

December 2014

A Brief History of Supreme Court Interest in Patent-Eligible Subject Matter Under 35 U.S.C. § 101

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**A BRIEF HISTORY OF SUPREME COURT INTEREST IN
PATENT-ELIGIBLE SUBJECT MATTER UNDER
35 U.S.C. § 101**

John W. Cox & Joseph L. Vandegrift***

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I. PRELUDE

A. *Setting the Stage*

We wrote earlier about the U.S. Supreme Court's increased attention to patent cases from the Court of Appeals for the Federal Circuit.¹ In 2006, Judge Arthur Gajarsa and Dr. Lawrence Cogswell asked whether the Supreme Court had truly begun taking an increased patent caseload or if it just appeared that way.² By 2014, the Supreme Court had granted *certiorari* on enough Federal Circuit patent cases to confirm that the upswing is real. In this Article, we review the Supreme Court's interest in 35 U.S.C. § 101 leading up to the recent impact that interest has had on patent eligibility jurisprudence and the Federal Circuit.

We start with the applicable statute, 35 U.S.C. § 101 (2013): “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”³ The statute uses broad categories to define patent eligible subject matter and modifies those categories with the unlimited “any.”⁴ Indeed, § 101 does not list any patent *ineligible* categories, and neither do the other sections within Title 35.⁵ Moreover, the categories that are listed provide an expansive threshold subject to “the conditions and requirements of this title,”⁶ namely novelty,⁷ non-obviousness,⁸ and adequate disclosure.⁹

Following the statute's lead, we differentiate between (i) the patent eligibility requirements of 35 U.S.C. § 101, and (ii) the remaining patentability requirements under Title 35, including §§ 102, 103, and 112. To maintain clarity, we also use the terms “patent eligibility” and the like with respect to § 101, and the terms “patentability,” “unpatentable,” and

1. John W. Cox & Joseph L. Vandegrift, *The Supreme Court is Paying Attention to Patent Law Again*, LAW360 (Apr. 1, 2013, 11:54 AM), <http://www.law360.com/articles/425426/>.

2. Arthur J. Gajarsa & Lawrence P. Cogswell, III, *The Federal Circuit and the Supreme Court*, 55 AM. U. L. REV. 821, 821–22 (2006).

3. 35 U.S.C. § 101 (2013).

4. *Id.*

5. Patents Act, 35 U.S.C. §§ 1–390 (2013).

6. 35 U.S.C. § 101 (2013).

7. *Id.* § 102.

8. *Id.* § 103.

9. *Id.* § 112; *see also* *Bilski v. Kappos*, 561 U.S. 593, 602 (2010).

the like with respect to the other requirements of Title 35.

B. *The Constitutional and Statutory Origins of Patent Eligibility*

The Constitution provides the basis for the U.S. patent laws. Specifically, Article I, Section 8 provides that “[t]he Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹⁰ Under the influence of Thomas Jefferson,¹¹ Congress enacted the first patent laws with the Patent Act of 1790.¹² In doing so, it defined the subject matter of a U.S. patent as “any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used[.]”¹³

Congress has rarely amended the patent statute and even more rarely changed the provisions related to patent eligibility.¹⁴ The most recent changes were in 1952 and did nothing to change patent eligibility beyond changing the term “art” to “process.”¹⁵ The few changes made before 1952 merely clarified the language found in the seminal texts from the late 1700s.¹⁶ In sum, 35 U.S.C. § 101 today remains true to the original statute.

The Supreme Court has made clear that § 101 broadly covers “any” new and useful process, machine, manufacture, or composition of matter, and recognized that Congress intended its “wide scope” to liberally encourage innovation.¹⁷ That said, the Court has recognized three specific and narrow exceptions: (i) laws of nature, (ii) physical or natural phenomena, and (iii) abstract ideas.¹⁸ The Supreme Court has carved out these limited *exceptions* to the broadly-stated categories of patent eligible subject matter.

Recently the Supreme Court has interpreted these exceptions to greatly restrict § 101.¹⁹ Interestingly, the Federal Circuit may be

10. U.S. CONST. art. I, § 8, cl. 8.

11. *Diamond v. Chakrabarty*, 447 U.S. 303, 308–09 (1980).

12. Patent Act of 1790 Ch. 7, 1 Stat. 109–112 (amended 1793).

13. *Id.* § 1.

14. See *infra* notes 15–16 and accompanying text.

15. Compare 1790 Patent Act § 1, with 35 U.S.C. § 101 (1952); see also *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1340 (Fed. Cir. 2013) (“[C]hanges were made to the 1952 Act to broaden eligible subject matter and eliminate doubt caused by narrow interpretations given to the prior statute.”).

16. Compare 1790 Patent Act § 1, with 35 U.S.C. § 101 (1952).

17. See *Diamond v. Chakrabarty*, 447 U.S. 303, 308–09 (1980); see also *Bilski v. Kappos*, 561 U.S. 593, 601 (2010).

18. See *Chakrabarty*, 447 U.S. at 309; see also *Bilski*, 561 U.S. at 601–02.

19. See *infra* Part IV.

beginning to follow suit.²⁰ These shifts are in stark contrast to the fact that Congress has left mostly untouched the scope of patent eligible subject matter.²¹ Indeed, “when Congress [has] considered § 101, it [has] broadened the statute and certainly [has] not place[d] any specific limits on it.”²² This Article shows that despite the constant nature of the statute, the higher courts have recently had difficulty with patent eligibility.

II. ACT I: THE FIRST CASES

A. *Le Roy v. Tatham*

One of the first cases in which the Supreme Court dealt with patent eligibility was the 1852 case *Le Roy v. Tatham*.²³ The patentee had discovered a new property of lead alloy used in pipe.²⁴ The Court reasoned that *by itself*, the discovery was of merely “[a] principle, [which,] in the abstract, is a fundamental truth; an original cause; a motive;”²⁵ and was therefore not patent eligible.²⁶

The patentee also had described an improvement to a machine that applied the newly discovered principle.²⁷ The Court noted that the result was a new manufacture and therefore patent eligible under the statute; it does not matter that the end result may not be novel, as long as the process for producing that result is novel.²⁸ Thus, the Supreme Court created the first exception to patent eligibility: a principle is not patent eligible, yet an application of such a principle could be.²⁹

Perhaps foreshadowing the current disagreement between various members of the judiciary, Justices Nelson, Wayne, and Grier dissented, arguing that the “new” property should also be patent eligible, as the machinery and apparatus would be useless without the knowledge of it.³⁰ The dissent also showed that the confusion between patent eligibility and

20. See *infra* Part IV.

21. Compare 1790 Patent Act § 1, with 35 U.S.C. § 101 (2013).

22. *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1341 (Fed. Cir. 2013).

23. *Le Roy v. Tatham*, 55 U.S. 156 (1852); see Efthimios Parasidis, *A Uniform Framework for Patent Eligibility*, 85 TUL. L. REV. 323, 335 (2010).

24. *Le Roy*, 55 U.S. at 167.

25. *Id.* at 175.

26. *Id.*

27. *Id.* at 172.

28. *Id.* at 174–75 (noting with approval the lower court’s reasoning that, “even if the mere combination of machinery in the abstract is not new . . . , if used and applied in connection with the practical development of a principle, newly discovered, producing a new and useful result, the subject is patentable [*i.e.*, patent eligible]” (emphasis added)); see also, e.g., *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013) [hereinafter *Myriad V*].

29. *Le Roy*, 55 U.S. at 175.

30. *Id.* at 179–82 (Nelson, J., dissenting).

patentability has existed since the very beginning.³¹

B. O'Reilly v. Morse

In *O'Reilly v. Morse*, the Court grounded much of its decision in the Patent Act itself.³² It specifically noted that the Act entitled any person who “discovered or invented a new and useful art, machine, manufacture, or composition of matter” to a patent.³³ While the patent at issue in *Morse* contained multiple claims, the Court focused on Claim 8, which covered “an effect produced by the use of electro-magnetism distinct from the process or machinery necessary to produce it.”³⁴

The Court held that Claim 8 essentially claimed a monopoly over the principle of electro-magnetism itself.³⁵ In essence, the claim was too broad because it would have pre-empted *any* use of electro-magnetism.³⁶ The Court reiterated its reasoning from *Le Roy* that the discovery of a principle (*i.e.*, natural phenomenon) is not patent eligible.³⁷ The Court also stated that a patentee may only claim otherwise-patentable *applications* of such a principle.³⁸

Justice Grier, again with Justices Wayne and Nelson, dissented, arguing that Claim 8 was not too broad and that the majority’s use of the term “broad” was not a valid reason for deeming a particular claim patent-ineligible.³⁹ Specifically, he argued that it “is only when [a patentee] claims something before known and used, something as new which is not new, either by mistake or intentionally, that his patent is affected.”⁴⁰ The dissent again confused patent eligibility with the other requirements for patentability.⁴¹

C. Tilghman v. Proctor

In the decades that followed *Morse*, lower courts struggled to determine whether any method or process claims were patent eligible.⁴² The Supreme Court finally clarified the issue in 1880, in *Tilghman v. Proctor*, where the patentee had claimed the manufacturing process of

31. *Id.* at 181–82.

32. *O'Reilly v. Morse*, 56 U.S. 62 (1853).

33. *Id.* at 119.

34. *Id.* at 86, 120.

35. *Id.* at 112.

36. *Id.* at 112–13.

37. *Id.* at 116.

38. *Id.* at 101–02.

39. *Id.* at 129–36 (Grier, J., dissenting).

40. *Id.* at 135.

41. *See supra* Part II.A.

42. *See, e.g.*, *Tilghman v. Proctor*, 102 U.S. 707, 725–26 (1880).

certain chemical compositions that were practiced by the defendant using an apparatus different than the one used by the patentee.⁴³

Affirming and applying *Morse*, the *Tilghman* Court held the defendants infringed upon, what the Court found to be, a patent-eligible process.⁴⁴ Specifically, the Court reasoned that “[w]hoever discovers that a certain useful result will be produced in any art by the *use of certain means* is entitled to a patent for it, provided he specifies the means.”⁴⁵ The Court framed the scientific principle (*i.e.*, natural phenomenon) exception to the Patent Act by focusing on the enablement provided by the specification.⁴⁶ Specifically, the Court found that “the claim of the patent is not for a mere principle. . . . Th[e] chemical fact was not discovered by Tilghman. He only claims to have invented a particular mode of bringing about the desired chemical union . . . He does not claim every mode of accomplishing this result.”⁴⁷

In other words, the claims did not preempt the principle underlying the invention, but only a specific process of utilizing it.⁴⁸ While the claims satisfied the statutory provisions necessary for patentability, the Court’s focus on preemption would remain a factor in its patent eligibility calculus.

D. American Fruit Growers v. Brogdex

The Court waited fifty years before substantively revisiting patent eligibility in *American Fruit Growers v. Brogdex*.⁴⁹ In doing so, the Court expanded upon the natural phenomenon exception first discussed in *Le Roy*.⁵⁰ Starting with the statute, the Court questioned whether or not an orange dipped in a borax solution to prevent mold was a “manufacture.”⁵¹ Relying upon a dictionary definition from a tariff case, the Court

43. *Id.* at 720–22. Before the statute expressly included the term “process,” the Court held “there can be no doubt” that a patent can be “granted to a process. . . . A process *eo nomine* is not made the subject of a patent in our act of Congress. It is included under the general term, ‘useful art.’” *Id.* at 722.

44. *Id.* at 734.

45. *Id.* at 728 (emphasis added).

46. *Id.* at 728–29.

47. *Id.* at 729.

48. Later Supreme Court cases would focus more on the idea first discussed in *Tilghman* that a process must result in a transformation of an article to a “different state or thing,” and form the foundation of the “machine or transformation” test discussed in *Benson, Bilski, Diehr, Flook*. See *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); see also *Bilski v. Kappos*, 560 U.S. 593, 604 (2010); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978).

