

A WORK IN PROGRESS: THE EVER [OR
NEVER] CHANGING ROLE OF THE MACHINE-
OR-TRANSFORMATION TEST IN
DETERMINATIONS OF PATENTABLE
SUBJECT MATTER UNDER 35 U.S.C. § 101

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I. INTRODUCTION

With the recent Supreme Court decision in *Bilski v. Kappos*,¹ many have begun to discuss the seemingly continuous evolving standards for the boundaries of patentable subject matter.² The main character in the story is the newly articulated machine—or transformation test for a patentable process.³ Constructed like the monster in Mary Shelly's *Frankenstein*,⁴ the machine-or-transformation test is derived from several Supreme Court decisions spanning the better part of the previous century.⁵ The test is applied to determine whether a given process claim is drawn to patentable subject matter by asking "(1) [whether] it is tied to a particular machine or apparatus, or (2) [whether] it transforms a particular article into a different state or thing."⁶

The importance of the test has shifted throughout the years. It likely achieved the height of its power as a gatekeeper for process claims after the Federal Circuit Court of Appeals *In re Bilski* decision, as the court determined that the machine-or-transformation test should be the "sole" standard for establishing a patentable process under Section 101.⁷ The Supreme Court, however, disagreed.⁸

The argument that the Court's *Bilski* decision will diminish the importance of the machine-or-transformation test misses the mark.⁹ Seemingly, the litigation surrounding the *Bilski* claims

1. 130 S. Ct. 3218 (2010).

2. See generally Robert C. Sheinfeld & Parker H. Bagely, *'Bilski v. Kappos': Evolving Standards for Patent-Eligible Subject Matter*, NEW YORK LAW JOURNAL, July 21, 2010, <http://www.newyorklawjournal.com/PubArticleNY.jsp?id=120246372452&slreturn=1>.

3. See 35 U.S.C. § 101 (2006); *In re Bilski*, 545 F.3d 943, 954 (Fed. Cir. 2008) (dictating the most direct form of the machine-or-transformation test for the first time).

4. MARY SHELLY, *FRANKENSTEIN: OR, THE MODERN PROMETHEUS* (Signet Classic 2000) (1818).

5. See *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972); *Parker v. Flook*, 437 U.S. 584, 589 n.9 (1978); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981).

6. *In re Bilski*, 545 F.3d at 954.

7. *Id.* at 954-56.

8. *Bilski v. Kappos*, 130 S. Ct. 3218, 3227 (2010) ("The Machine-or-Transformation test is not the sole test for deciding whether an invention is a patent-eligible 'process.'").

9. Brian Mudge, *A Madness to the Method? The Impact of Bilski on Method Patents*, 16 INTELL. PROP. STRATEGIST 11, 2 (2010) ("[T]he machine or transformation test may become less important for considering future innovations."). Specifically, the argument is that when more tests are brought onto the scene as a result of the Supreme Court's decision, the machine-or-transformation test will no longer be as important. *Id.* However, when one considers the interim guidelines to the patent examiners, it becomes clear that the test will always be considered when a process claim is brought before the USPTO. See *Interim Guidance for Determining Subject Matter Eligibility for Process Claims in View of Bilski v. Kappos*, 75 Fed. Reg. 43,922, 43,928 (July 27, 2010) [hereinafter *Interim Guidance*].

has instead firmly and directly embedded the test in the United States Patent and Trademark Office's ("USPTO" or "PTO") determination process for evaluating the patentability of process claims.¹⁰ Before *Bilski*, the test existed only in fragmented statements and principles of prior Supreme Court decisions.¹¹ Pursuant to *Bilski*, however, the test is direct, succinct, and clear in both principle and application.¹² Additionally, while the test was not granted the sole gatekeeper status for which the Federal Circuit advocated,¹³ its importance and usefulness in establishing patentable subject matter is enshrined in American patent law – at least for the foreseeable future.¹⁴

This comment will discuss the birth and life of the machine-or-transformation test, as well as its role in future process patent determinations. First, this comment will delve into the past Supreme Court decisions that gave rise to the principles forming the test. Second, the recent *Bilski* cases will be explored, as they mark the most fundamental turning point in the life of the test. Finally, the apparent future of the machine-or-transformation test will be discussed in light of the reaction to the *Bilski* decision. Additionally, the likely impact that the test's future role will have on business method patents will be analyzed in light of its continuing vitality.

Based on the reactions of the PTO and the courts following the *Bilski* decision, it is likely that the machine-or-transformation test will remain an important and deciding factor for establishing the requirement of patentable subject matter for a process claim.¹⁵ As a result, all such claims, including those directed to processes for conducting business, will still need to contend with the test's tenants. Furthermore, while no categorical exclusion for such business method claims exist, the effect of the continuing vitality of the machine-or-transformation

10. See *Interim Guidance*, 75 Fed. Reg. at 43,928.

11. See *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972); *Parker v. Flook*, 437 U.S. 584, 589 n.9 (1978); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981).

12. See *In re Bilski*, 545 F.3d at 954 (dictating prongs of machine-or-transformation test); *Bilski*, 130 S. Ct. at 3225-26 (same).

13. *In re Bilski*, 545 F.3d at 954-56.

14. See Daniel Choi, *Their View: Are Business Methods Still in Trouble After Bilski?*, THE WEST VIRGINIA RECORD, para. 19-21 (July 13, 2010, 7:45 AM), <http://www.wvrecord.com/arguments/228132-their-view-are-business-methods-still-in-trouble-after-bilski>; Stephen T. Schreiner & Noah M. Lerman, *Intellectual Property Update: Viability of Business Method and Financial Method Patents After the Supreme Court's Bilski Decision*, 127 BANKING L.J. 986, 998-99 (2010).

15. See *Interim Guidance*, *supra* note 9, at 43,925 (including the prongs of the machine-or-transformation test in the list of factors patent examiners should consider to determine whether a given process claim is directed to patentable subject matter).

standard will continue to stifle their proliferation for the foreseeable future.

II. THE FOUNDATION: PATENTABLE SUBJECT MATTER UNDER 35 U.S.C. § 101 & THE HISTORY OF THE MACHINE-OR-TRANSFORMATION TEST

In Article I, Section 8, clause 8 of the United States Constitution, there is a clear directive for Congress “[t]o promote the Progress of Science...by securing for limited Times to...Inventors the exclusive Right to their...Discoveries.”¹⁶ It was this directive that led to the large body of statutory and case law defining the requirements and benefits of obtaining patent protection for given discoveries in the United States.¹⁷

Title 35 of the United States Code contains the provisions for the enforcement and issuance of patent rights.¹⁸ Section 101 of Title 35 lays out the general categories of subject matter eligible for U.S. patent.¹⁹ Specifically, Section 101 dictates that a patent may be obtained on “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”²⁰ It should be noted early in this discussion that the considerations called for under Section 101 are merely the initial inquiry as to whether a given claim is worthy of U.S. patent protection.²¹ Besides the requirements of patentable subject matter in Section 101, claims in a patent application must also satisfy other requirements.²² For example, the invention must meet the novelty requirements of Section 102.²³ Claims must also be non-obvious based on the relevant prior art as noted in Section 103.²⁴ Therefore, the questions raised by Section 101 are only threshold issues for

16. U.S. CONST. Art. I, § 8, cl. 8.

17. S. REP. NO. 82-1979, at 2 (1952) (stating that “[t]he patent laws are enacted by Congress in accordance with the power granted by article 1, section 8, of the Constitution”).

18. 35 U.S.C. §§ 101-103 (2006).

19. *Id.* § 101.

20. *Id.*

21. *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010).

22. *Id.* (“Even if an invention qualifies [under Section 101], in order to receive the Patent Act’s protection the claimed invention must also satisfy ‘the conditions and requirements of this title.’” (quoting 35 U.S.C. § 101 (2006))).

23. 35 U.S.C. § 102 (2006); see Stephen A. Becker, PATENT APPLICATIONS HANDBOOK § 3:3 (2011).

