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Duck, Duck, Bilski: Searching for a Law-Progress Equipoise

Eric Golas Salbert

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I. INTRODUCTION

Moore’s Law generally asserts that the transistor capacity on a computer processing unit increases exponentially over time.¹ To exemplify, in 1971, Intel’s first microprocessor contained 2,300 transistors and was used in simple electronic pocket calculators and by 2007 Intel was manufacturing microprocessors

containing 820,000,000 transistors used in personal computers capable of near-instantaneous worldwide communication over the Internet.\(^2\) When the framers of the Constitution drafted the empowering words, “To promote the Progress of Science and useful Arts,”\(^3\) could they foresee such a blistering pace of innovation? Have courts been able to maintain the balance between progress and limited monopolies? The history supporting modern principles aimed at spurring useful inventions is discussed in Part II of this note.\(^4\) Then, in Parts III and IV, the facts surrounding a business method patent are described and a decision from the United States Court of Appeals for the Federal Circuit confronting fundamental questions pertinent to the successful maintenance of the United States patent system is explained.\(^5\) Next, the impact of that decision is analyzed in Part V.\(^6\) Lastly, the conclusion is set out in Part VI.\(^7\)

II. BACKGROUND

Modern patents may generally be thought of as “a grant of monopoly power by the state over the commercial exploitation of an invention for a limited period.”\(^8\) However, precursors to patents have been even more broadly defined\(^9\) and understood to be the sovereign’s rights rather than property rights.\(^10\) Drawing similar distinctions and tracing the development of patent law has enabled the United States Supreme Court to glean the probable intent and understandings of bygone legislators when applying existing statutes to new issues.\(^11\)

While the notion of a state grant of exclusive rights for inventions in return for its release to the public is commonly thought to be rooted in Italy,\(^12\) English practices are most relevant when discussing the origins of American patent law.\(^13\) Early on, the kings of England issued charters, letters patent, and letters close.\(^14\) These instruments were methods for the crown to conduct various affairs\(^15\) and

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\(^2\) Id.
\(^3\) U.S. CONST. art. I, § 8, cl. 8.
\(^4\) See infra Part II.
\(^5\) See infra Part III–IV.
\(^6\) See infra Part V.
\(^7\) See infra Part VI.
\(^9\) Id.
\(^10\) Id. at 715.
\(^12\) See e.g., Walterscheid, supra note 8, at 707–15 (discussing a 1474 Venetian enactment as being the first known patent statute).
\(^13\) See id. at 698 (“[T]he English common law relating to patents was what was best known in the infant United States.”).
\(^14\) Id. at 700–01. Charters were recorded on Charter Rolls and date from 1199 to 1515. Id. Letters patent were recorded on Patent Rolls and date from 1202 through the twenty-first century. Id. Letters Close were recorded on Close Rolls and date from 1205 through the twenty-first century. Id.
\(^15\) Id. at 701 (“Initially, these documents related primarily to the royal prerogatives, the revenue of the realm, and the various branches of foreign affairs as well as grants and confirmations of office and privileges, charters, proclamations, and commissions.”).
functioned more broadly than current American patents. Akin to modern American patents, royal grants and confirmation of privilege by letters patent were eventually used by the crown to grant privileges to inventors concerning their inventions.

Early on, charters were used to effectively create group monopolies where members of a chartered guild had the exclusive right to produce certain goods or practice a particular craft. These group monopolies were municipal or regional and therefore could locally regulate economic metrics such as prices, wages, working conditions, and quality of goods. However, national development re-oriented economic perspectives and revealed the local chartered group monopolies to be in contradiction to the national economic wellbeing. If national regulation was the clear answer to maintaining economic wellbeing, letters patent for a monopoly were likely a suggested instrumentality for achieving transition to a nationalized economy. At least, letters patent came to be implemented in a national policy that was in sharp contrast to the antecedent practice of granting local monopolies by charter.