49. Compare *Am. Fruit Growers v. Brogdex Co.*, 283 U.S. 1 (1931), with *Tilghman*, 102 U.S. at 707 (decided in 1880).

50. See *supra* Part II.A.

51. *Am. Fruit Growers*, 283 U.S. at 11.

determined that a manufacture is the result of “the production of articles for use from raw or prepared materials by giving [those] materials new forms, qualities, properties, or combinations[.]”⁵²

The Court found that the claimed oranges did not contain any of these indicators, despite their coating and new mold resistance.⁵³ Expanding on the dictionary definition, the Court further stated that there must be some sort of transformation of the natural object to reach patent eligibility.⁵⁴ The Court concluded no such transformation occurred pursuant to the claims and, as a result, held that the claims did not cover patent eligible subject matter.⁵⁵

American Fruit Growers demonstrates confusion by the majority at the Supreme Court in patent eligibility cases, indeed recognized as “simply erroneous as a matter of fact.”⁵⁶ The reasoning applied to reach the incorrect conclusion—that the patented invention was not an article of manufacture—is startling. Instead of recognizing that the claims covered an article of manufacture, namely a borax covered fruit, the Court separated the components of the “orange, the rind of which has become impregnated with borax,” into “the added substance” (*i.e.*, the borax) and “the natural article” (*i.e.*, the orange).⁵⁷ As a result, the Court could conclude that “[t]here is no change in the name, appearance, or general character of the fruit. It remains a fresh orange, fit only for the same beneficial uses as theretofore.”⁵⁸

But the claims were not directed to “a fresh orange,” regardless of its use; they covered a borax-covered orange, which is not a “natural article.”⁵⁹ The Court’s holding is incomprehensible unless the determination concerned *novelty* under § 102, as opposed to patent *eligibility* under § 101.⁶⁰ The fact that such claims cover *patent eligible* subject matter has no bearing on their *patentability*. Indeed, the Court found that the claims failed to satisfy the *novelty* requirement.⁶¹

E. Mackay Radio & Telegraph Co. v. Radio Corp. of America

The *Mackay Radio* case introduced the mathematical formula

52. *Id.*

53. *Id.* at 11–12.

54. *Id.* at 13.

55. *Id.* at 12–14.

56. 1-1 DONALD S. CHISUM, CHISUM ON PATENTS, § 1.02[3][a] (Matthew Bender & Co., Inc. 2014) (1978) (“It must be concluded that the *American Fruit Growers* treatment of the meaning of ‘manufacture’ is of little or no precedential value”).

57. *Am. Fruit Growers*, 283 U.S. at 11.

58. *Id.* at 12.

59. *See id.* at 11–12.

60. Compare 35 U.S.C. § 101, with 35 U.S.C. § 102.

61. *Am. Fruit Growers*, 283 U.S. at 13–14 (finding that the claims lacked novelty).

exception to the patent eligibility calculus.⁶² The patent applicant sought claims to an antenna system requiring determinations made via the application of a mathematical formula.⁶³ The Court's relevant reasoning followed the rule that "[a]n idea of itself is not patentable."⁶⁴ Justice Stone explained, "[w]hile a scientific truth, or the mathematical expression of it, is not patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth *may be*."⁶⁵ Despite explaining that the application of a mathematical formula may be patent eligible, while the formula itself is not, the Court ended its inquiry upon finding a lack of infringement.⁶⁶

F. Funk Bros. v. Kalo

The Court attempted to cement the natural phenomenon exception seventeen years later in *Funk Brothers v. Kalo*.⁶⁷ The claims covered the mixing of various non-inhibiting bacteria to form a mixture with improved functional properties.⁶⁸ The Court found that the claims covered patent ineligible subject matter because the patentee had merely discovered a useful, natural phenomenon:

For patents cannot issue for the discovery of the phenomena of nature. The qualities of these bacteria, like the heat of the sun, electricity, or the qualities of metals, are part of the storehouse of knowledge of all men. They are manifestations of laws of nature, free to all men and reserved exclusively to none. He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes.⁶⁹

Specifically, the Court held that the discovery that certain claimed bacteria can be mixed without reducing their function is "a discovery of their qualities . . . It is no more than the discovery of some of the handiwork of nature and hence is not patentable."⁷⁰

Interestingly, the Court explained that a patent's utility was irrelevant to the natural phenomenon exception, stating that "a product must be

62. *Mackay Radio & Tel. Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 (1939).

63. *Id.* at 91–92.

64. *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. 498, 507 (1874) (recognizing that "[a]n idea of itself is not patentable, but a new device *by which it may be made practically useful* is" (emphasis added)); see also *Le Roy v. Tatham*, 55 U.S. at 175 ("[A] principle is not patentable.").

65. *Mackay Radio*, 306 U.S. at 94 (emphasis added).

66. *Id.* at 101.

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

68. *Id.* at 130.

69. *Id.* (citation omitted).

70. *Id.* at 131.

more than new and useful to be patented; it must also satisfy the requirements of invention or discovery.”⁷¹ In view of such reasoning, it has been said that *Funk Brothers* “is perhaps best viewed as an interpretation of the nonobviousness or ‘invention’ requirement, and not of the statutory classes of subject matter.”⁷²

Justice Frankfurter concurred with the Court’s opinion, expressing concern that the use of a term like “laws of nature” is too vague to be useful to lower courts.⁷³ He might not be surprised by the confusion caused by the Court’s expansion of these exceptions.⁷⁴ That said, Justice Frankfurter merely argued that the claimed mixture might be patentable, but only if the combination produced some new and useful characteristic or feature.⁷⁵

Similar to Justice Grier in *Morse*, Justices Burton and Jackson dissented and argued that the patentee had made a patent eligible discovery, at least in part because that discovery was highly useful.⁷⁶ Also like Justice Grier in *Morse*, their reasoning conflates a patentability requirement, in this case novelty, with patent eligibility.⁷⁷

III. ACT II: THE NEXT GENERATION—FROM THE 1952 PATENT ACT TO THE CREATION OF THE FEDERAL CIRCUIT

A. *Gottschalk v. Benson*

After the passage of the 1952 Patent Act, the Supreme Court went two decades before hearing its next patent eligibility case, *Gottschalk v. Benson*,⁷⁸ an opinion described as “confusing and illogical.”⁷⁹ Indeed, the Federal Circuit’s predecessor court later “struggled with the ambiguities

71. *Id.*

72. CHISUM, *supra* note 56, § 1.02[7][b], at 1–60; *see also* Matthew W. Siegal & Etan Chatlynne, *In Myriad, Did Supreme Court Confuse Its Own Precedent?*, LAW360 (Aug. 5, 2013, 1:43 PM), www.law360.com/articles/459177 (“Insofar as the ‘invention’ analysis did not include a citation to a patent eligibility case, it seems unlikely that the court based its holding on patent-ineligibility grounds. . . . Nonetheless, . . . the Supreme Court has consistently treated *Funk Brothers* as a patent-eligibility case[.]”).

73. *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 134–35 (1948) (Frankfurter, J., concurring).

74. *See infra* Part IV.

75. *Funk Bros.*, 333 U.S. at 135 (Frankfurter, J., concurring).

76. *Id.* at 136–38 (Burton, J., dissenting).

77. *Id.*

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

79. CHISUM, *supra* note 56, § 1.03[6][c], at 1–196.

in the Supreme Court's holding and rationale in *Benson*.⁸⁰

In *Benson*, the patentee claimed a process for converting binary code in decimal form to pure binary numbers.⁸¹ After reviewing many of the cases discussed in Part II, the Court began its analysis with the foundation that the "[t]ransformation and reduction of an article 'to a different state or thing' is the clue . . . of a process claim that does not include particular machines."⁸²

Despite the Court's focus on the historical predecessor to the machine or transformation test, the Court stated that there might be processes that qualify as patent eligible, regardless of not being linked to a particular machine or not transforming an object from one state to another.⁸³ Furthermore, the Court refused the U.S. Patent and Trademark Office's (PTO) invitation to find all computer programs unpatentable.⁸⁴ Still, the Court held the claimed computer program patent *ineligible*, as it would have "wholly pre-empt[ed] the mathematical formula and . . . would be a patent on the algorithm itself."⁸⁵

But the Court cautioned against reading its holding to restrict processes in general: "[t]hat a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed."⁸⁶ Moreover, the Court noted that "[h]e who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the *application* of the law of nature to a new and useful end."⁸⁷ The Court also acknowledged the preemption doctrine, noting that a claim runs afoul of § 101 if it "purport[s] to cover any use of the claimed method in a general-purpose digital computer of any type."⁸⁸

The Court expressed concern regarding the state of § 101 at the start of the digital age, stating, "considerable problems are raised which only committees of Congress can manage, for broad powers of investigation are needed, including hearings which canvass the wide variety of views which those operating in this field entertain."⁸⁹

80. *Id.* § 1.03[6][d], at 1–204; *see also In re Noll*, 545 F.2d 141, 148–49 (C.C.P.A 1976) and *In re Freeman*, 573 F.2d 1237, 1245–47 (C.C.P.A 1978) (struggling to apply *Benson* to method and means claims).

81. *Benson*, 409 U.S. at 65.

82. *Id.* at 70.

83. *Id.* at 71.

84. *Id.* at 71–72.

85. *Id.* at 72.

86. *Id.* at 69–70 (internal quotation marks omitted).

87. *Id.* at 67 (emphasis added) (internal quotation marks omitted).

88. *Id.* at 64.

89. *Id.* at 73.

B. Parker v. Flook

Six years later, the Court heard the first in a trilogy of patent eligibility cases.⁹⁰ In *Parker v. Flook*, the Court again faced claims implicating the exceptions to patent eligibility, and affirmed the exclusion in *Benson*.⁹¹ The PTO had rejected claims directed to using a mathematical formula to update alarm limits during a catalytic conversion process where the general process itself and the updating were well known.⁹²

Six justices agreed with the PTO and held the claims patent ineligible.⁹³ Although the applicant attempted to distinguish his claims from those in *Benson*, arguing that by employing the mathematical equation the process was more efficient than otherwise, the Court found that the addition of a specific application of a mathematical formula did not make that formula patent eligible.⁹⁴ Instead, the Court reasoned that any mathematical formula, whether novel or well known, should be treated as a known piece of prior art when determining patent eligibility.⁹⁵ The Court also noted that a “phenomenon of nature or mathematical formula . . . cannot support a patent unless there is some other inventive concept in its application.”⁹⁶ Here, the Court found that the claims seemed broad and without context, appearing to preempt any use of the equation.⁹⁷ As a result, the Court held them patent ineligible.⁹⁸ Still, the Court recognized that the “line between a patentable process and an unpatentable principle is not always clear.”⁹⁹

The Court also addressed the concern that its reasoning stepped over the line from patent eligibility to the patentability requirements under §§ 102 and 103,¹⁰⁰ reasoning that the mere *application* of a formula is not patent eligible if the process itself (*i.e.*, without the formula) would not be patentable.¹⁰¹ The Court noted that the application of a principle is merely the application of “a relationship that has always existed”¹⁰² and is, therefore, insufficient without more to satisfy § 101.¹⁰³ The Court

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

91. *Id.* at 585–86, 596.

92. *Id.* at 585–87.

93. *Id.* at 596.

94. *Id.* at 588–89.

95. *Id.* at 591–92; *see also* *Mackay Radio & Tel. Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 (1939).

96. *Flook*, 437 U.S. at 594.

97. *Id.* at 594–96.

98. *Id.* at 596.

99. *Id.* at 589 (internal quotation marks omitted).

100. *Id.* at 592–94.

101. *Id.* at 593–94.

102. *Id.* at 593 n.15.

103. *Id.* at 593–94.

reasoned that, to satisfy § 101, the application of a principle may qualify as patent eligible.¹⁰⁴ Nevertheless, the Court confused the issue in its search for “some other inventive concept”¹⁰⁵ in the application of a mathematical formula, again confusing novelty under § 102 with patent eligibility.¹⁰⁶

Indeed, three justices dissented and argued that the majority’s decision blurred the line between § 101 and §§ 102-103.¹⁰⁷ Justice Stewart pointed out that, despite discussing precedent, the majority “strikes what seems to me an equally damaging blow at basic principles of patent law by importing into its inquiry under 35 U.S.C. § 101 the criteria of novelty and inventiveness.”¹⁰⁸

The dissent also acknowledged *Benson*, but found that it stood narrowly for the “long-established principle”¹⁰⁹ “that laws of nature, physical phenomena, and abstract ideas are not patentable subject matter.”¹¹⁰ Justice Stewart noted, however, that *Flook*’s application was different from the one in *Benson*: “[t]he issue here is whether a claimed process loses its status of subject-matter patentability simply because *one step* in the process would not be patentable subject matter if considered in isolation.”¹¹¹ The dissent reasoned that the claimed process, as a whole, included steps that avoided the judicial exceptions and, thus rendering it patent eligible under § 101.¹¹²

C. Reaction to *Benson* and *Flook*

The Court of Customs and Patent Appeals’ *In re Bergy* opinion summarized the confusion created by *Benson* and *Flook*.¹¹³ As the predecessor to the Federal Circuit and well-versed in patent law, the court noted that:

we find in *Flook* an unfortunate and apparently unconscious, though clear, commingling of distinct statutory provisions which are conceptually unrelated, namely, those pertaining to the *categories* of inventions in § 101 which *may* be patentable and to the *conditions* for patentability demanded by the statute for

104. *Id.* at 594.

105. *Id.*

106. *See id.*

107. *See id.* at 598–600 (Stewart, J., dissenting).

108. *Id.* at 600 (Stewart, J., dissenting).

109. *Id.* at 599.

110. *Id.* at 598.

111. *Id.* at 599.