24. 35 U.S.C. § 103 (2006); see Stephen A. Becker, PATENT APPLICATIONS HANDBOOK § 3:4 (2011).

determining patentability and are by no means the end of the analysis when considering the patentability of any given claim.²⁵

The Supreme Court has interpreted the text of Section 101 to indicate Congressional intent to provide patent protection to a large range of potential items.²⁶ Some argue that this intent is directly evidenced in the committee reports associated with the 1952 Act that forms its final language.²⁷ However, Section 101 has also provided the foundation upon which later case law constructed doctrines, such as the mathematical algorithm and business method exception, narrow the scope of patentable subject matter.²⁸ Therefore, although Congress generally intended to allow for an inclusive and wide reaching subject matter recognized by the courts, there are still certain types of inventions and processes that are wholly exempted.²⁹

Congress' general intent in terms of the scope and reach of patentable subject matter is extremely important in further defining the interpretation of specific terms housed within Section 101.³⁰ The term "process," as used in the statute, is particularly important. It is defined in Section 100 as a "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."³¹ The Supreme Court has further elaborated on the definition for the term, stating that it refers to "an act or series of acts, performed

25. *Bilski*, 130 S. Ct. at 3225.

26. See *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980); *Bilski*, 130 S. Ct. at 3221.

27. *Chakrabarty*, 447 U.S. at 309 ("Congress intended . . . to 'include anything under the sun that is made by man.'") (quoting S. REP. NO. 82-1979, at 5 (1952)). However, it should be noted that the full text of the statement reads, "A person may have 'invented' a machine or a manufacture, which may include anything under the sun that is made by man, but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled." S. REP. NO. 82-1979, at 5 (1952) (emphasis added). Many have commented that the use of this statement, as shown in *Chakrabarty*, is out of context and that the true meaning speaks of a more restrictive view of Section 101. *In re Bilski*, 545 F.3d 943, 1000 (Fed. Cir. 2008) (Mayer, J., dissenting); see *Bilski*, 130 S. Ct. at 3248-49 (Stevens, J., concurring). However, the *Chakrabarty* Court also noted that the statute evidences the intent for the broad landscape of patentable subject matter simply in the decision to list the general and "expansive" terms in Section 101 modified by the word "any." 447 U.S. at 308.

28. See *State St. Bank & Trust Co. v. Signature Fin. Grp.*, 149 F.3d 1368, 1373-77 (Fed. Cir. 1998) cert. denied, 119 S. Ct. 851 (1999) (discussing both doctrines).

29. See *id.*

30. See 35 U.S.C. § 101 (2006) (stating that any new and useful "process, machine, manufacture, or composition of matter" is of patentable subject matter).

31. *Id.* § 100(b). It has been argued that this definition is not particularly useful or helpful in discerning the statutory intent for the term "process." *Bilski*, 130 S. Ct. at 3237 (Stevens, J., concurring). Notably, the definition itself has received the criticism of being "circular" since it mentions the very term it is purporting to define within the definition statement. *Id.*

upon the subject-matter to be transformed and reduced to a different state or thing.”³² Further, the Court has narrowed this general definition through several decisions.³³ This small body of case law has been credited with the creation of a test for patentable subject matter, which the Federal Circuit later referred to as the machine-or-transformation test.³⁴

III. THE MACHINE-OR-TRANSFORMATION TEST

The machine-or-transformation test was derived from three pivotal Supreme Court decisions that took place in the latter half of the twentieth century.³⁵ However, the test arguably has roots reaching back much earlier in American jurisprudence.³⁶ Early Supreme Court decisions stood for the general proposition that a patent could not be granted on a claim that does not proscribe a specific process or apparatus for its performance.³⁷ This policy grew out of the general idea that one should not be entitled to a monopoly over “manifestations of laws of nature.”³⁸ The Supreme Court heard the first case in this trilogy against the backdrop of this clear and strong line of precedent.

A. *Gottschalk v. Benson*

The machine-or-transformation test first emerged in modern case law in the 1972 Supreme Court decision *Gottschalk v. Benson*.³⁹ *Benson* involved a patent application claiming a method for the programmed conversion of numerical information in general-purpose digital computers.⁴⁰ The patent was assigned to Bell Telephone Laboratories Incorporated.⁴¹

The claim in question purported to describe a method for converting binary-coded decimal numerals (“BCD”) to pure

32. *Cochrane v. Deener*, 94 U.S. 780, 788 (1877).

33. *In re Bilski*, 545 F.3d 943, 952 (Fed. Cir. 2008) (“[T]he Supreme Court has held that the meaning of ‘process’ as used in § 101 is narrower than its ordinary meaning.”). Specifically, the Appeals Court in *Bilski* referred to the Court’s statements in *Benson*, *Flook*, and *Diehr*. *Id.*

34. *Id.* at 954-55.

35. See *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972); *Parker v. Flook*, 437 U.S. 585, 588 n.9 (1978); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981).

36. See *O’Reilly v. Morse*, 56 U.S. 62, 112-13 (1853) (declaring invalid a claim which covered the use of electromagnetism to print symbols at any distance without specifying a method or machine); *Cochrane*, 94 U.S. at 787-88 (upholding patent protection on a claim for an improved method of refining flour even though no machine or tool was specified).

37. See *O’Reilly*, 56 U.S. at 112-13.

38. *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948).

39. See *Benson*, 409 U.S. at 71.

40. *In re Benson*, 441 F.2d 682, 682 (C.C.P.A. 1971).

41. *Id.*

binary numerals.⁴² Essentially, the claim included a mathematical formula that would be used within a computer to convert input numerical signals in the BCD form into a pure binary number code comprised entirely of ones and zeroes.⁴³ Most importantly, the claim was intended to include "any use of the claimed method in a general-purpose digital computer of *any type*."⁴⁴

The Court first considered the extremely broad nature of the claim and noted that it covered virtually every application of BCD to pure binary code.⁴⁵ The Court then discussed several earlier cases that addressed process patents with similar broad claims over the enabling method.⁴⁶ After considering this earlier precedent, the Court stated that a process patent could generally only be attained if the claim was "tied to a particular machine . . . or [if it operated] to change articles . . . to a 'different state or thing.'"⁴⁷

In applying the law to the *Benson* patent, the Court stated that granting a patent on the mathematical algorithm would be equivalent to patenting an idea itself.⁴⁸ As a result, granting such patent protection would entirely "pre-empt the . . . formula."⁴⁹ The Court determined that, under these circumstances, the patent could not be granted.⁵⁰

B. *Parker v. Flook*

The next major decision came just six years later in *Parker v. Flook*, where a patent application contained claims purportedly covering a method for automatically updating alarm limits within a catalytic conversion process.⁵¹ The need for such a system was in the constant variability of the conversion process

42. *Benson*, 409 U.S. at 64.

43. *See id.* at 65-67.

44. *Id.* at 64 (emphasis added).

45. *Id.* at 68.

46. *Id.* at 67-71.

47. *Id.* at 71. It is important to note at this point that the Court also stated, in the next sentence of the opinion, that it was not holding that "no process patent could ever qualify if it did not meet the requirements of [the Court's] prior precedents." *Id.* Additionally, the Court stated earlier in the opinion that "[t]ransformation . . . of an article 'to a different state or thing' is *the* clue to patentability of a process claim that does not include particular machines." *Id.* at 70 (emphasis added).

48. *Id.* at 71. The *Benson* Court defined the term "algorithm" to mean "[a] procedure for solving a given type of mathematical problem." *Id.* at 65.

49. *Id.* at 72.

50. *See id.* at 72-73.

51. *Parker v. Flook*, 437 U.S. 584, 585 (1978).

itself.⁵² The Court noted that the only novel feature of the claim was a mathematical algorithm contained within the process that would determine the appropriate alarm limit based on the input measurements.⁵³

Much like those presented in *Benson*, the claims presented in *Flook* covered a wide range of potential applications of the mathematical formula.⁵⁴ However, unlike the extremely broad coverage in *Benson*, the claims presented in *Flook* limited the application to any use of the formula for updating alarm limits “in a process comprising the catalytic chemical conversion of hydrocarbons.”⁵⁵

Due to their reliance on the mathematical formula, both the patent examiner and the Board of Appeals of the Patent and Trademark Office rejected the claims.⁵⁶ However, the Court of Customs and Patent Appeals reversed this rejection, stating that *Benson* applied “only to claims that entirely pre-empt[ed] a mathematical formula” and that the claims the applicants presented did not result in such a pre-emption.⁵⁷

The Supreme Court disagreed with this analysis.⁵⁸ The Court noted that a claim including a mathematical formula was not wholly barred as a matter of law, and that such a claim could survive if it contained an inventive application of the algorithm.⁵⁹ The Court then analyzed the claim as if the mathematical algorithm contained within it was well known at the time.⁶⁰ Due to the fact that, under the claim, the algorithm was applied to a set of hydrocarbon conversion processes which were well known at the time of the application, the Court concluded that there was no inventive application and denied the claim.⁶¹

52. *Id.*

53. *Id.*

54. *See id.* at 586.

