrete result in the real world as a result of executing the trades, it still operated using abstract principles. It is not, however, all that clear that the verbal formulation of the test is what really curtails potential patent claims. On the contrary, the real teeth of the test is what the Federal Circuit (and the Board) considers “concrete” or what it considers “representative” of an article. Arguably, importing this limitation into the *State Street* test would have accomplished a similar effect.

The Federal Circuit claims not to have created any categorical exclusions. But “patent claims that operate on legal obligations” is a fairly workable definition of “business method patents.” Pragmatically speaking, *Bilski* will invalidate a substantial portion of business method patents. The rejection of categorical exclusions should, however, reassure some patent holders, because it at least makes clear that technological solutions to business problems will not be excluded because of some vague connection to “business.”

The *Bilski* majority held that transformations of “public or private legal obligations or relationships, business risks, or *other such abstractions* cannot meet the test.”¹⁴⁹ If abstraction is the objection, then it is unclear just how much this new test departs from the traditional rules. In a certain sense, the real clarification of the law is that legal obligations are abstract and methods that simply manipulate legal obligations are not eligible subject matter.

As far as software patents go, the Federal Circuit will have to resolve the *Beauregard* split one way or the other. Regardless of how it turns out, it seems unfortunate that an administrative body that resolves not to “exalt

148. *Ex parte Nawathe*, 2007-3360 slip op. at 5 (B.P.A.I. Feb. 9 2009).

149. *Bilski*, 545 F.3d at 963 (emphasis added).

form over substance”¹⁵⁰ has done much to return software patents to formalities that require “new machine” theories, cumbersome hardware specifications, or distinctions between software that is on a disk and software that is downloaded over the Internet. It is unclear why the validity of a software innovation might depend on whether the steps of that innovation were claimed as an embodiment on a medium, as a general purpose computer programmed to perform those steps, or as a method claim on a processor. There may well be policy reasons for not allowing patents on software or business methods.¹⁵¹ If those reasons are consistent with the statute, it may be more helpful to say what they are, rather than hiding that change in policy behind a linguistic reformulation of the test. If software is too abstract to be patented, then the Federal Circuit should say so.

Of course, as these PTO decisions make their way through the appeals process, the Federal Circuit will have its chance.

150. See, e.g., *Ex parte Cornea-Hasegan*, 89 U.S.P.Q.2d 1557, 1560 (B.P.A.I. Jan. 13, 2009).

151. See, e.g., Pamela Samuelson, *Benson Revisited: The Case Against Patent Protection for Algorithms and Other Computer Program-Related Inventions*, 39 EMORY L.J. 1025 (1990).