112. *Id.*

113. *In re Bergy*, 596 F.2d 952, 958, 964–65 (C.C.P.A. 1979), *vacated in part sub nom.*, 444 U.S. 1028 (1980), *and aff’d sub nom.*, 447 U.S. 303 (1980).

inventions within the statutory categories, particularly the nonobviousness condition of § 103. The confusion creeps in through such phrases as “eligible for patent protection,” “patentable process,” “new and useful,” “inventive application,” “inventive concept,” and “patentable invention.” The last-mentioned term is perhaps one of the most difficult to deal with unless it is used *exclusively* with reference to an invention which complies with *every* condition of the patent statutes so that a valid patent may be issued on it.¹¹⁴

In addition to that assessment, the Supreme Court itself would discuss in *Diehr*¹¹⁵ the lack of clarity stemming from *Benson* and *Flook*, before leaving patent eligibility determinations for processes up to the lower courts for thirty years.¹¹⁶ Despite the duration of its silence after *Diehr*, the uncertainty caused by the Court’s decisions in these cases would take center stage again in *Bilski*.¹¹⁷

D. *Diamond v. Chakrabarty*

The Court next dealt with the patent eligibility of claims implicating issues related to natural products and living organisms.¹¹⁸ Specifically, the claims in 1980’s *Diamond v. Chakrabarty* concerned a new bacterium capable of digesting oil.¹¹⁹ The patent examiner rejected the claims under § 101 upon finding that bacteria, even if man-made, could never satisfy § 101 because (i) microorganisms are inherently “products of nature” and (ii) living things could never be patent eligible.¹²⁰ The Patent Office Board of Appeals affirmed the examiner’s rejections, but relied instead on the exclusion of microorganisms from patent eligibility under the 1930 Plant Patent Act.¹²¹

Chief Justice Burger began the Court’s opinion by noting that the question presented was “a narrow one of statutory interpretation,”¹²² namely whether the claimed microorganism constituted a “manufacture[] or composition of matter.”¹²³ In doing so, he also acknowledged that “Congress . . . recognized that the relevant distinction was not between living and inanimate things, but between products of nature, whether

114. *Id.* at 959 (emphasis added).

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

116. *Compare Diehr*, 450 U.S. at 175, with *Bilski v. Kappos*, 561 U.S. 593 (2010).

117. *See Bilski*, 561 U.S. at 593.

118. *See, e.g., Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

119. *Id.* at 305.

120. *Id.* at 306.

121. *Id.*

122. *Id.* at 307.

123. *Id.* (internal quotation marks omitted).

living or not, and human-made inventions.”¹²⁴ The Court reasoned that any *non-natural* “product of human ingenuity” could be patentable.¹²⁵

The Court then reiterated the well-known exceptions to the patent eligibility calculus: “[t]he laws of nature, physical phenomena, and abstract ideas[.]”¹²⁶ The Court explained that the claim was “not to a hitherto unknown natural phenomenon, but to a nonnaturally occurring manufacture or composition of matter[.]”¹²⁷ By finding the claimed bacteria man-made, the Court found the claims (i) directed to a “manufacture” and (ii) not within the product of nature exception.¹²⁸

Despite the seemingly simple task of determining that man-made products are not products of nature, the Court acknowledged the calculus required and cautioned that courts “should not read into the patent laws limitations and conditions which the legislature has not expressed.”¹²⁹ Indeed, the Court made its often-quoted proclamation that “anything under the sun that is made by man”¹³⁰ is patent eligible, citing legislative history behind the 1952 Patent Act for support.¹³¹ It is important to note that the Court’s proclamation relates to § 101; the Court says nothing about patentability under §§ 102, 103, or 112.

The Court was far from unanimous.¹³² Indeed, four justices—Brennan, White, Marshall, and Powell—would have held the claims patent ineligible.¹³³ Specifically, and despite the majority’s detailed discussion related to the statute, the dissent opined that Congress had had the opportunity to include organisms like the claimed bacteria in § 101, but had not done so.¹³⁴

Despite the divisive nature of the decision, *Chakrabarty* spurred a new interest in patents, particularly in the emerging biotechnology industry.¹³⁵ Moreover, the Court did not deal with the patentability of biological subject matter again until *Mayo*¹³⁶ and *Myriad*.¹³⁷

124. *Id.* at 313; *see also id.* at 309 (dismissing the examiner’s “living things” theory of rejection).

125. *Id.* at 309; *see also id.* at 313 (observing that Congress had enacted the Plant Patent Act to grant patentability to *otherwise-unpatentable*, useful inventions).

126. *Id.* at 309.

127. *Id.*

128. *Id.* at 309–10.

129. *Id.* at 308 (internal quotation marks omitted).

130. *Id.* at 309.

131. *Id.*; *see also id.* at 309 n.6.

132. *Id.* at 318 (noting the four dissenting Justices).

133. *Id.* (Brennan, J., dissenting).

134. *Id.* at 319–20.

135. *See* CHISUM, *supra* note 56, at 1-OV 7.

136. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012); *see infra* Part IV.C.2.b.

137. *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107; *see infra* Part IV.C.3.b.

E. *Diamond v. Diehr*

The Court rendered its final patent eligibility decision before the advent of the Federal Circuit just one year later. In *Diamond v. Diehr*,¹³⁸ the Court reassessed the role of equations in determining patent eligibility.¹³⁹ The applicant had claimed the use of thermocouples to monitor the curing temperature of rubber in a mold and the interpretation of data from those thermocouples to determine when to remove the rubber from the mold.¹⁴⁰ The examiner had deemed claims involving the interpretation of resulting data using an equation to be ineligible.¹⁴¹

The Court began by discussing *Flook* and *Benson*, downplaying the confusion these cases had caused by asserting they stood for nothing more than the well-known abstract ideas exception.¹⁴² Indeed, the Court characterized the patent ineligible claims in those cases as directed to mathematical formulae in the abstract, noting that they threatened to preempt every use of the respective equations.¹⁴³ However, the *Diehr* Court declared that the mere presence of an equation did not make a claim patent ineligible.¹⁴⁴ Instead, in cases where the claims do not preempt every use of an equation, the scope of the claims is less concerning under § 101.¹⁴⁵ The Court recognized that “[i]t is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”¹⁴⁶

To determine whether claims satisfy § 101 or fall under the exception, the Court held that each claim must be considered as a whole.¹⁴⁷ Specifically, the Court explained:

In determining the eligibility of respondents’ claimed process for patent protection under § 101, their claims must be considered *as a whole*. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in

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

139. *Id.* at 176–77.

140. *Id.* at 177.

141. *Id.* at 179–80.

142. *Id.* at 185.

143. *Id.* at 186–87.

144. *Id.* at 187.

145. *Id.* at 185–87.

146. *Id.* at 187.

147. *Id.* at 188.

common use before the combination was made.¹⁴⁸

The majority rejected the dissent's approach of ignoring portions of the claims, as doing so "read[s] out of respondent's patent application all the steps in the claimed process which it determined were not novel or inventive."¹⁴⁹

The Court found that the addition of thermocouples and the monitoring step narrowed the use of the equation: "the respondents here do not seek to patent a mathematical formula. Instead, they seek patent protection for a process of curing synthetic rubber."¹⁵⁰ Accordingly, the Court held the claims patent eligible.¹⁵¹

In doing so, the Court narrowed *Flook* and addressed the blurred line between patent eligibility and novelty that had since occurred.¹⁵² Specifically, the Court explicitly explained that the claimed application in *Flook*

did not purport to explain how these other variables were to be determined, nor did it purport to contain any disclosure relating to the chemical processes at work, the monitoring of process variables, or the means of setting off an alarm or adjusting an alarm system, [and that a]ll that it provides is a formula for computing an updated alarm limit.¹⁵³

Despite *Flook*'s language suggesting otherwise, the *Diehr* Court declared that novelty under § 102 is a completely separate consideration from § 101.¹⁵⁴ Unfortunately, the Court did not clarify exactly how to reconcile *Flook* with the supposedly clear line between § 101 and § 102. The confusion from *Flook* would again rise in *Mayo v. Prometheus*.¹⁵⁵

Justice Stevens, the author of *Flook*—joined by Justice Brennan, Marshall, and Blackmun—dissented.¹⁵⁶ He criticized the majority's conclusion as to what the applicant had claimed,¹⁵⁷ namely a discovery of "a method of constantly measuring the actual temperature inside a rubber molding press."¹⁵⁸ That said, Justice Stevens opined that he would

148. *Id.* (emphasis added).

149. *Id.* at 193 n.15 (internal quotation marks omitted) (reasoning that such an approach "is not the purpose of the § 101 inquiry").

150. *Id.* at 187.

151. *Id.* at 191–93.

152. *See id.* at 186–87.

153. *Id.* (footnote omitted) (internal quotation marks omitted).

154. *Id.* at 191.

155. *See infra* Part IV.C.2.b.

156. *Diehr*, 450 U.S. at 193 (noting the four dissenting Justices).

157. *Id.* at 206–07 (Stevens, J., dissenting).

158. *Id.* at 206 (adopting the applicant's characterization).

have held such claims patent eligible if he had agreed with that characterization.¹⁵⁹ But he did not agree, submitting instead that the invention claimed “an improved method of calculating the time that the mold should remain closed during the curing process.”¹⁶⁰ As a result, he argued that such claims were patent ineligible.¹⁶¹

Moreover, Justice Stevens maintained that the majority misapplied *Flook* by failing to distinguish between “the subject matter of what the inventor *claims* to have discovered—the § 101 issue—and the question whether that claimed discovery is in fact novel—the § 102 issue.”¹⁶² While Justice Stevens proffered that *Diehr* would confuse § 101 analyses,¹⁶³ the Court left such determinations to the lower courts, primarily the Federal Circuit, for almost the next thirty years.¹⁶⁴

IV. ACT III: CASES FROM THE FEDERAL CIRCUIT

A. *The Early Years*

When the patent bar considers patent law jurisprudence, we often think of the Federal Circuit. Indeed, as noted above in Part III, the Supreme Court rendered only five opinions on patent eligibility under § 101—including the trilogy of *Flook*, *Chakrabarty*, and *Diehr*—between 1952 and 2010, roughly spanning two generations of patent practitioners.¹⁶⁵ In keeping with its pattern of reticence to deal with such issues, the Supreme Court left patent law jurisprudence entirely to the Federal Circuit from its creation in 1982 until 1988. And the Supreme Court did not start “its foray into the real ‘essentials’ of patent law”¹⁶⁶ until *Markman v. Westview Instruments* in 1996.¹⁶⁷ Moreover, the Supreme Court did not grant *certiorari* to a Federal Circuit case dealing with 35 U.S.C. § 101 until 2001, when it agreed to hear *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc.*¹⁶⁸

In *J.E.M.*, the Court affirmed the Federal Circuit and held that claims directed to human-made hybrid plants were patent eligible under § 101.¹⁶⁹

159. *Id.* at 207.

160. *Id.* at 206–07.

161. *Id.* at 219–20.

162. *Diehr*, 450 U.S. at 211 (Stevens, J., dissenting) (emphasis added).

163. *See id.* at 210–11.

164. *Compare Diehr*, 450 U.S. at 175, with *Bilski v. Kappos*, 561 U.S. 593 (2010).

165. *See supra* Part III.

166. *Gajarsa & Cogswell*, *supra* note 2, at 822.

167. 517 U.S. 370 (1996).

168. 534 U.S. 124 (2001).

169. *Id.* at 145–46. *J.E.M.* involved whether plants were patent eligible under § 101, in view of the Plant Patent Acts of 1930 and 1970. *Id.* at 130. While *J.E.M.* answered this question in the

The Court relied on 1980's *Chakrabarty* in deciding *J.E.M.*, noting the importance of focusing on the words of the statute chosen by Congress, and reiterating that § 101 was expansive¹⁷⁰ and covered "anything under the sun . . . made by man."¹⁷¹

It was not until 2006 that the Court openly contemplated § 101 again.¹⁷² In the interim, Justice Stevens penned a concurring opinion in 2002, noting that the Court should be wary of any institutional bias that might come from the Federal Circuit's domination of patent law and suggesting that the Supreme Court could take a more active role in the future.¹⁷³ Specifically, in discussing the scope of jurisdiction exercised by the Federal Circuit with respect to patent law, Justice Stevens explained that "occasional decisions by courts with broader jurisdiction will provide an antidote to the risk that the specialized court may develop an institutional bias."¹⁷⁴ Four years later, Justice Breyer would adopt Justice Stevens's concern.¹⁷⁵

B. *A New Beginning: 2006*

The year 2006 marked a shift at the Supreme Court with regard to its interest in 35 U.S.C. § 101. As we suggested earlier, a close examination of Justice Breyer's dissent from the dismissal of the writ of certiorari as improvidently granted in *Lab Corp.*¹⁷⁶ laid the groundwork for the Supreme Court's *Mayo v. Prometheus* decision in 2012,¹⁷⁷ a decision that surprised much of the patent bar.¹⁷⁸

In his dissent to the *Lab Corp.*, Justice Breyer—joined by Justices Stevens and Souter—criticized the state of patent eligibility jurisprudence, signaling a shift in the Court's attention onto this substantive issue.¹⁷⁹ He began with the now familiar idea that laws of nature are patent ineligible.¹⁸⁰ While recognizing that discovering important laws of nature or mathematical formulae is not easy, Justice

affirmative, we pay no further text to the overlap between the two statutes, as such issues lend themselves to entire papers themselves, and do not directly impact the issues discussed herein. *Id.* at 145.