55. *Id.*

56. *See id.* at 587.

57. *Id.*

58. *See id.* at 594-95.

59. *See id.* at 594. The Court further stressed that *Benson* should not be limited only to claims in which a mathematical formula pre-empted every conceivable use of the algorithm. *See id.* at 589-90.

60. *See id.* at 592. However, it was this analysis that the dissent directly disagreed with. *See id.* at 599-600 (Stewart, J., dissenting). The dissent argued that this type of analysis improperly injected novelty and inventiveness, as contained in Section 102 and 103 respectively, into the considerations of patentable subject matter under Section 101. *See id.*; 35 U.S.C. §§ 101-103 (2006). The Court of Customs and Patent Appeals shared this critique of the majority opinion in a later decided case. *See In re Bergy*, 596 F.2d 952, 959 (C.C.P.A. 1979), *vacated as moot sub nom.*, *Diamond v. Chakrabarty*, 444 U.S. 1028 (1980).

61. *See Flook*, 437 U.S. at 594-95.

C. *Diamond v. Diehr*

Finally, the Supreme Court was faced with a patent claim that described a "process for curing synthetic rubber."⁶² Prior to the applicant's invention, the typical method for extracting rubber product from molds was through the application of a mathematical algorithm derived from assumed variable parameters inside the mold to estimate the amount of curing time.⁶³ The claim under Court scrutiny described a process whereby temperature measurements were taken on a continuing and regular basis while the rubber cured within the mold.⁶⁴ Based on these measurements, the appropriate curing time was then recalculated by computer.⁶⁵

In a procedural posture resembling that in *Flook*, both the Patent Examiner and Patent and Trademark Office Board of Appeals rejected the claims as unpatentable subject matter under Section 101.⁶⁶ The Court of Customs and Patent Appeals subsequently reversed this decision.⁶⁷

Unlike the situations presented in both *Benson* and *Flook*, the applicant in *Diehr* did not seek patent protection for a mathematical formula over a broad range of applications.⁶⁸ Instead, the applicant sought only to preempt such use of the algorithm in connection with the other steps involved for curing the synthetic rubber.⁶⁹

In analyzing the patentability of the claims, the majority opinion, written by then Chief Justice Rehnquist, noted specifically that "an *application* of a . . . mathematical formula to a known structure or process may well be deserving of patent protection."⁷⁰ The Court then determined that, because the applicant's claims incorporated the mathematical formula into a process for curing the rubber and was not simply an attempt to

62. *Diamond v. Diehr*, 450 U.S.175, 177 (1981); U.S. Patent No. 4,344,142 col. 6-10 (filed Aug. 6, 1975). The dissent correctly pointed out that the claims involved did not actually contain a new process for curing rubber and that the majority's characterization of the claim was less than accurate. *Diehr*, 450 U.S. at 205-06 (Stevens, J., dissenting). Instead, according to Justice Stevens, a more exact description of the claim was a method of "constantly measuring the actual temperature inside a rubber molding press." *Id.* at 206.

63. *Id.* at 177; '142 Patent.

64. *Diehr*, 450 U.S. at 178; '142 Patent.

65. *Diehr*, 450 U.S. at 178-79; '142 Patent.

66. See *Diehr*, 450 U.S. at 179-81; 35 U.S.C. § 101.

67. *Diehr*, 450 U.S. at 181.

68. *Benson*, 409 U.S. at 65-67; *Parker v. Flook*, 437 U.S. 584, 585 (1978).

69. *Flook*, 437 U.S. at 587.

70. *Id.* (second emphasis added).

obtain a monopoly on the use of the algorithm itself, the claims were patentable subject matter as described in Section 101.⁷¹ Accordingly, the ruling of the Court of Customs and Patent Appeals was affirmed.⁷²

D. *The Effect of the Trilogy*

In considering *Benson*, *Flook*, and *Diehr* together, it is possible to draw some general conclusions regarding the standards of a process patent under Section 101. First, patent protection cannot be attained for a mathematical formula or algorithm.⁷³ Second, a claim is not barred from patent protection simply because it recites or relies on a law of nature or mathematical formula.⁷⁴ Additionally, simply attaching post solution activity to an unpatentable claim on a mathematical algorithm is not sufficient to meet the standards of Section 101.⁷⁵ Finally, a claim that incorporates a mathematical algorithm within the confines of a larger process will fall under the acceptable subject matter as described in the statute.⁷⁶

These general tenants have become all the more important given the Supreme Court's holding in *Bilski*.⁷⁷ Essentially, they form a third factor for determining patentable subject matter.⁷⁸

71. *Id.* at 192-93; see 35 U.S.C. § 101.

72. *Diehr*, 450 U.S. at 193. However, the dissent argued that there was essentially no difference between the claims presented in *Flook* and those presented by the respondent. *Id.* at 215 (Stevens, J., dissenting).

73. *Gottschalk v. Benson*, 409 U.S. 63, 71-73 (1972); *Diehr*, 450 U.S. at 215-16 (Stevens, J., dissenting); Orion Armon & Eamonn Gardner, *Practical Advice on Drafting Method Claims that Satisfy 35 U.S.C. § 101 After Bilski v. Kappos*, 14 J. INTERNET L. 1, 19 (2010).

74. *Flook*, 437 U.S. at 590.

75. See *id.* ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance."); *Bilski v. Kappos*, 130 S. Ct. 3218, 3231 (2010) ("*Flook* established that limiting an abstract idea to one field of use or adding token postsolution components did not make the concept patentable.")

76. See *Diehr*, 450 U.S. at 187-88; see also Armon, *supra* note 73, at 21 ("[T]he [Court's] application of § 101 after *Diehr* seems to be grounded in a desire to force patent applicants to focus their claims on how a . . . mathematical principle is used to improve a larger process.")

77. See *Bilski*, 130 S.Ct. at 3231 ("The Court . . . need not define what constitutes a patentable 'process,' beyond pointing to the definition of that term provided in § 100(b) and looking to the guideposts in *Benson*, *Flook*, and *Diehr*.").

78. See *Ultramercial, LLC v. Hulu, LLC*, No. 09-06918, 2010 WL 3360098, at *4-7 (C.D. Cal. Aug. 13, 2010) (analyzing prior Supreme Court precedent to determine whether the claims in question are directed to an abstract idea after consulting the machine-or-transformation test); *Ex Parte Ulf*, No. 2009-008071, 2010 WL 3611779, at *5-7 (B.P.A.I. Sept. 7, 2010) (same); *Ex Parte Heuer*, No. 2009-004590, 2010 WL 3072973, at *5-6, *8 (B.P.A.I. Aug. 4, 2010) (same); *Ex Parte Caccavale*, No. 2009-006026, 2010 WL 2901727, at *3-6 (B.P.A.I. July 23, 2010) (same).

The Federal Circuit Court of Appeals later referred to these principles as the “mathematical algorithm exception.”⁷⁹ Under that exception, a claim incorporating a mathematical algorithm is patentable only if it is “applied in a useful way.”⁸⁰ In other words, if the mathematical algorithm does not have the required useful application, it is treated as an abstract idea and is undeserving of patent protection.⁸¹ However, the Court’s statements in *Benson*, *Flook*, and *Diehr* strongly suggest the type of test eventually dictated by the Federal Circuit in *In re Bilski*.⁸²

IV. THE TURNING POINT: DISPOSITION OF THE *BILSKI* CASES

A. *The Federal Circuit*

The *Bilski* cases involved a set of claims that contained a method for “managing the consumption risk costs of a commodity sold by a commodity provider.”⁸³ The specific method in the claim consisted of three steps.⁸⁴ First, there would be a series of transactions set up between a buyer and seller where the price is set by historical averages.⁸⁵ Second, all market participants having a “counter-risk” position to the buyers would be identified.⁸⁶ Third, a second series of transactions would be initiated between the buyer and the identified market participants from step two at another fixed rate.⁸⁷ This method was intended to hedge the risk incurred by the buyer, or commodity provider, in the initial sale by fixing the price of the subsequent sale.⁸⁸

79. *State St. Bank & Trust Co.*, 149 F.3d 1368, 1373 (1998).