170. *Id.* at 130–31.

171. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

172. *Bilski v. Kappos*, 561 U.S. 593 (2010).

173. *See Holmes Grp., Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 839 (2002) (Stevens, J., concurring in part and concurring in the judgment).

174. *Id.*

175. *Bilski*, 561 U.S. at 657–60.

176. *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126 (2006) (Breyer, J., dissenting).

177. 132 S. Ct. 1289 (2012).

178. *See Cox & Vandegrift*, *supra* note 1.

179. *See Lab. Corp.*, 548 U.S. at 125–28, 136–37 (Breyer, J., dissenting) (per curiam).

180. *Id.* at 126–27.

Breyer cautioned that difficulty, ingenuity, and usefulness are not the only criteria for determining patent eligibility.¹⁸¹ He further noted how patent laws must walk a fine line in fostering development as too much protection can discourage research.¹⁸² Justice Breyer's dissent indicated the Supreme Court's awareness of how diagnostic method claims could run afoul of the prohibition against patenting laws of nature.¹⁸³

C. The Beginning of the End: 2010–2013

1. The Numbers

After 2006, the Supreme Court began hearing more cases involving substantive patent issues, but did not weigh in on patent eligibility until the 2010 *Bilski v. Kappos* case.¹⁸⁴ From 1952 to 1982, the Supreme Court rendered opinions on the scope of § 101 only four times, recognizing the expansive “anything under the sun made by man” doctrine.¹⁸⁵ From 1982 to 2005, the Court rendered only one such opinion—*J.E.M.*—and followed its precedent from the 1952–1982 era.¹⁸⁶ After zero opinions regarding 35 U.S.C. § 101 from 2006 to 2009 (Justice Breyer's 2006 dissent to the *Lab Corp.* notwithstanding), the Court reprioritized the matter and issued three opinions in just four years, shown in the table below:

181. *Id.* at 126.

182. *Id.* at 126–27.

183. *Id.* at 127–28.

184. 561 U.S. 593 (2010); *see also* Gajarsa & Cogswell, *supra* note 2, at 821–22 (noting the increased patent caseload of the Supreme Court).

185. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

186. *J.E.M. v. Pioneer Hi-Bred*, 534 U.S. 124, 145–46 (2001).

SUPREME COURT § 101 JURISPRUDENCE SINCE THE 1952 PATENT ACT		
Era	Number of Cases	Cases
1952-1957	0	
1958-1962	0	
1963-1967	0	
1968-1972	1	<i>Gottschalk v. Benson</i> (1972)
1973-1977	0	
1978-1982	3	<i>Parker v. Flook</i> (1978) <i>Diamond v. Chakrabarty</i> (1980) <i>Diamond v. Diehr</i> (1981)
1983-1987	0	
1988-1992	0	
1993-1997	0	
1998-2002	1	<i>J.E.M. v. Pioneer Hi-Bred</i> (2001)
2003-2007	0	
2008-2013	3	<i>Bilski v. Kappos</i> (2010) <i>Mayo v. Prometheus</i> (2012) <i>AMP v. Myriad</i> (2013)

According to a breaking down of the era since the 1952 Patent Act into twelve roughly five-year periods, the Supreme Court has largely stayed away from patent eligibility except for the 1978-1982 and current periods. While the recent increase itself is interesting,¹⁸⁷ it is the substance of those opinions that impact the patent bar and the global economy.

2. From *Bilski* to *Mayo*

a. *Bilski v. Kappos*¹⁸⁸

The *Bilski* decision did not come as much of a surprise to the patent bar. Indeed, the PTO even stated that its subject matter eligibility determinations for “claims directed to abstract ideas” likely would not change in view of *Bilski*.¹⁸⁹ Moreover, the claims in *Bilski* conceptually appear closer to the patent-ineligible abstract ideas in *Flook* and *Benson* than to the claims in *Mayo*. That said, process and method claims had

187. See generally Gajarsa & Cogswell, *supra* note 2, at 821-22.

188. *Bilski*, 561 U.S. at 593.

189. See Memorandum from Robert W. Bahr, Acting Assoc. Comm’r for Patent Examination Policy to Patent Examining Corps, Interim Guidance for Determining Subject Matter Eligibility for Process Claims in View of *Bilski v. Kappos* (July 27, 2010), available at http://www.uspto.gov/patents/law/exam/bilski_guidance_27jul2010.pdf.

caused confusion before, and *Bilski* was the first time the Court dealt with them in the context of § 101 (other than *J.E.M.* and *Lab. Corp.*) in almost thirty years.¹⁹⁰

Bilski reached the Supreme Court from the PTO via the Federal Circuit, which *en banc* had thoroughly reviewed the meaning of “process” under § 101 in view of claims directed to a method of hedging investment losses.¹⁹¹ Unlike all four of the cases discussed in Part III, the Federal Circuit here had affirmed the PTO’s rejection of the claims.¹⁹²

The Supreme Court unanimously affirmed the Federal Circuit, holding the claimed methods were patent ineligible.¹⁹³ The Court reasoned that the claims could not stand because they “would pre-empt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.”¹⁹⁴ Even so, the Court rejected the opportunity to declare business methods categorically patent ineligible.¹⁹⁵

Significantly, the Court made clear that § 101 broadly covers “any” new and useful process, as Congress intended that patent eligibility be given “wide scope” so as to liberally encourage innovation.¹⁹⁶ The Court’s reasoning followed from *Chakrabarty* in recognizing the exceptions to the otherwise broad patent-eligibility principles: “laws of nature, physical phenomena, and abstract ideas.”¹⁹⁷ Further, the majority acknowledged the difference between patent eligibility under § 101, and patentability under §§ 102, 103, and 112, expressly noting that a patent eligibility inquiry is only a threshold test, and that the invention must also satisfy the requirements under §§ 102, 103, and 112.¹⁹⁸

Although following the Court’s own precedent, the Justices penned several opinions demonstrating the Court’s lack of uniformity, crafting a decision Professor Chisum has called “a remarkably inconclusive contribution to the law on patent-eligible subject matter.”¹⁹⁹ Justice Kennedy wrote the Court’s opinion, which Justices Roberts, Thomas, and Alito joined, and Justice Scalia also joined except for Parts II.B.2 and

190. Compare *Chakrabarty*, 447 U.S. at 303 (decided in 1980), with *Bilski*, 561 U.S. at 593 (decided in 2010).

191. *Bilski*, 561 U.S. at 600.

192. *Id.*

193. *Id.* at 611. Despite its affirmance, the Court rejected the Federal Circuit’s adoption of the machine-or-transformation test as the sole test of determining patent eligibility of such claims. *Id.* at 604. The Court held that, while the test is “a useful and important clue, an investigative tool, . . . [it] is not the sole test for deciding whether an invention is a patent-eligible ‘process.’” *Id.*

194. *Id.* at 612.

195. *Id.* at 611–12.

196. *Id.* at 601–02 (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980)).

197. *Id.* at 601.

198. *Id.* at 602.

199. CHISUM, *supra* note 56, § 1.03[6][m] at 62.

II.C.2.²⁰⁰ Justice Stevens—joined by Justices Ginsburg, Breyer, and Sotomayor—concurred.²⁰¹ Justice Breyer filed another concurring opinion, which Justice Scalia joined in Part II.²⁰²

In reasoning that the claims were not patent eligible, Justice Kennedy emphasized that the Court was “not commenting on the *patentability* of any particular invention, let alone holding that any of the abovementioned technologies from the Information Age should or should not receive patent protection.”²⁰³ The Court also expressed concerns that business method patents “raise special problems in terms of vagueness and suspect validity,”²⁰⁴ and could “put a chill on creative endeavor and dynamic change.”²⁰⁵ A complete ban on such patents under § 101, however, would provide a limitation, while the requirements of novelty, nonobviousness, and written description serve to balance “between stimulating innovation by protecting inventors and impeding progress by granting patents when not justified by the statutory design.”²⁰⁶

Justice Stevens, in his concurrence, “strongly disagree[d] with the Court’s disposition of this case.”²⁰⁷ He called out the majority, noting that the Court “never provides a satisfying account of what constitutes an unpatentable abstract idea.”²⁰⁸ Moreover, he reasoned that the majority’s approach, which included “statements about how to define the term ‘process’ in § 101 . . . tinker[ed] with the bounds of the category of unpatentable, abstract ideas[.]”²⁰⁹ Justice Stevens cautioned against this approach, asserting the majority’s suggestion that “any series of steps that is not itself an abstract idea or law of nature may constitute a ‘process’ within the meaning of § 101 . . . [could] only cause mischief.”²¹⁰

To Justice Stevens, “a claim that merely describes a method of doing business does not qualify as a ‘process’ under § 101.”²¹¹ Basing his conclusion on a result that he submitted would “restore patent law to its historical and constitutional moorings,”²¹² Justice Stevens opined that the scope of patent eligible subject matter is “broad[,] [b]ut it is not endless.”²¹³

200. *Bilski*, 561 U.S. at 596.

201. *Id.* at 613.

202. *Id.* at 658.

203. *Id.* at 606 (emphasis added).

204. *Id.* at 608.

205. *Id.*

206. *Id.* at 609.

207. *Id.* at 657 (Stevens, J., concurring).

208. *Id.* at 621.

209. *Id.* at 613.

210. *Id.* at 614.

211. *Id.*

212. *Id.* at 613.

213. *Id.* at 657.

Justice Breyer agreed with Justice Stevens in that he would hold the claimed method patent ineligible, but wrote separately in view of what he called “the need for clarity and settled law in this highly technical area.”²¹⁴ He noted how both Justice Stevens and Justice Kennedy confirmed that § 101 is broad, but its scope is not unlimited.²¹⁵

Despite criticizing the formulaic approach of the Federal Circuit and rejecting the machine-or-transformation test as the sole test of patentability (and affirming the invalidation of the claims),²¹⁶ the Court declared that “[r]ather than adopting categorical rules that might have wide-ranging and unforeseen impacts, the Court resolves this case narrowly[.]”²¹⁷ While the *Bilski* decision arguably did not limit patent eligibility any more than *Flook* or *Benson* did, the Court’s decision in *Mayo* would significantly restrict the reach of § 101.²¹⁸

b. *Mayo v. Prometheus*²¹⁹

(1) Summary

In 2012, the Supreme Court’s *Mayo* decision unanimously declared patent ineligible the kinds of diagnostic method claims present in *Lab. Corp.*²²⁰ The asserted claims were directed generally to methods of (i) administering thiopurine to a patient, (ii) determining the levels of thiopurine or thiopurine metabolites in the patient’s blood, (iii) comparing those measured levels to known metabolite levels, and (iv) adjusting the dose based on the comparison in step (iii) to reduce toxicity and enhance efficacy.²²¹ The district court held the claims invalid, finding that they covered a patent ineligible natural law, namely the correlation between (i) metabolite levels and (ii) toxicity and efficacy of dosage.²²² The Federal Circuit reversed in 2009 (and again in 2010 en banc),²²³ concluding (pursuant to the machine-or-transformation test) that the

214. *Id.* (Breyer, J., concurring).

215. *Id.* at 658.

216. *Id.* at 613.

217. *Id.* at 609 (majority opinion).

218. *See id.* at 609. (“[T]he Court resolves this case narrowly on the basis of this Court’s decisions in *Benson*, *Flook*, and *Diehr* . . . [because] the patent application at issue here falls outside of § 101 because it claims an abstract idea.”).

219. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

220. *Id.* at 1305; *see also* Part IV.C.

221. *Mayo*, 132 S. Ct. at 1295.

222. *Id.* at 1296.

223. *See Prometheus Labs, Inc. v. Mayo Collaborative Servs.*, 581 F.3d 1336, 1350 (Fed. Cir. 2009), *vacated and remanded in light of Bilski*, 130 S. Ct. 3543; *Prometheus Labs, Inc. v. Mayo Collaborative Servs.*, 628 F.3d 1347, 1359 (Fed. Cir. 2010).

claims covered transformation of the body or blood.²²⁴

Upon granting *certiorari*, the Supreme Court ordered the Federal Circuit to rehear the appeal in view of *Bilski*.²²⁵ The Federal Circuit again found the claims patent eligible as “drawn not to a law of nature, but to a *particular application* of naturally occurring correlations, and accordingly [the claims] do not preempt all uses of the recited correlations between metabolite levels and drug efficacy or toxicity.”²²⁶ The Supreme Court granted *certiorari* again, and reversed the Federal Circuit’s opinion.²²⁷

Justice Breyer authored the unanimous opinion finding the claims patent ineligible.²²⁸ The Court described its precedent on § 101, relying heavily on *Le Roy* and *Morse*, acknowledging that all inventions embody or apply laws of nature to some degree, and deciding that processes that apply natural laws in a particular, useful way, were at least patent eligible.²²⁹ But the Court also recognized that phenomena of nature and abstract ideas are patent *ineligible* because the “monopolization of those basic tools through the grant of a patent might tend to impede innovation more than it would tend to promote it.”²³⁰ The Court reasoned that the exceptions were created to prevent the monopolization of the “basic tools of scientific and technological work.”²³¹

Justice Breyer summarized the question presented as whether the claims amounted only to natural laws, or whether the methods *added enough* to the correlations recited to satisfy § 101.²³² Although the Court acknowledged that the claims included three steps beyond the natural laws, it nevertheless found these steps insufficient to satisfy § 101.²³³

First, the Court found that the administering step merely referred to the relevant audience of the invention, reasoning that limiting the use of the natural law to a particular field of practice cannot satisfy § 101.²³⁴ Second, Justice Breyer explained how the “wherein” clause only informed doctors that they should consider the recited natural laws—the correlation between thiopurine metabolite levels and efficacy and toxicity—in their practice.²³⁵ Third, the Court found that the “determining” step covered “well-understood, routine, and conventional

224. *Mayo*, 132 S. Ct. at 1296.

225. *Id.*

226. *Mayo*, 628 F.3d at 1355 (emphasis added).

227. *Mayo*, 132 S. Ct. at 1305.

228. *Id.* at 1293.

229. *Id.* at 1293–94.

230. *Id.* at 1293.

231. *Id.*

232. *Id.* at 1294.

233. *Id.* at 1298.

234. *Id.* at 1297.

235. *Id.*

activit[ies].”²³⁶ As these were well-known, the Court held the claimed subject matter was not patent eligible.²³⁷

Thus, the Court held that as the aforementioned steps were beyond natural law but at least partially obvious, they did not “transform unpatentable [patent ineligible] natural correlations into patentable [patent eligible] applications of those regularities.”²³⁸

The Court also expounded that the expansive view of § 101, despite being supported by the legislative history and its precedent to date, did not equate to a lenient threshold for method claims.²³⁹ Specifically, the Court rejected the view that virtually all steps beyond a statement of a natural law should meet the requirements of § 101, purporting the patentability calculus under §§ 102, 103, and 112 sufficed to determine whether claims should issue and withstand scrutiny in litigation.²⁴⁰ Indeed, Justice Breyer reasoned that the policy concerns that underlie § 101 were distinct from those of the “other” patentability requirements.²⁴¹ Specifically, the Court rejected the view that virtually all steps beyond a statement of a natural law should meet the requirements of § 101 and purported to leave the patentability calculus under §§ 102, 103, and 112 to determine whether claims should issue and withstand scrutiny in litigation.²⁴² Yet, he also noted the blurry nuance between the conceptual distinctions in explaining that,

[w]e recognize that, in evaluating the significance of additional steps, the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap. But that need not always be so. And to shift the patent-eligibility inquiry entirely to these later sections risks creating significantly greater legal uncertainty, while assuming that those sections can do work that they are not equipped to do.²⁴³

Despite admitting a confusing flaw in its method for determining the patent eligibility of method claims touching on natural laws or phenomena—namely that its test for patent eligibility includes an obviousness determination—the Court’s attempt to justify the flaw instead compounded it. A look at the first attempt by the PTO and *en banc* Federal Circuit opinion to wrestle with *Mayo* show the uncertainty the

236. *Id.*

237. *Id.* at 1297–98.

238. *Id.* at 1298.

239. *See id.* at 1301–02.

240. *See id.* at 1304.

241. *Id.* at 1304–05.

242. *Id.* at 1304.

243. *Id.*

Court caused.

(2) Reaction from the PTO: Confusion

On March 21, 2012, the PTO issued a memorandum on the *Mayo* decision instructing its examiners to “continue to ensure that claims, particularly process claims, are not directed to an exception to eligibility such that the claim amounts to a monopoly on the law of nature, natural phenomenon, or abstract idea itself.”²⁴⁴ The PTO issued a similar memorandum on July 3, 2012.²⁴⁵ While the July 3 memorandum expressly superseded the March 21 memorandum, it elaborated on the same instructions:

In summary, process claims having a natural principle as a limiting element or step should be evaluated by determining whether the claim includes additional elements/steps or a combination of elements/steps that integrate the natural principle into the claimed invention such that the natural principle is practically applied, and are sufficient to ensure that the claim amounts to significantly more than the natural principle itself. If the claim as a whole satisfies this inquiry, the claim is directed to patent-eligible subject matter. If the claim as a whole does not satisfy this inquiry, it should be rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.²⁴⁶

The PTO also noted that “[p]rocess claims that are directed to abstract ideas . . . should continue to be examined using the . . . *Interim Bilski Guidance*[.]”²⁴⁷

The PTO recognized the recent increase in patent eligibility cases coming from the courts that were impacting its practices.²⁴⁸ Specifically, the PTO noted not only that “*Mayo* has provided additional details for the [patent] eligibility analysis that the [PTO] developed after *Bilski*,” but also that the courts, namely the Federal Circuit, “will provide insight

244. Memorandum from Andrew H. Hirshfeld, Assoc. Comm’r for Patent Examination Policy to Patent Examining Corps, Supreme Court Decision in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 2 (Mar. 21, 2012), available at http://www.uspto.gov/patents/law/exam/mayo_prelim_guidance.pdf.

245. See Memorandum from Andrew H. Hirshfeld, Deputy Comm’r for Patent Examination Policy, to Patent Examining Corps, 2012 Interim Procedure for Subject Matter Eligibility Analysis of Process Claims Involving Laws of Nature (July 3, 2012), available at http://www.uspto.gov/patents/law/exam/2012_interim_guidance.pdf.

246. *Id.*

247. *Id.* at 1.

248. See *id.*

regarding the full reach of *Bilski* and *Mayo*.²⁴⁹ Despite stating it would wait on the courts for that further guidance, the PTO issued detailed “Essential Inquiries for Subject Matter Eligibility Under 35 U.S.C. § 101” in its July 3, 2012 memorandum.²⁵⁰

The PTO also issued “Detailed Guidance for Using the Inquiries” in the same July 3 memorandum.²⁵¹ The PTO instructed that the first step in its patent eligibility analysis is determining what the applicant invented in light of the broadest reasonable interpretation of the claims.²⁵² In fact, the PTO notes in its examples that because *Mayo* requires claims that include use of a natural principle, such claims “must also include additional elements or steps to show that the inventor has practically applied, or added something significant to, the natural principle itself.”²⁵³ These “additional elements or steps must relate to the natural principle in a significant way to impose a meaningful limit on the claim scope. The analysis turns on whether the claim has added *enough* to show a practical application.”²⁵⁴ As shown below, consideration of claim scope should be an important factor in determining patent eligibility.²⁵⁵

(3) Reaction

Despite his protests to the contrary, Justice Breyer confused the conditions for patentability (*i.e.*, obviousness) with the Court’s patent eligibility calculus.²⁵⁶ If claimed steps are man-made and apply a natural law, the claim should be patent *eligible*, which does not speak to its patentability under §§ 102, 103, or 112.²⁵⁷ Indeed, if those steps are routine or otherwise obvious or not novel, the claim should fall under §§ 102 or 103, not § 101.

In the end, Justice Breyer failed to differentiate between § 101 and the other patentability requirements, negating the seminal tenets of statutory interpretation, and facially rejecting the legislative history and intent behind § 101.²⁵⁸ That foundation, which is fully incorporated in the

249. *Id.*

250. *Id.* at 2.

251. See Hirshfeld, *supra* note 245, at 2–6.

252. *Id.* at 2.

253. *Id.* at 3.

254. *Id.* (emphasis added).

255. In its July 3rd memorandum, the PTO also noted that “a claim does not have to be novel or non-obvious to qualify as a subject matter eligible claim. Moreover, a claim that is deemed eligible is not necessarily patentable unless it also complies with the other statutory and non-statutory considerations for patentability under §§ 101 (utility and double patenting), 102, 103, and 112, and non-statutory double patenting.” *Id.* at 4–5.

256. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1304 (2012).

257. See Hirshfeld, *supra* note 245, at 4–5.

258. See *Mayo*, 132 S. Ct. at 1304.

precedent Justice Breyer cites, mandates a broad reading of § 101. The practical result of *Mayo* is not unfounded, but the reasoning behind it is.

3. *CLS Bank* and *Myriad V*: The End?

Despite its procedural posture, *Lab Corp.* foreshadowed the Supreme Court's revived interest in patent eligibility determinations culminating in *Myriad V*.²⁵⁹ But before we discuss that case, we look at how the Supreme Court has influenced the purportedly biased judges of the specialized Federal Circuit.

a. *CLS Bank*

The Federal Circuit's *CLS Bank v. Alice Corp*²⁶⁰ decision showed the extent of confusion caused by the Supreme Court's recent § 101 jurisprudence. Described as a "Nightmare Ruling"²⁶¹ and a "Fractured Affirmance,"²⁶² the Federal Circuit's per curiam, majority opinion only affirmed the district court's holdings that (i) "the asserted method and computer-readable media claims are not directed to eligible subject matter under 35 U.S.C. § 101" and (ii) "the asserted system claims are not directed to eligible subject matter under that statute."²⁶³ That is the extent of the majority opinion, but there are six more thorough opinions to consider.

The three sets of claims were directed to (i) a method, (ii) a system, and (iii) a computer readable medium, all for managing risks during financial transactions.²⁶⁴ The appeal focused upon whether the claims represent an "abstract idea" that would fail to satisfy § 101.²⁶⁵ Following limited discovery, *CLS Bank* moved for summary judgment.²⁶⁶ Although the district court did not construe the claims, the parties stipulated to a narrow construction.²⁶⁷

259. See *Myriad V*, 133 S. Ct. 2107 (2013).

260. *CLS Bank Int'l v. Alice Corp. Pty., Ltd.*, 717 F.3d 1269 (Fed. Cir. 2013) (en banc) (per curiam) [hereinafter *CLS Bank II*].

261. Ryan Davis, 'Nightmare' Ruling on Software Patent Standard Baffles Attys, LAW360.COM (May 13, 2013, 9:37 PM), www.law360.com/articles/440975.

262. Courtenay C. Brinkerhoff, *Federal Circuit Issues Fractured Affirmance in CLS Bank v. Alice Corporation*, PHARMAPATENTS (May 12, 2013), <http://www.pharmapatentsblog.com/2013/05/12/federal-circuit-issues-fractured-affirmance-in-cls-bank-v-alice-corporation/>.

263. *CLS Bank II*, 717 F.3d at 1273.

264. *Id.* at 1284–85 (Lourie, J., concurring).

265. *Id.* at 1275–76.

266. *Id.* at 1275.

267. *Id.* at 1328–29. The Federal Circuit judges, despite failing to agree on much regarding determinations of patent eligibility, do appear to agree that, while not required, construing the claims before addressing § 101 often would be helpful. See, e.g., *Id.* at 1282 ("[C]onducting a claim construction before addressing § 101 may be especially helpful . . . by facilitating a full

The district court granted summary judgment in favor of CLS Bank,²⁶⁸ holding that each of the asserted method claims were directed to “an abstract idea of employing an intermediary to facilitate simultaneous exchange of obligations in order to minimize risk” and therefore failing to satisfy § 101.²⁶⁹ The court also held patent ineligible the computer readable medium and system claims upon finding them directed to “the same abstract concept despite the fact they nominally recite a different category of invention[.]”²⁷⁰ Alice Corp. appealed and the Federal Circuit agreed to hear the case *en banc*.²⁷¹

The Federal Circuit held that the claims failed to satisfy § 101 only.²⁷² All ten judges relied on the same precedent, including *Benson*, *Flook*, *Diehr*, *Bilski*, and *Mayo*, and recognized the same judicial exceptions to § 101.²⁷³ The court also recognized that to avoid the abstract idea exception, a claimed method must include “meaningful limitations” beyond that idea.²⁷⁴ But that is where the agreement between the ten judges ended.²⁷⁵ Specifically, seven judges agreed that the method and computer readable medium claims were directed to patent ineligible subject matter.²⁷⁶ Even so, no majority agreed on the reasoning for that conclusion or a test for reaching it.²⁷⁷ Lastly, the court was divided evenly on the subject matter eligibility of the system claims.²⁷⁸ As a result, the district court’s finding that those claims are patent ineligible stood.²⁷⁹

We provide a brief summary of those Federal Circuit opinions to show how the Supreme Court’s recent dealings with § 101 have confused the jurists most versed in patent law and left patent practitioners with unclear guidance.

understanding of what each claim entails.”). Likewise, Judge Rader observed in his majority opinion in *Ultramercial* that “in part because of the factual issues involved [in determining whether claims satisfy § 101], claim construction normally will be required.” *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1339 (Fed. Cir. 2013).