80. *Id.*

81. *Id.*; see *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (“Phenomenon of nature . . . mental processes, and abstract intellectual concepts are not patentable.”).

82. See *Benson*, 409 U.S. at 70 (“Transformation . . . 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.”)(emphasis added); *Parker v. Flook*, 437 U.S. 584, 589 n.9 (1978) (“An argument can be made . . . that this Court has *only* recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a ‘different state of thing.’”) (emphasis added); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) (applying the *Benson* clue to the application under consideration to ultimately determine it to be patentable subject matter); *In re Bilski*, 545 F.3d 943, 954 (Fed. Cir. 2008) (dictating the machine-or-transformation test).

83. *In re Bilski*, 545 F.3d at 949.

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.*

88. *Id.* This method was claimed to be useful in any commodities trading market. *Id.* The Federal Circuit cited the example of a coal plant, where the commodity provider sells the coal to a power plant at a fixed rate and then buys coal from a mining company

The patent examiner rejected the claims because they were not limited to a particular or specific apparatus; therefore they were merely abstract ideas.⁸⁹ The Board of Patent Appeals affirmed the ruling but disagreed with the patent examiner's analysis.⁹⁰ Notably, the Board stated that a claim that does not attach itself to a particular apparatus could still be patentable subject matter as long as "there [wa]s a transformation of physical subject matter from one state to another."⁹¹ Because the claims in question did not involve such a transformation, the Board held the claims were unpatentable subject matter under Section 101.⁹²

The Federal Circuit Court of Appeals heard the case *en banc*, and the final decision generated a total of five different opinions.⁹³ The majority opinion, written by Chief Judge Michel, asked what the appropriate test would be for distinguishing between a patentable process and an unpatentable claim to a law of nature, natural phenomenon, or abstract idea.⁹⁴ The court focused on the Supreme Court's statements in cases such as *Benson*, *Flook*, and *Diehr* and determined that this line of precedent established a definitive test for making this distinction.⁹⁵ Specifically, the court said that a process claim will

at another fixed rate. *Id.* at 949-50. This second sale effectively hedged the risk of the commodity provider from a sudden rise or fall in the price of coal. *Id.*

89. *Id.* at 950. The patent examiner relied upon another test for patentable subject matter, namely, the technological arts test. See *Ex parte Bilski*, No. 2002-2257, 2006 WL 5738364, at *1-2 (B.P.A.I. Sept. 26, 2006). This test hinges the question of patentable subject matter on the determination as to whether the claims are in the technological arts. See *In re Musgrave*, 431 F.2d 882, 893 (C.C.P.A. 1970) ("All that is necessary, in our view, to make a sequence of operational steps a statutory 'process' within 35 U.S.C. § 101 is that it be in the technological arts so as to be in consonance with the Constitutional purpose to promote the progress of 'useful arts.'") (quoting U.S. CONST. art. I, § 8).

90. *In re Bilski*, 545 F.3d at 950; see *Ex parte Bilski*, 2006 WL 5738364, at *18 ("Accordingly, the examiner's rejection in this case, to the extent that it is based on a 'technological arts' test, is reversed.").

91. *In re Bilski*, 545 F.3d at 950 (citation omitted).

92. See *id.*

93. See *id.* at 949; see also *id.* at 966-76 (Dyk, J., concurring) (discussing the history of the American and English patent systems and concluding that the principles dictated by the majority are "firmly embedded" in the statute); see also *id.* at 976-98 (Newman, J., dissenting) (arguing that the rule laid down by the majority is "far-reaching" and is contrary to both the statutory language and existing precedent); *id.* at 998-1011 (Mayer, J., dissenting) (disagreeing with the analysis of the majority and would have simply held that the claims were invalid because they are directed to a "method for conducting business"); *id.* at 1011-15 (Rader, J., dissenting) (explaining that the Majority's opinion misses the mark and that the claims are invalid because they are simply abstract ideas).

94. See *In re Bilski*, 543 F.3d at 952.

95. See *id.* at 954; *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972) ("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."); *Parker v. Flook*, 437 U.S. 584, 589 n.9 (1978) ("An argument can be made, however, that this Court has only recognized

be of patent eligible subject matter under Section 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."⁹⁶ The court referred to this inquiry as the machine-or-transformation test.⁹⁷

However, as pointed out by Circuit Judge Newman's dissenting opinion, other Supreme Court statements in *Benson*, *Flook*, and *Diehr* do not support the use of the machine-or-transformation test as the sole test for patentable subject matter.⁹⁸ The court explained that the initial statements in *Benson* and *Flook* show the Supreme Court was merely being "equivocal" in its initial formulation of the machine-or-transformation test.⁹⁹ Furthermore, the majority opinion pointed out that the Court did not repeat any of these "caveats" in the later opinion of *Diehr*, which purportedly reaffirmed the test.¹⁰⁰ To add further weight to its credibility, the majority also cited earlier Supreme Court precedent, noting consistencies with the machine-or-transformation test.¹⁰¹ Finally, the court expressly rejected any categorical exclusion for business methods and reaffirmed the holding of *State Street Bank & Trust Co. v.*

a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing.');

Diamond v. Diehr, 450 U.S. 175, 184 (1981) (finding an industrial process that transformed raw, synthetic rubber into cured, synthetic rubber to be a process that has "historically been eligible to receive the protection" of patent laws).

96. See *In re Bilski*, 545 F.3d at 954.

97. See *id.* at 955.

98. See *id.* at 979-82 (Newman, J., dissenting); *Benson*, 409 U.S. at 71 (stating that the court was not holding that a patent could not be issued on a process claim if it was not "tied to a particular machine . . . or [operating] to change articles . . . to a 'different state or thing'"); *Flook*, 437 U.S. at 589 n.9 ("As in *Benson*, we assume that a valid process patent may issue even if it does not meet one of these qualifications of our earlier precedents.").

99. *In re Bilski*, 545 F.3d at 956.

100. *Id.*

101. *Id.* at 955; see *Tilgham v. Proctor*, 102 U.S. 707, 729-30 (1880) (holding a transformative process from "fatty bodies" to "fat acids and glycerine" as patentable subject matter); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1877) (upholding patent protection on a claim for an improved method of refining flour even though no machine or tool was specified); *O'Reilly v. Morse*, 56 U.S. 62, 112-13 (1853) (holding a claim covering the use of electromagnetism to print symbols at any distance without specifying a method or machine is invalid). Circuit Judge Newman, in his dissenting opinion, states that these early opinions do not fully support a long-term acceptance of the machine-or-transformation test as the sole gatekeeper for patentable subject-matter per Section 101. *In re Bilski*, 545 F.3d at 983-84 (Newman, J., dissenting). In support of this argument, Judge Newman cites *Morse*, stating that while the court invalidated a claim dealing with using electromagnetism to create legible symbols, it also validated a claim within the same application which described the symbols which were to be created with the writing mechanism even though no machine or physical transformation was included. *Id.*; *Morse*, 56 U.S. at 76(fifth claim).

Signature Financial Group, Inc., which also rejected such a categorical exclusion.¹⁰²

In the wake of the Federal Circuit opinion, many criticized the decision as being outside the court's permitted authority.¹⁰³ The main thrust of this argument was that the Federal Circuit should not be permitted to read further restrictions on patentable subject matter beyond what Congress authorized.¹⁰⁴ Furthermore, the decision was said to have the unintended consequence of calling all patents on computer-based software into serious question.¹⁰⁵ The reason for this is due to the fact that the court did not address the specific issue of what would be necessary for an invention to be tied to a machine or apparatus.¹⁰⁶

B. *The Supreme Court*

The majority opinion, written by Justice Kennedy, explained that Section 101 was intended to have broad application and that courts should be careful not to implement restrictions and limitations the legislature had not created.¹⁰⁷ Additionally, Justice Kennedy stated that the Supreme Court has never "endorsed the machine-or-transformation test as the exclusive test [for patentable subject matter under § 101]."¹⁰⁸ Instead, the Court determined that the long line of precedent that gave birth to the test led to the conclusion that it is merely an important tool for determining whether a given process claim exists within the limitations of Section 101.¹⁰⁹

Portions of the opinion were only supported by a plurality of the justices.¹¹⁰ However, in explaining the Court's various reasons for not implementing the test as the single gatekeeper for process patents under Section 101, Justice Kennedy stated

102. In re *Bilski*, 545 F.3d at 960; see *State St. Bank & Trust Co. v. Signature Fin. Grp.*, 149 F.3d 1368, 1375-76 (Fed. Cir. 1998).