268. *CLS Bank Int’l v. Alice Corp.*, 768 F. Supp. 2d 221, 255 (D.D.C. 2011) [hereinafter *CLS Bank I*].

269. *Id.* at 243.

270. *Id.* at 255.

271. *CLS Bank Int’l v. Alice Corp.*, 484 F. App’x. 559 (Fed. Cir. 2012); *CLS Bank II*, 717 F.3d at 1273.

272. *CLS Bank II*, 717 F.3d at 1273–74.

273. *See id.* at 1277–80 (Lourie, J., concurring).

274. *Id.* at 1281.

275. *See, e.g., id.* at 1306 n.7 (Rader, J., concurring in part and dissenting in part).

276. *See id.* at 1273.

277. *See, e.g., id.* at 1287 (Lourie, J., concurring); *id.* at 1313 n.1 (Moore, J., concurring in part and dissenting in part).

278. *Id.* at 1273.

279. *Id.*

(1) Judge Lourie's Concurring Opinion

Judge Lourie—joined by Judges Dyk, Prost, Reyna, and Wallach—recognized both the difficulty in applying “the patent-eligibility test”²⁸⁰ and the breadth of § 101, citing *Chakrabarty* for the “four broadly stated categories of patent eligible subject matter.”²⁸¹ He also noted that it is “important to recognize that § 101, while far-reaching, only addresses patent *eligibility*, not overall *patentability*.”²⁸² Despite this claimed awareness, and akin to Justice Breyer in *Mayo*, he then confuses the issue by incorporating obviousness into his § 101 analysis.²⁸³ Despite noting that “danger also lies in applying the judicial exceptions too aggressively[.]” Judge Lourie followed the Supreme Court against his own warning.²⁸⁴

Judge Lourie suggested a two-step process for determining patent eligibility that focused on the “practical likelihood of a claim preempting a fundamental concept.”²⁸⁵ Specifically, he reasoned that the court must determine whether the claim posed a risk of preemption (*i.e.*, directed to patent-ineligible abstract ideas).²⁸⁶ If so, the court must identify the underlying “abstract idea,” and determine whether the claim adds “enough” to it to sufficiently limit the claim “to a narrower, patent-eligible application of that idea[.]”²⁸⁷

Judge Lourie followed *Mayo*, stating that the qualities that render patentable subject matter distinct from an abstract idea should not be “routine” or “conventional.”²⁸⁸ He focused on preemption, reasoning that § 101 is the place to eliminate claims that fail to add “significantly more” than just a basic principle.²⁸⁹ Based on these concerns, Judge Lourie found the method claims directed to an abstract idea, “untethered from any real-world application.”²⁹⁰

Judge Lourie found the computer readable medium claims to be “merely method claims in the guise of a device”²⁹¹ and opined that they

280. *Id.* at 1273, 1277 (Lourie, J., concurring).

281. *Id.* at 1276.

282. *Id.* Indeed, Judge Lourie notes that distinction from both *Diehr* and *Mayo*. *See id.* at 1280, 1282–83 (noting that the *Mayo* decision uses the terms “routine” and “conventional” in this context).

283. *See id.* at 1282–83.

284. *Id.* at 1277.

285. *Id.*

286. *Id.* at 1282.

287. *Id.* at 1290.

288. *Id.* at 1283–84 (Lourie, J., concurring).

289. *Id.* at 1282–84.

290. *Id.* at 1286.

291. *Id.* at 1288.

do not add sufficient steps to the underlying abstract idea.²⁹² In doing so, he indicated that an analysis for subject matter eligibility should account for the state of the prior art, compounding the error of incorporating obviousness into § 101.²⁹³

Under the guidance of *Mayo*, five Federal Circuit judges essentially eviscerated § 101 determinations.²⁹⁴

(2) Chief Judge Rader’s Concurrence-in-Part, Dissent-in-Part

Chief Judge Rader—joined by Judge Moore—agreed with the plurality regarding the patent eligibility of the method and computer readable medium claims, but disagreed with Judge Lourie’s proposed analysis in reaching those conclusions.²⁹⁵ Specifically, he rejected Judge Lourie’s suggestion to separate the claim into an “abstract idea” and “limitations on the abstract idea” and instead argued for evaluating the claim as a whole.²⁹⁶ He reasoned that stripping down a claim as suggested by Judge Lourie would

remove all of its concrete limitations, until at its core, something that could be characterized as an abstract idea is revealed. Such an approach would “if carried to its extreme, make all inventions unpatentable because *all inventions can be reduced to underlying principles of nature* which, once known, *make their implementation obvious*.”²⁹⁷

Chief Judge Rader’s reasoning pushes back not only at Judge Lourie’s approach, but the confusion created by the Supreme Court in *Mayo* and *Flook* (and *Benson*). “[T]he Federal Circuit had been saddled with difficult Supreme Court precedents,” including those cases.²⁹⁸ Chief

292. *Id.* at 1286. Judge Lourie also would reject the system claims on similar grounds. *See id.*

293. *See id.* (Lourie, J., concurring).

294. *See id.* at 1273–92; *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012) (holding too broad an interpretation of these exclusions from § 101 “could eviscerate patent law.”); *see also* *Bilski v. Kappos*, 561 U.S. 593, 603 (2010) (“This Court has not indicated that the existence of these well-established exceptions gives the Judiciary *carte blanche* to impose other limitations that are inconsistent with the text and the statute’s purpose and design.”).

295. *See CLS Bank II*, 717 F.3d at 1292, 1297–98 (Rader, J., concurring in part and dissenting in part).

296. *See id.* at 1298. Judge Rader reasons that the § 101 “inquiry is a practical one to determine whether the claim, as a whole *with all of its limitations*, in effect covers a patent ineligible abstract idea or a patent eligible application of that idea” *Id.* (emphasis added).

297. *Id.* (emphasis added) (citing *Diamond v. Diehr*, 450 U.S. 175, 189 n.12 (1981)).

298. Richard D. Rochford et al., *Nuggets in the Ashes: A Few Guideposts from CLS Bank v. Alice Corporation*, HAYNES & BOONE (May 16, 2013), <http://www.haynesboone.com/cls-bank->

Judge Rader warned that “[a] court cannot go hunting for abstractions by ignoring the concrete, palpable, tangible limitations of the invention the patentee actually claims.”²⁹⁹

Moreover, Chief Judge Rader’s choice of the word “obvious” in this context is no accident. Indeed, he states plainly that “[t]he eligibility inquiry is not an inquiry into obviousness, novelty, enablement, or any other patent law concept;”³⁰⁰ it is “distinct from the validity requirements of the other sections.”³⁰¹ Chief Judge Rader responded to Judge Lourie (and the Supreme Court) stating that “whether a new process, machine, and so on is ‘inventive’ is not an issue under Section 101; the condition for ‘more’ than novelty is contained only in Section 103.”³⁰² In doing so, Chief Judge Rader looked to *Diehr* and *Mayo*, showing that “[t]he Supreme Court repeatedly has cautioned against conflating the analysis of the conditions of patentability in the Patent Act with inquiries into patent eligibility.”³⁰³

Chief Judge Rader—joined again by Judge Moore, as well as Judges Linn and O’Malley—also dissented regarding the system claims.³⁰⁴ In doing so, he acknowledged that the heart of the determination is based on judicial exceptions to broad, statutory subject matter.³⁰⁵ Indeed, Chief Judge Rader notes that “one of the principles that must guide our inquiry is that *judge-made exceptions* to properly enacted statutes *are to be narrowly construed*.”³⁰⁶

This axiom seems lost on the Supreme Court and the plurality of the Federal Circuit struggling to follow it.³⁰⁷ Chief Judge Rader took exception to Judge Lourie’s approach (again, per Supreme Court guidance), stating that “[l]abeling this system claim an ‘abstract concept’ wrenches all meaning from those words, and turns a narrow exception into one which may swallow the expansive rule . . .”³⁰⁸ and that “[b]road

v-alice-corporation/ (noting that the *CLS Bank* opinions showed that “the Federal Circuit is clearly looking for outside help.”).

299. *CLS Bank II*, 717 F.3d at 1298 (Rader, J., concurring in part and dissenting in part).

300. *Id.* at 1302.

301. *Id.* at 1303.

302. *Id.* at 1294.

303. *Id.* at 1303 (citing *Diamond v. Diehr*, 450 U.S. 175, 190 (1981)); *see also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1304 (2012).

304. *CLS Bank II*, 717 F.3d at 1292 (Rader, J., dissenting in part).

305. *See id.* at 1303.

306. *Id.* (emphasis added); *see Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1342 (Fed. Cir. 2013); *see also W. Union Tel. Co. v. Lenroot*, 323 U.S. 490, 514 (1945); *see also United States v. Rutherford*, 442 U.S. 544, 559 (1979); *see also CLS Bank II*, 717 F.3d at 1290 (discussing whether an abstract idea may be patent eligible if enough information is added to narrowly construe the claim).

307. *See CLS Bank II*, 717 F.3d at 1304.

308. *Id.* at 1309.

inclusivity is the Congressional goal of Section 101, not a flaw.”³⁰⁹ Chief Judge Rader further warned that “[j]udicially created exceptions must not be permitted to thwart that goal.”³¹⁰

(3) Judge Moore’s Dissent-in-Part

Judge Moore—joined by Judges Rader, Linn and O’Malley—dissented-in-part.³¹¹ She argued that the expansion of the abstract idea exception to statutory subject matter eligibility will cause a “free fall in the patent system[,]” noting that those who would hold “all of these claims [to be] directed to no more than an abstract idea gives staggering breadth to what is meant to be a narrow judicial exception.”³¹²

Judge Moore also stated that Judge Lourie confused patent eligibility determinations under § 101 analysis with the calculus required by the other patentability requirements under §§ 102, 103, and 112.³¹³ Specifically, she noted that if the claims recite a known idea, then they should fail as being obvious and, if the claim is directed to a machine that is not sufficiently detailed, the claim should fail under the provisions of § 112.³¹⁴ Such claims should not be foreclosed from patent eligibility in view of an improperly broad interpretation of the exceptions to statutory subject matter patent eligibility under § 101.³¹⁵

(4) The Linn and O’Malley Dissent

Judges Linn and O’Malley dissented, arguing that the analyses by Judges Lourie and Rader are flawed, as the district court had yet to construe the claims.³¹⁶ With respect to Chief Judge Rader’s opinion, they noted that the method claims should be patent eligible for the same reasons that he gave related to the systems claims.³¹⁷ They also criticized Judge Lourie’s opinion as internally inconsistent—noting that by construing the claims broadly and limiting his analysis to what he

309. *Id.* at 1304.

310. *Id.*

311. *Id.* at 1313 (Moore, J., concurring in part and dissenting in part).

312. *Id.*

313. *See id.* at 1320–21.

314. *Id.*

315. *See id.* at 1321.

316. *Id.* at 1327–28 (Linn, J., dissenting). Notably, of the cases discussed herein, only *Lab. Corp.* involved construed claims. *See Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 130 (2006) (Breyer, J., dissenting). Indeed, the 1978-1981 trilogy of cases and *Bilski* all reached the Supreme Court from the PTO without being heard at the district court level. *See Parker v. Flook*, 437 U.S. 584, 587–88 (1978); *Diamond v. Chakrabarty*, 447 U.S. 303, 306–07 (1980); *Diamond v. Diehr*, 450 U.S. 175, 181 (1981); *Bilski v. Kappos*, 561 U.S. 593, 600 (2010).

317. *See CLS Bank II*, 717 F.3d at 1329–30 (Linn, J., dissenting).

considers “the fundamental concept wrapped up in the claim,” only then was he able to find absent any “substantive limitations that [sufficiently] narrow[ed], confine[d], or otherwise tie[d] down the claim” to render it patent eligible.³¹⁸ Judge Lourie’s reasoning is then circular, allowing him to reach the conclusion he asserts that *Bilski* and *Mayo* require.³¹⁹

Judges Linn and O’Malley closed by raising the now common cry that only Congress can refine patent law to expressly limit patent eligibility.³²⁰

(5) Judge Newman’s Concurrence-in-Part, Dissent-in-Part

Judge Newman began as follows: “The ascendance of section 101 as an independent source of litigation, separate from the merits of patentability, is a new uncertainty for inventors.”³²¹ The divisions within the Federal Circuit, which are readily apparent in *CLS Bank*, show this uncertainty in stark contrast to the broad scope of the statute with which the opinions dealt. As Judge Newman observed, instead of bringing clarity and objective standards to § 101,

[W]e have propounded at least three incompatible standards, devoid of consensus, serving simply to add to the unreliability and cost of the system of patents as an incentive for innovation. . . .

. . . .