103. Bradley D. Blanche, *The Unintended Effects of Bilski on the Patentability of Software and Computer-Related Inventions*, Aug. 2009, available at 2009 WL 2510888, *4.

104. See *id.*

105. *Id.* at *6.

106. *Id.* at *5; see In re *Bilski*, 545 F.3d at 962 (discussing the fact that the "machine implementation" requirement was not before the Court and therefore would not be discussed further).

107. *Bilski v. Kappos*, 130 S. Ct. 3218, 3223, 3226 (2010).

108. *Id.* at 3226.

109. *Id.* at 3227. The Court drew special attention to the its prior "caveat" comments in both *Benson* and *Flook*, which the Federal Circuit dismissed as being merely "equivocal." *Id.* at 3226-27; see In re *Bilski*, 545 F.3d at 956.

110. See *Bilski*, 130 S. Ct. at 3223. Justice Scalia did not join Parts II-B-2 and II-C-2, therefore creating a plurality for those portions of the opinion. *Id.*

that the sole use of such a test would call into question the patentability of certain inventions.¹¹¹ More specifically, affirming the Federal Circuit's statement of the rule resulted in software inventions, medical diagnosis techniques, and "data compression" as potentially unpatentable.¹¹² Additionally, the Court noted that restricting the analysis to the machine-or-transformation test alone would not adequately cover new and emerging technologies.¹¹³ This second justification found support not only from the Second Circuit but also from another Supreme Court case.¹¹⁴

In addressing the patent protection for business methods relative to Section 101 considerations, the Court determined that no categorical exclusion existed for patents on methods of doing business. Both the statutory definition of "process" as used in Section 101, as well as the language of other Title 35 sections supported this conclusion.¹¹⁵ Justice Kennedy explained that a business method patent must still be able to satisfy the remaining novelty and non-obviousness requirements for patentability under Title 35.¹¹⁶ He also explained the possibility of advancing a categorical exclusion for business method claims as an attempt to patent an abstract idea if "the Court of Appeals were to succeed in defining a narrower category or class of patent applications that claim to instruct how business should be conducted."¹¹⁷

Finally, the Court turned to the specific claims brought by the applicants.¹¹⁸ In order to evaluate the patentability of the subject matter contained within the claims, the Court looked exclusively to the tenets and principles it previously laid down in

111. *Id.* at 3227.

112. *Id.* This was also a concern voiced following the announcement of the Federal Circuit's decision in *In re Bilski* as evidenced by subsequent publications. See Blanche, *supra* note 103, at *6.

113. *Bilski*, 130 S. Ct. at 3227-28.

114. *Id.*; see also *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972) (explaining that "freez[ing] process patents to old technologies" is not the Court's purpose); *In re Bilski*, 545 F.3d at 973.

115. *Bilski*, 130 S. Ct. at 3228-29 (explaining that "method" is included within the statutory definition of "process" in Section 100(b) and that Section 273(b)(1) and 273(a)(3) specifically contemplate the patentability of a business method); see 35 U.S.C. §§ 100(b), 273(b)(1), 273(a)(3) (2006). Justice Stevens' concurrence criticized this latter argument in that the Court interpreted two independent statutes as if they were passed as one, while in reality they are two independent provisions of the United States Code. *Bilski*, 130 S. Ct. at 3251-52 (Stevens, J., concurring).

116. *Bilski*, 130 S. Ct. at 3229; see also 35 U.S.C. §§ 102-103 (2006).

117. *Bilski*, 130 S. Ct. at 3229.

118. *Id.*

Benson, Flook, and Diehr.¹¹⁹ After discussing precedent, the majority determined that the process under consideration was not patentable under Section 101.¹²⁰ Specifically, Justice Kennedy labeled the concept of hedging and the mathematical formulas that go along with it as merely “unpatentable abstract idea[s].”¹²¹

The case also produced two concurring opinions.¹²² Justice Stevens, joined by Justices Ginsburg, Breyer, and Sotomayor, agreed with the majority’s judgment, however, he expressed that the Court’s pronouncement was incorrectly analyzed.¹²³ Instead, he argued that the term “process” as used in Section 101 has historically not been used to refer to any series of steps that are not abstract ideas.¹²⁴ Furthermore, he proposed that the claims at issue should have been invalidated because they encompassed a method for conducting business and thus were not patentable.¹²⁵ This analysis was directly opposed to the majority’s opinion, which stated that there was no categorical exclusion for business method claims and that analysis should simply center on whether the claims were comprised of abstract ideas.¹²⁶ Justice Breyer agreed with Justice Stevens’ points regarding the unpatentability of business methods.¹²⁷ Additionally, he summed up the general principles all nine justices agreed upon: (1) that Section 101 is not unlimited; (2) the Court has used the machine-or-transformation test for over a century; (3) the high court has never treated the machine-or-transformation test as the sole test; and (4) the Court by no means accepts the “useful, concrete and tangible result”¹²⁸ test from *State Street*.¹²⁹

119. *Id.* at 3229-31.

120. *Id.* at 3231.

121. *Id.*

122. *Id.* at 3231-59.

123. *Id.* at 3232.

124. *Id.* at 3232, 3237.

125. *Id.* at 3232. In support of a general exclusion of business method claims under the definition of process, Justice Stevens cited the fact that “while people have long innovated in fields of business, methods of doing business [have] fall[en] outside the [historically defined realm of patentable subject matter].” *Bilski*, 130 S. Ct. at 3239 (Stevens, J., concurring) (citation omitted). In his concurrence, he reached back to early English patent law as well as the early formulation of the American patent law system to provide specific support for the contention. *Id.* at 3239-46.

126. *Id.* at 3228-31.

127. *Id.* at 3257-58 (Breyer, J., concurring).

128. *Id.* at 3259. Specifically, the Federal Circuit stated in *State Street* that a claim which incorporated a mathematical algorithm would otherwise be an unpatentable abstract idea unless the use of the algorithm led to a “useful, concrete and tangible result.” *State St. Bank & Trust Co. v. Signature Fin. Grp.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998) (citing *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994)).

129. *Bilski*, 130 S. Ct. at 3258 (Breyer, J., concurring).

V. THE HEREAFTER: FUTURE DETERMINATIONS OF PATENTABLE PROCESSES UNDER § 101

While an initial reading of the Supreme Court's *Bilski* decision may indicate a major shift in the determination of a patentable process, further consideration of the matter leads to the opposite conclusion.¹³⁰ In fact, some have made the argument that as a result of the *Bilski* decision, the machine-or-transformation test will actually maintain a more important role than it did prior to the Federal Circuit decision.¹³¹ Prior to *In re Bilski*, the analysis of a claim for unpatentable subject matter under Section 101 centered on whether the claim encompassed an abstract idea.¹³² Many of the cases subsequent to the Supreme Court's *Bilski* decision continue to employ this strategy with the only appreciable difference is the direct application of the machine-or-transformation test before consideration of whether the claims encompass only an abstract idea.¹³³ Therefore, a strong argument exists that the future of the machine-or-transformation test will look essentially the same as its past and that very little will change as a result of the recent decision.¹³⁴ Furthermore, there is little question that the test will likely continue to be an essential gatekeeper for evaluation of process claims under Section 101.¹³⁵

In an effort to gain a clearer picture of the future use of the machine-or-transformation test, several subsequent decisions will be analyzed and discussed below. Specifically, internal USPTO communications following the *Bilski* disposition, as well as its and other courts subsequent decisions, provide essential evidence of the treatment moving forward.