. . . The uncertainty of administrative and judicial outcome and the high cost of resolution are a disincentive to both innovators and competitors.³²²

She urged a return to the statute, with subject matter eligibility turning solely upon whether the invention fits within one of the recited classes of patent eligible subject matter, leaving the prevention of unduly broad claims to §§ 102, 103 and 112.³²³ Judge Newman suggested avoiding the unnecessary debate over “preemption” (*i.e.*, the basis for the plurality opinion and recent Supreme Court concern) by limiting the effect patents might have on future developments.³²⁴

(6) Chief Judge Rader’s “Additional Reflections”

Chief Judge Rader closed with reflections on the state of § 101

318. *Id.* at 1331 (quoting *id.* at 1282 (Lourie, J., concurring)).

319. *See id.*

320. *Id.* at 1333.

321. *Id.* at 1321 (Newman, J., concurring in part and dissenting in part).

322. *Id.*

323. *Id.* at 1322, 1326.

324. *Id.* at 1322, 1324 n.3.

jurisprudence.³²⁵ Like Judge Newman, he suggested reverting to the statute, and always starting a § 101 determination with the statute and not judicial abstractions such as “inventiveness” and “preemption.”³²⁶ In doing so, Chief Judge Rader traced the evolution of the abstract idea exception from *Benson* to *Flook* and *Diehr*, recognizing that the “abstract idea” exception is difficult to apply.³²⁷ His suggested cure, returning to the statute,³²⁸ echoes the breadth of cases discussed in Part III above.

(7) Reaction

CLS Bank shows that the Federal Circuit has fractured under the Supreme Court’s § 101 jurisprudence. Such confusion regarding the fundamental inquiries under § 101 leaves industries relying upon patents with muddled and impractical guidance as to whether their inventions are patent eligible—even before their applications are subject to the rigors of §§ 102, 103, and 112 to determine *patentability*. Indeed, the Federal Circuit, aware of the conundrum § 101 now poses, is calling on the Supreme Court to definitively establish rules for patent eligibility.³²⁹ If nothing else, *CLS Bank* should show the Supreme Court that the court most versed in patent law cannot come to a consensus in light of the Supreme Court’s precedent.³³⁰ Moreover, district court judges dealing with patent eligibility challenges, the PTO faced with providing its examiners with examination guidelines, and patent practitioners wrestling with advising even the most patent-savvy clients, have never faced a more difficult calculus under § 101.

b. *Myriad V*

(1) The Holding

*Myriad V*³³¹ deals with composition of matter or manufacture claims, which are conceptually simpler than the process claim in *Mayo* or the

325. See *id.* at 1333–36 (Rader, J., additional reflections).

326. See *id.* at 1334–35 (“When all else fails, consult the statute!”).

327. *Id.*

328. *Id.* at 1335.

329. See, e.g., *id.* at 1321 (Newman, J., concurring in part and dissenting in part) (referring to the opinion as “judicial deadlock”); see also *id.* at 1314 (Moore, J., dissenting in part) (“This case presents the opportunity for the Supreme Court to distinguish between claims that *are* and *are not* directed to patentable [*i.e.*, patent eligible] subject matter.”).

330. See Ryan Davis, *supra* note 262 (“If you look at the Federal Circuit opinion, they’re struggling to come up with a bright-line rule, but the Supreme Court doesn’t have a better bright-line rule in mind, or it would have put it in place in *Bilski*.” (quoting Matthew Moore of Latham & Watkins LLP)) (internal quotation marks omitted).

331. *Myriad V*, 133 S. Ct. 2107 (2013).

business method claims in *Bilski*.³³² But, like those cases, the Court's holding in *Myriad V* was unanimous and found patent ineligible (at least some of the) claims.³³³ That said, it is the first time since *J.E.M.* in which the Supreme Court found patent eligible any claim challenged under § 101.³³⁴ Specifically, the Court held patent eligible claims directed to complementary DNA (cDNA) molecules because cDNA does not occur in nature.³³⁵ But the Court also held patent ineligible claims directed to the isolated form of human chromosomal (*i.e.*, naturally occurring) DNA molecules merely because they are "isolated."³³⁶

Myriad V, like most of the few patent eligibility Supreme Court decisions, involved claims not subjected to claim construction.³³⁷ Again, that is an unnerving development in § 101 jurisprudence and is compounded by the courts' understanding (or lack thereof) of the subject matter involved.³³⁸

The first set of claims related to isolated DNA sequences encoding human breast cancer genes.³³⁹ In finding those claims failed to satisfy § 101, the Court focused on the informational content of the isolated DNA, reasoning that "[i]t is undisputed that *Myriad* did not create or alter any of the genetic information encoded in the BRCA1 and BRCA2 genes."³⁴⁰ The Court found that the information contained in the isolated DNA was not markedly different from what is found in nature.³⁴¹ As a result, the Court could not find a difference sufficient to satisfy § 101.³⁴² While Justice Thomas recognized that the isolated DNA is not naturally occurring, he dismissed the distinction.³⁴³ Instead, he reasoned that the

332. *Id.* See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012); see also *Bilski v. Kappos*, 130 S. Ct. 3218, 3231 (2010).

333. See *Myriad V*, 133 S. Ct. at 2111.

334. See *Bilski*, 130 S. Ct. at 3231 (holding the patent application patent ineligible); see also *Mayo*, 132 S. Ct. at 1294 (holding the claimed processes patent ineligible).

335. *Myriad V*, 133 S. Ct. at 2111.

336. *Id.* Indeed, while it upheld the cDNA claims, the Court noted that *J.E.M.* involved a challenge where Congress had specifically enacted legislation regarding patent protection for plants but Congress has not endorsed the PTO's practice of awarding patents on isolated DNA. *Id.* at 2118–19.

337. See, e.g., *CLS Bank II*, 717 F.3d 1269, 1327–28 (Fed. Cir. 2013) (Linn, J., dissenting).

338. See *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1340 (Fed. Cir. 2013), vacated on other grounds, 134 S. Ct. 2870 (2014) ("[C]laim meaning may clarify the actual subject matter at stake in the invention and can enlighten, or even answer, questions about subject matter abstractness.").

339. *Myriad V*, 133 S. Ct. at 2112–13.

340. *Id.* at 2116.

341. *Id.* at 2116–18.

342. *Id.* at 2117–18.

343. *Id.* at 2118 (Thomas, J., majority opinion) ("Nor are *Myriad*'s claims saved by the fact that isolating DNA from the human genome severs chemical bonds and thereby creates a nonnaturally occurring molecule. *Myriad*'s claims are simply not expressed in terms of chemical composition[.]").

information it coded for is the same as that of the isolated DNA.³⁴⁴

The Court distinguished the patented bacterium in *Chakrabarty* from the isolated DNA in Myriad's patents.³⁴⁵ Unlike in *Chakrabarty*, the Court found that "Myriad did not create anything" worthy of patent protection because separating a gene from its natural environment "is not an act of invention."³⁴⁶ The Court instead relied on *Funk Bros.* to find claims to isolated DNA patent ineligible, reasoning that Myriad's claims to naturally occurring DNA imparted the same level of insufficient "inventiveness" as the mixed culture of known bacteria in *Funk Bros.*³⁴⁷ Specifically, the Court characterized Myriad's principal contribution as "uncovering the precise location and genetic sequence of the BRCA1 and BRCA2 genes" within their natural environment.³⁴⁸ The Court ultimately determined that the effort Myriad had employed, while extensive, was "insufficient to satisfy the demands of § 101."³⁴⁹

The Court also rejected the argument that it should consider the PTO's long-standing practice of granting patents with claims covering isolated DNA and the consequent reliance interests of those holding such patents.³⁵⁰ The Court summarized its position by suggesting that those interests were "better directed to Congress."³⁵¹

In holding the cDNA claims patent eligible, the Court acknowledged differences between naturally occurring DNA and its corresponding cDNA.³⁵² Because the non-coding regions of naturally occurring DNA are absent from cDNA, the Court noted that cDNA did not qualify as a product of nature—"creation of a cDNA sequence from mRNA results in an exons-only molecule that is not naturally occurring"—and is, therefore, patent eligible.³⁵³ The Court reasoned, however, that cDNA is only patent eligible insofar as it is different from the corresponding chromosomal DNA, meaning short cDNA that is the same as its chromosomal counterpart is not patent eligible.³⁵⁴

The Court noted that *Myriad V* was not about and does not impact method claims.³⁵⁵ As a result, composition of matter claims is subject to scrutiny under *Myriad V* and *Chakrabarty*, while method claims are left to *Mayo* and *Bilski*.

344. *Id.*

345. *Id.* at 2116–17.

346. *Id.* at 2117.

347. *Id.*

348. *Id.* at 2116.

349. *Id.* at 2118.

350. *Id.* at 2118–19.

351. *Id.* at 2119 n.7.

352. *Id.* at 2119.

353. *Id.*

354. *Id.*

355. *Id.*

(2) Justice Scalia's Concurrence

Justice Scalia concurred with the Court's opinion except for the portions discussing the art.³⁵⁶ Specifically, he opined that he was not able to affirm on his "own knowledge or . . . belief" the details of the art discussed by Justice Thomas' majority opinion.³⁵⁷ As a result, he merely affirmed that "the portion of DNA isolated from its natural state sought to be patented is identical to that portion of the DNA in its natural state; and that complementary DNA . . . is a synthetic creation not normally present in nature."³⁵⁸ Justice Scalia therefore agreed that the isolated DNA claims were not patent eligible but that the cDNA claims were.³⁵⁹

(3) Reaction

The holding and brevity of *Myriad V* were not surprising. Patent eligibility determinations for composition of matter or manufacture claims are, in practice, fairly straightforward, particularly when compared to that same determination for method or process claims. Moreover, the questioning during oral argument strongly suggested the holdings.

But the Court's discussion of the art is alarming. The Court's understanding of the art naturally stems from the opinions below and the briefing before it. The Court is limited to that information, most of which was provided by advocates, as well as by the time it gets to absorb it. Relying sufficient information regarding such complex art to form a foundation for the Court in a cycle or two of briefing can be impractical. Indeed, Justice Scalia acknowledged his inability to affirm the Court's discussion of the underlying art, though he did reach the same conclusion as to the patent eligibility of the claims directed to that very art.³⁶⁰

Justice Scalia's concurrence highlights a fundamental problem with the Supreme Court's recent patent eligibility cases. The Court can decide the patent eligibility of claims when it does not sufficiently understand the art. Moreover, Justice Scalia, by concurring with the holding only, signaled that he did not need to understand the art in order to decide the patent eligibility of the claims. Compounding this troublesome admission, the Supreme Court is also content in deciding patent eligibility without knowing the scope or meaning of the claims.³⁶¹

356. *Id.* at 2120 (Scalia, J., concurring).

357. *Id.*

358. *Id.*

359. *Id.*

360. *See id.*

361. *See supra* note 213 and accompanying text.

District Court judges can now look at this opinion and say “I do not have to understand the science or engineering to decide that the claims before me are patent ineligible.” That problem is two-fold in cases where the claims have not been construed. In the end, District Court judges can read *Myriad V* as condoning decisions on patent eligibility without understanding the art or the claimed invention, and that is concerning.

(4) *Ultramercial* Does Not Make a Happy Ending

Since the chaos of *CLS Bank*, a complete Federal Circuit panel—all of whom came down in different places in *CLS Bank*—agreed to reverse the District Court’s ruling that the claims covered only an abstract idea and were, therefore, patent ineligible.³⁶² Indeed, although the Federal Circuit has struggled to set clear rules for determining the patent eligibility of method claims since *Mayo*, *Ultramercial* represents the first full panel to agree that the claims satisfied § 101.³⁶³ Specifically, Judge Rader—joined by Judge O’Malley—held that the district court erred in granting a motion to dismiss, holding that the claims failed to satisfy § 101.³⁶⁴ That said, Judge Lourie concurred in the ruling but reached it using the test he articulated in his *CLS Bank* opinion.³⁶⁵

Notably, Chief Judge Rader began by acknowledging that the district court held the claims patent ineligible without construing them in accordance with precedent.³⁶⁶ Despite reversing the court’s finding also without construing the claims, he reasoned that “it will be rare that a patent infringement suit can be dismissed at the pleading stage for lack of patentable [*i.e.*, patent eligible] subject matter.”³⁶⁷ He continued, noting that “the analysis under § 101, while ultimately a legal determination, is rife with underlying factual issues. . . . and in part because of the factual issues involved, claim construction normally will be required.”³⁶⁸ More importantly, Chief Judge Rader noted that,

even if not required, on many occasions a definition of the invention by claim construction can clarify the basic character of the subject matter of the invention. Thus, claim meaning may clarify the actual subject matter at stake in the invention and can enlighten, or even answer, questions about subject matter

362. See *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1354 (Fed. Cir. 2013).

363. See *id.* at 1337.

364. *Id.*

365. *Id.* at 1354–55 (Lourie, J., concurring).

366. *Id.* at 1349.

367. *Id.* at 1338.