130. See Robert C. Scheinfeld & Parker H. Bagley, '*Bilski v. Kappos*': *Evolving Standards for Patent Eligible Subject Matter*, NEW YORK LAW JOURNAL, para. 26, July 21 2010, <http://www.newyorklawjournal.com/PubArticleNY.jsp?id=1202463724352>; Armon, *supra* note 73, at 18.

131. Choi, *supra* note 14, para. 8; Schreiner, *supra* note 14, at 998-99.

132. See *Benson*, 409 U.S. at 67 ("Phenomena of nature . . . mental processes, and abstract intellectual concepts are not patentable . . .")(emphasis added); *In re Comiskey*, 554 F.3d 967, 977-80 (Fed. Cir. 2009) (discussing the Supreme Court's precedent that abstract ideas cannot be patented).

133. See, e.g., *Ultramercial, LLC v. Hulu, LLC*, No. 09-06918, 2010 WL 3360098, at *3 (C.D. Cal. Aug. 13, 2010); *Ex Parte Ulf*, No. 2009-008071, 2010 WL 3611779, at *5-7 (B.P.A.I. Sep. 7, 2010); *Ex Parte Heuer*, No. 2009-004590, 2010 WL 3072973, at *8 (B.P.A.I. Aug. 4, 2010); *Ex Parte Caccavale*, No. 2009-006026, 2010 WL 2901727, at *5 (B.P.A.I. July 23, 2010).

134. Armon, *supra* note 73, at 18 ("[P]re-*Bilski* and post-*Bilski* standards for the patentability of method claims under § 101 look a lot alike.").

135. See *id.*

A. USPTO's Reaction to *Bilski*

In assessing the result of the *Bilski* decision, it is useful to consider the actions of the PTO, the administrative body charged with the duty to carry out the law in question.¹³⁶ This governing body's actions following the recent Supreme Court decision establishes that the machine-or-transformation test has become firmly entrenched in the analysis of patentable subject matter.¹³⁷

The same day the Court issued the *Bilski* opinion, the temporary Associate Commissioner for Patent Examination Policy, Robert W. Bahr, issued a memo requesting the Patent Examining Corps to provide "interim guidance to the Patent Examining Corps" concerning the newly-issued Supreme Court opinion.¹³⁸ After briefly covering the relevant Supreme Court holdings, Mr. Bahr concluded that patent examiners should continue to utilize the machine-or-transformation test as an initial inquiry.¹³⁹ If the test is satisfied, then the analysis under Section 101 ends there and the claim was deemed to be of patentable subject matter, unless it is clear that the claim is drawn to an abstract idea.¹⁴⁰ Alternatively, if the claim did not meet the machine-or-transformation test, the examiners were directed to deny it unless "there [wa]s a clear indication that the method is not directed to an abstract idea."¹⁴¹ Finally, the memo concluded with an assurance that further guidance would be forthcoming after sufficient time for analysis was taken.¹⁴²

This concluding promise was fulfilled about a month later when USPTO issued a notice of proposed interpretation of *Bilski v. Kappos*.¹⁴³ This publication again reviewed the recent Supreme Court decision and noted the relevant holdings, namely that the machine-or-transformation test is not the sole indicator for

136. See 35 U.S.C. § 2(a)(1) (2006) ("The [USPTO] . . . shall be responsible for the granting and issuing of patents . . .").

137. Schreiner, *supra* note 14, at 998-99 ("Given the lack of guidance on what constitutes an abstract idea, it seems possible that the more defined machine-or-transformation test could play a bigger role in deciding whether an application meets Section 101.").

138. Memorandum from Robert W. Bahr on Supreme Court decision in *Bilski v. Kappos* to Patent Examining Corps (June 28, 2010) (on file with USPTO).

139. *Id.*

140. *Id.*

141. *Id.*

142. *Id.*

143. *Interim Guidance*, *supra* note 9, at 43,922.

patentable subject matter for a process claim under Section 101.¹⁴⁴

The main thrust of the proposal was that patent examiners should evaluate process claims under Section 101 for whether they represent an attempt to obtain a patent on an abstract idea.¹⁴⁵ In order to accomplish this goal, USPTO proposed a set of factors they should consider in determining the existence of patentable subject matter.¹⁴⁶ Those factors include four main areas of consideration along with several sub-factors for each main area.¹⁴⁷ The main factors for consideration include (1) “[w]hether the method involves or is executed by a . . . machine or apparatus,”¹⁴⁸ (2) “[w]hether [the] performance of the . . . method results in . . . or involves a transformation of a particular article,”¹⁴⁹ (3) “[w]hether . . . the claimed method involves an application of a law of nature,”¹⁵⁰ and (4) “[w]hether a general concept . . . is involved in executing the steps of the method.”¹⁵¹

These first two considerations are nothing more than a repackaged machine-or-transformation test.¹⁵² The third factor is an embodiment of the principles laid out by Supreme Court precedent.¹⁵³ Finally, the fourth factor is based on earlier Supreme Court precedent such as *Benson*, *Flook*, and *Diehr*.¹⁵⁴

Therefore, it is clear that the machine-or-transformation test will remain as a central figure in the analysis under Section 101. USPTO actions give credence to the notion that the test is more important than ever since it is now an established part of the analysis moving forward.¹⁵⁵ Additionally, when one considers the statements made in the Interim Guidance proposal that no court has ever issued a patent when the claims have failed the

144. *Id.* at 43,924. However, the text of the proposal pointed out that “no court” had ever ruled that a process claim which failed the machine-or-transformation test was of patent-eligible subject matter. *Id.*

145. *Id.* (“Prior to adoption of the machine-or-transformation test, the [USPTO] had used the ‘abstract idea’ exception Following *Bilski*, such an approach remains proper.”)

146. *Id.*

147. *Id.* at 43,925-26.

148. *Id.* at 43,925.

149. *Id.*

150. *Id.*

151. *Id.*

152. *See id.* at 43,924 (“The factors include inquiries from the machine-or-transformation test . . . and inquiries gleaned from Supreme Court precedent.”).

153. *See Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948).

154. *See Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (“Phenomenon of nature . . . mental processes, and abstract intellectual concepts are not patentable.”); *Diamond v. Diehr*, 450 U.S. 175, 185 (1981) (same).

155. Schreiner, *supra* note 14, at 998-99.

machine-or-transformation test,¹⁵⁶ the test can likely still be functionally considered the sole test for patentable subject matter for a process claim.

B. *Subsequent Decisions Handed Down by the USPTO*

Additional to internal PTO communications, one gains great insight through analysis of the agency interpretation of the new precedent through subsequent decisions on the matter.¹⁵⁷ It is evident from these cases that the machine-or-transformation test has retained an important role in determining the existence of a patentable process under Section 101.¹⁵⁸

Post *Bilski*, the typical mode of analysis the Board of Patent Appeals and Interferences employed has been to first apply the machine-or-transformation standard to the claims in question.¹⁵⁹ If neither of the two prongs of the test are satisfied, then the Board considers whether the claim is merely directed to an abstract idea.¹⁶⁰ For this second consideration, the Board typically looks to *Benson* language as a guide for determining whether the claims are attempting to secure a monopoly over such an abstract idea.¹⁶¹ In justifying this mode of analysis, the Board cites to language Justice Kennedy used in *Bilski*.¹⁶²

C. *Subsequent Decisions of Other Federal District Courts*

Additional to PTO actions, other decisions from federal courts around the country have begun to apply the precedent set by the *Bilski* Court and provide some indication of the machine-or-transformation test's continuing vitality.¹⁶³ *Ultramercial, LLC v. Hulu, LLC* involved a patent application that "claim[ed] an

156. *Interim Guidance*, *supra* note 9, 43,924.

157. See *Ex parte* Ulf, No. 2009-008071, 2010 WL 3611779 (B.P.A.I. Sept. 7, 2010); *Ex parte* Heuer, No. 2009-004590, 2010 WL 3072973 (B.P.A.I. Aug. 4, 2010); *Ex parte* Caccavale, No. 2009-006026, 2010 WL 2901727 (B.P.A.I. July 23, 2010).

158. See *Ex parte* Ulf, 2010 WL 3611779, at *5-7; *Ex parte* Caccavale, 2010 WL 2901727, at *3-4; *Ex parte* Heuer, 2010 WL 3072973, at *5-6.