368. *Id.* at 1339.

abstractness.³⁶⁹

That said, under the “procedural posture” of the case, and in view of the claims, all three judges agreed that claim construction was not necessary to determine that the patent “‘claims a particular method’ . . . and, as a process, ‘falls within a category of patent-eligible subject matter.’”³⁷⁰ They ended by stating that “[t]he [claims] require more than just [an] abstract idea as part of the claimed method.”³⁷¹

c. The Supreme Court “Decides” *CLS Bank*

On March 31, 2014, the Supreme Court heard oral arguments in *CLS Bank*.³⁷² During the arguments, Justice Ginsburg acknowledged the significant confusion that the Federal Circuit and District Courts have had after the Supreme Court’s recent § 101 decisions.³⁷³ Nonetheless, many of the Justices seemed skeptical of the patentee’s arguments, questioning the patent claims’ validity under § 101, and hinting that the claims would not hold up.³⁷⁴

But not all of the Justices were as skeptical; Justice Scalia spoke infrequently and seemed to accept that the patent was not invalid under § 101.³⁷⁵ Justice Scalia was careful to point out that while the claims may satisfy § 101, they may not satisfy novelty, as required by other sections of the patent laws.³⁷⁶ And despite Justice Breyer’s clear indication in oral arguments that he did not believe the claims satisfied § 101, he expressed concerns that the Court could go too far and exclude computer-dependent patents entirely.³⁷⁷ Justice Breyer’s concern was well founded—balancing the need to reward technological innovation while preventing an intellectual property drain on the ever-changing computer industry has proven to be a challenge. As the Federal Circuit’s opinions show, the Supreme Court has failed to provide sufficient guidance on this issue with its recent interest in patent eligibility.

When the Court issued its *CLS Bank* decision, it provided the expected

369. *Id.* at 1340.

370. *Id.* at 1355 (Lourie, J., concurring) (citing 722 F.3d at 1349–50 (majority opinion)).

371. *Id.*

372. Transcript of Oral Argument, *Alice Corp. Pty., Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014) (No. 13-298), available at http://www.supremecourt.gov/oral_arguments/argument_transcripts/13-298_869d.pdf.

373. *Id.* at 42:5–10.

374. See generally Transcript of Oral Argument, *Alice Corp. Pty., Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014) (No. 13-298).

375. See, e.g., *id.* at 9:12–16.

376. *Id.* at 10:4–10.

377. *Id.* at 16:14–16.

result, holding the claim invalid under § 101.³⁷⁸ That said, the Court did not substantially expand the framework set forward by its recent *Bilski*, *Myriad*, and *Mayo* decisions.³⁷⁹ The Court stated first that it must determine if the claim at issue is directed toward an abstract idea.³⁸⁰ If so, then it must analyze “the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the abstract idea into a patent-eligible application.”³⁸¹ For the claim at issue, the court passed the first step, finding that the claim was highly similar to the hedging patent seen in *Bilski*.³⁸²

But when the Court addressed the more complicated second prong of its § 101 test, the Court was forced to rely on its older software cases, including *Benson*, *Flook*, and *Diehr*.³⁸³ First, it rejected the patentee’s argument that the use of a “physical object”—here, a computer—to manipulate the abstract idea rendered the invention valid under § 101.³⁸⁴ Instead, the Court found that using the computer merely applied the abstract idea.³⁸⁵ Particularly, the Court held that the claims at issue do nothing more than “instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer.”³⁸⁶ Such an instruction fails “to transform an abstract idea into a patent-eligible invention.”³⁸⁷

While the Court did not explicitly reference any of the Federal Circuit opinion in its opinion, none of the Federal Circuit’s approaches to § 101 appear sufficient. Judge Laurie’s opinion treads closest—both he and the Supreme Court require identification of any underlying abstract idea—but the Court does not require any “narrowing” of the abstract idea but a “transformation” as seen in, for example, *Benson*.³⁸⁸ Further, the Court’s opinion did not even mention the other sections of the patent act—§§ 102, 103, and 112—for determining the validity of patent claims, much less address the creep of § 101 into the other aspects of validity (caused by the Court’s own rulings and as identified by Judge Moore’s dissent-in-part).³⁸⁹ In short, it seems that the Supreme Court ignored the stark

378. *Alice Corp. Pty., Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2360 (2014).

379. *See id.* at 2354.

380. *Id.* at 2355.

381. *Id.* at 2357 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294, 1298 (2012)).

382. *Id.* at 2355–57.

383. *Id.* at 2357–59.

384. *Id.* at 2358–59.

385. *Id.* at 2358.

386. *Id.* at 2359.

387. *Id.* at 2360.

388. *See CLS Bank II*, 717 F.3d 1269, 1312–13 (Fed. Cir. 2013) (Moore, J., dissenting in part).

389. *See id.* at 1313 (Moore, J., dissenting in part).

confusion exemplified by the Federal Circuit's fractured reasoning, and instead has instructed patent practitioners to look to previous Supreme Court decisions and simply apply them.

V. ACT IV: THE END?

The U.S. patent system was founded on the principle that a limited right to exclude is the proper incentive and exchange for the disclosure of an invention to the public.³⁹⁰ As President Abraham Lincoln reasoned:

The [patent laws] began in England in 1624; and in this country, with the adoption of our Constitution. Before then, any man [might] instantly use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, exclusive use of his invention; and thereby added the fuel of interest to the fire of genius in the discovery and production of new and useful things.³⁹¹

President Lincoln recognized that, without this critical right to exclude, the progress of science and the useful arts would wither.³⁹² This has not changed in more than two centuries.

The Supreme Court articulated the importance of this recognition in 1980:

The Constitution grants Congress broad power to legislate to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." Art. I, § 8, cl. 8. The patent laws promote this progress by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts. The authority of Congress is exercised in the hope that "[the] productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens."³⁹³

390. Abraham Lincoln, *Lecture: 'Discoveries, Inventions and Improvements'* (1860), in 5 COMPLETE WORKS OF ABRAHAM LINCOLN 1, 113 (John George Nicolay & John Hay eds., 1894).

391. *Id.*

392. *Id.*

393. *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980) (quoting *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974)).

Moreover, the Court noted that the issue before it in *Chakrabarty*—indeed, the same question before it in each case raising § 101—“is a narrow one of statutory interpretation requiring us to construe 35 U.S.C. § 101.”³⁹⁴ And the Supreme Court has recognized that Congress intended § 101 to be viewed expansively, even admonishing lower courts from reading restrictions into patent eligibility determinations.³⁹⁵ Unfortunately, starting with *Mayo* and continuing through *Myriad V*, the Court recently has gone well past its own instruction, “giv[ing] staggering breadth to what [are] meant to be . . . narrow judicial exception[s].”³⁹⁶

The *Chakrabarty* Court also warned the judiciary that it “should not read into the patent laws limitations and conditions which the legislature has not expressed.”³⁹⁷ “Congress is free to amend § 101,” to exclude or include subject matter, as it sees fit.³⁹⁸ “But, until Congress takes such action, [the courts] must construe the language of § 101 as it is.”³⁹⁹ The current Supreme Court seems content to ignore the guidance from its earlier incarnations.

What we suggest stems from recognizing a footnote from *Chakrabarty*, where the Court plainly stated that “[t]his case does not involve the other ‘conditions and requirements’ of the patent laws, such as novelty and nonobviousness. 35 U.S.C. §§ 102, 103.”⁴⁰⁰ While the current Court has read § 101 as a limitation, confusing it with §§ 102 and 103, it has done so against the guidance and reasoning of Chief Justice Burger, citing over 100 years of law and congressional intent:

The Patent Act of 1793, authored by Thomas Jefferson, defined statutory subject matter as “any new and useful art, machine, manufacture, or composition of matter, or any new or useful improvement [thereof].” The Act embodied Jefferson’s philosophy that ingenuity should receive a liberal encouragement. Subsequent patent statutes in 1836, 1870 and 1874 employed this same broad language. . . . The Committee Reports accompanying the 1952 Act inform us that Congress intended statutory subject matter to include anything under the sun that is made by man.⁴⁰¹

394. *Id.*; see also *Bilski v. Kappos*, 561 U.S. 593, 603 (2010).

395. *Chakrabarty*, 447 U.S. at 308. *but see* *Parker v. Flook*, 437 U.S. 584, 596 (1978) (discussed *supra* Part V).

396. See *CLS Bank II*, 717 F.3d 1269, 1313 (Fed. Cir. 2013) (Moore, J., concurring in part and dissenting in part).

397. *Chakrabarty*, 447 U.S. at 308 (quoting *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 199 (1933)).

398. *Id.* at 318.

399. *Id.*

400. *Id.* at 307 n.5.

401. *Id.* at 308-09 (internal citations and quotation marks omitted).

Shortly before Justice Burger wrote the text above, Judge Giles Rich had criticized *Flook* for blurring the lines between (i) patent eligibility and (ii) novelty and non-obviousness.⁴⁰² Indeed, by wedging unwarranted exceptions into § 101—and eliminating patent eligibility for broad classes of subject matter—the Court has usurped the power of the legislature despite the fact that “Congress plainly contemplated that the patent laws would be given wide scope.”⁴⁰³

Consideration of 35 U.S.C. § 101 and *Chakrabarty*, *Bilski*, and particularly *CLS Bank*, shows that the Court’s recent opinions not only prove difficult to apply,⁴⁰⁴ but also conflict with the statute and its own interpretation of the Constitution.⁴⁰⁵ Indeed, as Chief Justice Burger noted,

Congress has performed its constitutional role in defining patentable [*i.e.*, patent eligible] subject matter in § 101; we perform ours in *construing the language Congress has employed*. In so doing, *our obligation is to take statutes as we find them*, guided, if ambiguity appears, by the legislative history and statutory purpose. Here, we perceive no ambiguity. *The subject-matter provisions of the patent law have been cast in broad terms to fulfill the constitutional and statutory goal of promoting “the Progress of Science and the useful Arts” with all that means for the social and economic benefits envisioned by Jefferson*. Broad general language is not necessarily ambiguous when congressional objectives require broad terms.⁴⁰⁶

Even the dissent in *Chakrabarty* explicitly recognized this fact: “It is the role of Congress, not this Court, to broaden or narrow the reach of the patent laws. This is especially true where, as here, the composition sought to be patented uniquely implicates matters of public concern.”⁴⁰⁷

402. *In re Bergy*, 596 F.2d 952, 956–58 (C.C.P.A. 1979), *vacated in part sub nom.* *Diamond v. Chakrabarty*, 444 U.S. 1028 (1980), and *aff’d sub nom.* *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

403. *Chakrabarty*, 447 U.S. at 308.

404. *See, e.g.*, *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1343 (Fed. Cir. 2013) (recognizing that “[m]embers of both the Supreme Court and [the Federal Circuit] have recognized the difficulty of providing a precise formula or definition for *the abstract concept of abstractness*.” (emphasis added) (citing *Bilski v. Kappos*, 561 U.S. 593, 621 (2010) (Stevens, J., concurring)).

405. *See Chakrabarty*, 447 U.S. at 315 (“It is, *of course*, correct that Congress, *not the courts*, must define the limits of patentability; but it is equally true that once Congress has spoken it is ‘the province and duty of the judicial department to say what the law is.’”) (quoting *Marbury v. Madison*, 1 Cranch 137, 177 (1803)) (emphasis added).

406. *Id.* (emphasis added).

407. *Id.* at 322 (Brennan, J., dissenting).

VI. POSTLUDE

Judge Gajarsa and Dr. Cogswell were prophetic in 2006 when they questioned whether the bar was observing “a comprehensive Supreme Court ‘reform’ of this country’s patent law jurisprudence.”⁴⁰⁸ The substance of that reform with respect to patent eligibility is unfortunate. Justice Stevens’ 2002 warning in his dissent in *Holmes Group*⁴⁰⁹ has proven instead to have been a flare that the Supreme Court would restrict § 101 contrary to the Constitutional mandate and purpose of the patent statute, namely to allow the PTO to grant patent protection to deserving inventors.

Another member of the patent bar recently asked: “Can the Supreme Court Glue § 101 Back Together?”⁴¹⁰ Unfortunately the answer appears to be that the Supreme Court is not interested in doing so but, instead, seems intent on limiting patent eligibility. Doing so will strip incentives from the global economy and crack the foundation of the United States as an innovation leader. Indeed, the Supreme Court’s most recent § 101 decisions do not justify Justice Stevens’s fear in *Holmes Group* of leaving patent law to a court with institutional bias, namely, an understanding of the patent bar and its practices.⁴¹¹ Instead, these decisions fail to provide the Federal Circuit with clear and easily enforceable guidance. And such institutional bias could be exactly what we need.

408. Gajarsa & Cogswell, *supra* note 2, at 844.

409. See *Holmes Grp., Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 839 (2002) (Stevens, J., concurring in part and concurring in the judgment).

410. See Brinkerhoff, *supra* note 262.

411. See *Holmes Grp.*, 535 U.S. at 839.