159. See *Ex parte* Ulf, 2010 WL 3611779, at *5-7; *Ex parte* Heuer, 2010 WL 3072973, at *5-6, *8; *Ex parte* Caccavale, 2010 WL 2901727, at *3-6.

160. See *Ex parte* Ulf, 2010 WL 3611779, at *5-7; *Ex parte* Heuer, 2010 WL 3072973, at *5-6, *8; *Ex parte* Caccavale, 2010 WL 2901727, at *3-6.

161. See, e.g., *Ex parte* Caccavale, 2010 WL 2901727, at *3-6; *Ex parte* Heuer, 2010 WL 3072973, at *5-8; see *Benson*, 409 U.S. at 64-72 ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented . . .") (quoting *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852)).

162. See, e.g., *Ex parte* Caccavale, 2010 WL 2901727, at *6 (citing *Bilski v. Kappos*, 130 S. Ct. 3220, 3229-31).

163. See *Ultramercial, LLC v. Hulu, LLC*, No. 09-06918, 2010 WL 3360098, *1, *3 (C.D. Cal. Aug. 13, 2010).

invention for distributing copyrighted products over the [i]nternet.”¹⁶⁴ Hulu, the defendant, contended that U.S. Patent No. 7,346,545 (“545 patent”) was not drawn towards patentable subject matter under Section 101.¹⁶⁵ Because the parties filed pleadings for the matter before the Supreme Court issued its *Bilski* decision, the district court stayed proceedings until the Court issued its pronouncement, so that the disposition of the current case would be consistent with the Court’s anticipated ruling.¹⁶⁶

In deciding the case, the district court discussed the impact of the Court’s recent *Bilski* decision and determined that the machine-or-transformation test retained much of the importance the Federal Court attached to it in *In re Bilski*.¹⁶⁷ Specifically, the court stated that “the machine-or-transformation test appears to have a major screening function . . . that separates unpatentable ideas from patentable ones.”¹⁶⁸ Additionally, the court noted that, from the various Supreme Court opinions in *Bilski*, it was a reasonable conclusion that at least a majority of the justices felt that the machine-or-transformation test should retain much of its earlier prominence.¹⁶⁹ As a result, the district court determined that the test should be used as a “key indicator of patentability.”¹⁷⁰

The court then turned its attention to the ‘545 patent and concluded that it was not drawn to patentable subject matter.¹⁷¹ First, the court determined that the claims of the ‘545 patent were neither tied to a particular machine nor did they transform an article to a “different state or thing.”¹⁷² Secondly, the court determined that the claims in the ‘545 patent were nothing more than abstract ideas and drew comparisons with the claims presented in the *Bilski* decision.¹⁷³

It is also interesting to note that, near the end of its opinion, the court mentioned that there are two main Supreme Court precedents in which a mathematical formula was tied to a “real-

164. *Id.* at *1.

165. *Id.* at *2.

166. *Id.*

167. *Id.* at *2-3.

168. *Id.*

169. *Id.*; compare *Bilski*, 130 S. Ct. at 3258 (Breyer, J., concurring) (noting that there are not many patentable processes which do not meet the machine-or-transformation test), with *Bilski*, 130 S.Ct. at 3257 (Stevens, J., concurring) (expressing the view that the machine-or-transformation test forecloses the patentability of business methods).

170. *Ulramercial*, 2010 WL 3360098, at *3.

171. *Id.* at *4-7.

172. *Id.* at *4-5.

173. *Id.* at *6.

world application.”¹⁷⁴ Specifically, the court was referring to the decisions in both *Bilski* and *Diehr*.¹⁷⁵ The court determined that the distinguishing factor between the two decisions was the application of the machine-or-transformation test.¹⁷⁶ In *Benson*, the test was not satisfied since the claim centered on the use of a mathematical formula that was tied neither to a particular machine nor operated to achieve a specific transformation.¹⁷⁷ On the other hand, *Diehr* involved the use of a mathematical formula within a process for curing synthetic rubber.¹⁷⁸ The Court there found that the claim involved a transformation of “raw, uncured synthetic rubber, into a different state or thing” and therefore was drawn to patentable subject matter.¹⁷⁹

VI. THE FUTURE FOR BUSINESS METHOD PATENTS AS A RESULT OF THE MACHINE-OR-TRANSFORMATION TEST’S CONTINUED IMPORTANCE

Claims on methods for conducting business are some of the most discussed categories of patent claims that have fallen victim to the machine-or-transformation test.¹⁸⁰ Unfortunately, no clear definition exists as to what constitutes a business method claim.¹⁸¹ However, a relatively recent bill before the United States House of Representatives attempted a definition.¹⁸² The term “business method” was broadly defined by the legislation as a method of “processing data[] or performing calculation operations” which is “uniquely . . . utilized in the practice . . . or

174. *Id.* at *7.

175. *Id.*

176. *Id.*; see *Diamond v. Diehr*, 450 U.S. 175, 192 (1981) (holding a claim which incorporated a mathematical formula into a process for curing rubber as being drawn to patentable subject matter).

177. See *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972) (describing the patent claim).

178. See *Diehr*, 450 U.S. at 178-79.

179. *Id.* at 184. It is also logical to conclude that the claims in *Diehr* also satisfy the machine requirement of the machine-or-transformation test because the use of the Arrhenius equation can be said to be tied directly to the machinery used in the curing process, whether that be the computer used to complete the calculations or the rubber molding equipment itself. See *id.* at 178-79.

180. See Ellen P. Aprill, *The Supreme Court’s Opinions in Bilski and the future of Tax Strategy Patents*, 113 J. TAX’N 81, 81 (2010) (“Under the machine-or-transformation test, applications for tax strategy inventions that did not depend on computer software were clearly not patentable.”); Blanche, *supra* note 103, at *1 (“Under this test, business method patents claiming merely abstract ideas that can be carried out without a particular machine . . . and that do not sufficiently transform the physical state of an article may no longer be eligible for patent protection.”).

181. Lois Matelan, Note, *The Continuing Controversy over Business Methods Patents*, 18 FORDHAM INTELL. PROP. MEDIA & ENT.L.J. 189, 191 (2007).

182. H.R. 1332, 107th Cong. (2001); see Matelan, *supra* note 181, at 191-92.

management of an enterprise.”¹⁸³ The proposed legislation also stated that a business method will also include “any technique used in athletics, instruction, or personal skills,”¹⁸⁴ as well as “any computer-assisted implementation of a method described in” either of the two previous definitions.¹⁸⁵

It is difficult, if not impossible, for a business method claim to survive the test as described by the Federal Circuit and Supreme Court.¹⁸⁶ Furthermore, it is clear from both the courts and USPTO, following the *Bilski* decision, that the machine-or-transformation test will play a vital role in the determination of the existence of patentable subject matter.¹⁸⁷ As a result, applicants likely continue to encounter extreme difficulties in attempting to secure patent protection for business method patents even after the decision.¹⁸⁸

In order to fully understand the effect the machine-or-transformation test will have on business method claims, it is necessary first to give a short recitation of the history of the so called “business method exclusion.”¹⁸⁹ Secondly, the importance of the machine-or-transformation test must be discussed in the business method context as a result of the most recent case law. In doing so, it is evident that, for the foreseeable future, all business method patents must still contend with the machine-or-transformation test as well as the other bedrock principles of the earlier Supreme Court precedent in order to achieve patent protection under Title 35.¹⁹⁰

183. H.R. 1332 § 2(f)(1).

184. H.R. 1332 § 2 (f)(2).

185. H.R. 1332 § 2(f)(3).

186. See *In re Bilski*, 545 F.3d943, 963-64 (Fed. Cir. 2008) (“[T]ransformations or manipulations . . . of public or private legal 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.”); Aprill, *supra* note 180, at 81; Blanche, *supra* note 103, at *1. However, it might be possible for such claims to meet the machine requirement of the machine-or-transformation test if they are sufficiently reliant on a computer. See Aprill, *supra* note 180, at 81-82 (noting that tax strategy methods might be patentable if they utilize and depend on a computer or computer software).

187. See, e.g., *Ultramerical, LLC v. Hulu, LLC*, No. 09-06918, 2010 WL 3360098, *3 (C.D. Cal. Aug. 13, 2010); *Ex parte Ulf*, No. 2009-008071, 2010 WL 3611779, at *5-7 (B.P.A.I. Sept. 7, 2010).

188. See Choi, *supra* note 14, para. 3 (“[T]hose that think business method patents are safe [after *Bilski*] should step cautiously in formulating an IP strategy.”).

189. *State St. Bank & Trust Co. v. Signature Fin. Grp.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998).

190. See *Interim Guidance*, *supra* note 9, at 43,925-26 (discussing the patent examiners’ employment of future analysis in deciding questions of patentable subject matter for a process claim); cf. 35 U.S.C. § 101 (showing statutory requirements for patent protection under Title 35).

A. *The History of the Business Method Exclusion*

Business method patents have been the topic of major controversy and disagreement in the legal community for a long period of time.¹⁹¹ The earliest decision, which is often credited with the creation of the business method exception, was decided early in the twentieth century.¹⁹² In *Hotel Security Checking Co.*, the Second Circuit stated that “[a] system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term, an art.”¹⁹³ The court determined that the patent claims in question were invalid because they did not describe a new and useful invention as required.¹⁹⁴ From this decision, many would later cite a newly-created business method exclusion from patent protection.¹⁹⁵

Ninety years after the Second Circuit handed down its *Hotel Security* decision, the Federal Court decided another major judicial decision regarding the patentability of business methods.¹⁹⁶ *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* involved a patent which described a “data processing system. . .for implementing an investment structure which was

191. Alexandra Wilson, *Business Method Patents Gone Wild: Narrowing State Street Bank and Shifting to a European Perspective*, 12 J. TECH. L. & POL'Y 71, 72-74 (discussing controversy of business method claims); see *Bilski v. Kappos*, 130 S. Ct. 3218, 3228 (2010) (holding that there is no general exclusion for business method patents); but see *id.* at 3231-57 (Stevens, J., concurring) (discussing the justification for a categorical exclusion for business method claims).

192. Rinaldo Del Gallo, III, *Are “Methods of Doing Business” Finally Out of Business as a Statutory Rejection?*, 38 IDEA403, 405 (1998); see *Hotel Sec. Checking Co. v. Lorraine Co.*, 160 F. 467 (2d Cir. 1908).

193. *Hotel Sec. Checking Co.*, 160 F. at 469. It should also be noted that the *Hotel Security Checking Co.* decision in was decided under the predecessor to Section 101. See Revised Statutes § 4886, U.S. Comp. St. 1901, p. 3882. The only appreciable difference between the language of the two statutes was the use of the word “art” in the earlier version instead of “process” as used in Section 101. *Id.*; 35 U.S.C. § 101. The Supreme Court has made it clear that there is no interpretational difference between the uses of these two terms. *Expanded Metal Co. v. Bradford*, 214 U.S. 366, 382 (1909) (stating that the term “process” is an equivalent or is included in the term “new and useful art”); *Diamond v. Diehr*, 450 U.S. 175, 183 (1981) (“In the language of the patent law, [a process] is an art.”); *In re Bilski*, 545 F.3d 943, 951 n.4 (Fed. Cir. 2008); *Bilski*, 130 S. Ct. at 3247 (Stevens, J., concurring) (explaining that the use of the term “process” instead of “art” was a change “made for clarity and did not alter the scope of a patentable process”).

194. *Hotel Sec. Checking Co.*, 160 F. at 469. The claimed method was one “cash-registering” to prevent fraud, which can be perpetrated by “waiters and cashiers” in the hotel and restaurant industry. *Id.* at 467. The specific method involved a system of numbered paper slips which are assigned to each waiter/cashier. *Id.* at 468. The numbered slips were used such that the transactions the particular waiter/cashier processed could be tracked by the management in order to ensure that no fraud occurred. *Id.* at 468.

195. Del Gallo, *supra* note 192, at 408.

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

developed for use in Signature's business."¹⁹⁷ In deciding the validity of the claims, the court discussed the applicability and validity of the business method exception.¹⁹⁸ The court drew the conclusion that the business method exception was not a proper means of invalidating a business method claim and that instead such claims should be evaluated under the "same legal requirements for patentability as applied to any other . . . method."¹⁹⁹ The court ultimately held that the claims housed within the *State Street* patent were of patentable subject matter.²⁰⁰

B. *The Future for Business Methods in Light of the Machine-or-Transformation Test's Continuing Vitality*

In light of the both the court and USPTO's use of the machine-or-transformation test, it is clear that the standard will likely serve as a hurdle that all applicants must clear before obtaining patent protection for a business method.²⁰¹ Additionally, while it is extremely difficult to prove a negative assertion, it is clear that the result of a claim failing the machine-or-transformation test will likely, if not always, lead to a rejection of the claim after the decision in *Bilski*.²⁰² Therefore, while business methods have survived an all-out exclusion under Section 101,²⁰³ they still face an uphill battle when it actually comes down to satisfying the requirements of patentable subject matter.²⁰⁴ As a result, claims on business methods, which do not

197. *Id.* at 1370. To be more specific, the claims described a "data processing system for managing a financial services configuration of a portfolio established as a partnership." *Id.* at 1371.

198. *Id.* at 1375-77.

199. *State St. Bank & Trust Co.*, 149 F.3d at 1375. The Federal Circuit listed specific reasons for its rejection of the general exclusion for Business methods, which included (1) the assertion that the exception had never been used by that court or the United States Court of Customs and Patent Appeals to invalidate a claim, and (2) the fact that even the decision in *Hotel Security Checking Co.* did not use the exception to invalidate the claim there. *Id.* at 1375-77; see *Hotel Sec. Checking Co. v. Lorraine Co.*, 160 F. 467, 469-72 (2d Cir. 1908).

200. *State St. Bank & Trust Co.*, 149 F.3d at 1370. The general view that a business method patent is not categorically excluded from patent protection was also expressed by the Supreme Court majority in *Bilski v. Kappos*, 130 S. Ct. 3218, 3228-29 (2010). However, a plurality of the justices noted that such a categorical exclusion could be achieved if a smaller subset of the group all business methods could be defined as attempting to patent abstract ideas. *Id.* at 3229.

201. See Choi, *supra* note 14, para. 7-8; Armon, *supra* note 73, at *23-24.

202. *Ex parte Ulf*, No. 2009-008071, 2010 WL 3611779, at *5-7 (B.P.A.I. Sept. 7, 2010).

203. *Bilski*, 130 S. Ct. at 3228-3229.

204. See Armon, *supra* note 73, at 23-24 (explaining that the machine-or-transformation test will still be applicable to process claims for the foreseeable

rely on a machine or claim a transformation of an article to a different state or thing will likely continue to be excluded for lack of patentable subject matter.²⁰⁵

VII. CONCLUSION

In spite of the large amount of judicial activity surrounding questions of patentable subject matter and the machine-or-transformation test, there are still more uncertainties than clear rules. One thing that is clear is that the machine-or-transformation test will continue to be an important determining factor in deciding questions under Section 101.

In fact, the test will likely be more important than it has been in the past simply for the reason that it is now directly stated and endorsed at least to some degree by the Supreme Court, so that an examiner considers it when confronted with a process claim.

The effect of the aftermath following the *Bilski* decision was to turn a two-step test into a three-step test. Instead of simply looking to see whether the claim is tied to a machine or transforms an article to a different state or thing, the examiner additionally looks to see whether the claims are more than an attempt to patent an abstract idea by referring to the precedent that gave rise to the machine-or-transformation test in the first place.

Furthermore, it seems that since the machine-or-transformation test will retain much if not more than its original vitality, claims regarding business methods will still need to contend with its tenants. As a result, while there is certainly no complete exclusion for claims on business methods, such claims certainly have a steep mountain to climb in order to gain the protection of a United States Patent. Therefore, the effective result will be a continued exclusion for most business method claims for the foreseeable future.

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future);Choi, *supra* note 14, para. 8-9 (discussing the fact that the machine-or-transformation test may play a bigger role in subject matter as a result of *Bilski*); Schreiner, *supra* note 14, at 999 (suggesting that the machine-or-transformation test may play a bigger role under Section 101).

205. See *In re Bilski*, 545 F.3d 943, 954 (Fed. Cir. 2008) (stating that claims are patentable if they rely on a machine or a transformation of an article to a different state or thing).