During the reign of Queen Elizabeth I, patents issued to create a monopoly were rationalized by various considerations. At least initially, these patents granting monopoly were primarily issued to foster economic self-sufficiency in England. This objective was promoted by issuing patents of monopoly to those persons, regardless of nationality, who would introduce a desired trade or industry in England. While patents of monopoly for inventions might arguably serve the purpose of fostering economic self-sufficiency, Jacobus Acontius urged that individual interests were of great concern as well. Acontius petitioned to have a monopoly for his invention because “[n]othing is more honest than that those who, by searching, have found out things useful to the public should have some fruits of their rights and labors, as meanwhile they abandon all other modes of gain, are at

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16 Id. at 700. Moreover, charters and letters patent performed similar functions as public directives, but differed in form. Id. Letters close were private instructions to individuals. Id.

17 Id. at 701. Modern patents can be thought of as a particular type of the early letters patent. See F. SCOTT KIEFF ET AL., PRINCIPLES OF PATENT LAW: CASES AND MATERIALS 2 & n.7 (4th ed. 2008).


19 Id.

20 Id. at 852.

21 Id. at 853.

22 Id. at 852.

23 Walterscheid, supra note 18, at 853–54.

24 See id. at 853–54, 870–71 (“Two reasons were typically given for the monopoly grant: (a) to introduce new trade and industry into the realm, and (b) to serve as a means of recompensing the patentee for the costs and risks associated with the enterprise.”). Patents issued during this time were unique in that they were largely for grants of monopoly whereas previous patents granted privileges only. Id. at 862–63.

25 See id. at 855–56.

26 Id. Interestingly, desired trades or industries were those that exhibited features common to modern patents such as novelty. Id.

27 Id. at 854–55.
much expense in experiments, and often sustain much loss.”

Ultimately, a patent was issued to Acontius despite the suspect nature of monopoly grants because, presumably, it was perceived to benefit England. Patents issued for new inventions and the importation of new industries or trades into England were, as a general matter, favorably accepted.

Not all Elizabethan patents of monopoly were regarded as beneficial, however, and these came to be known as “odious monopolies.” For instance, although beneficial, serious abuses occurred through patents licensing patentees to dispense with statutes forbidding the import, export, and transportation of particular commodities. A hotly contested class was patents granting the power to supervise an existing trade or industry. Lastly, in clear contravention of the common law and highly despised were patents granted for the exclusive right to engage in an existing trade or industry. These three general categories of “odious monopolies” were suspected of contributing to a prevalent industrial depression, characterized by a “hindrance to trade and manufacture, high prices, inferior goods, and unemployment.”

Moreover, they often delegated the dispensing power of the crown—effectively conferring the power of the state onto individual patentees.

Parliament set out to quell, through legislative enactment, the loathsome “odious monopolies” during the November 1601 session, but Queen Elizabeth I was able to dissuade against possible parliamentary usurpation of her claimed power to grant letters patent. The solution: have existing patents, but not future ones, tried for their validity in common law courts. This resolution resulted in at

29 Id. at 854. Acontius obtained a patent for his invention in 1565. Id at 855.
30 Walterscheid, supra note 18, at 855.
31 Id. at 862–63.
32 Id. at 852–53, 862–63.
33 Id. at 864.
34 Id. at 862–63. It has been noted that Queen Elizabeth I granted such patents not out of any actual financial interest, but rather her frugal tendencies combined with unscrupulous court suitors were at fault. Id. at 864–65.
35 Id. at 864.
36 Walterscheid, supra note 18, at 864.
37 Id.
38 Id. at 863.
39 Id. at 865.
40 Id. at 864. These state powers included the “right of supervision, search, seizure, and arrest of infringers, as well as the recovery of fines or penalties for infringement.” Id.
41 Id. at 865–66. Originally, Parliament introduced a bill named “Act for the Explanation of the Common Law in Certain Cases of Letters Patents.” Id. at 865.
42 Walterscheid, supra note 18, at 865–67. Sir Francis Bacon went before Parliament on behalf of the queen to inform the legislature that the queen would grant patents for desirable reasons. See id. Parliament did not consider this to be an adequate response to the atrocities created by existing monopoly patents. Id. at 866. Elizabeth I herself abated Parliament’s anxiety in a message to the House of Commons wherein she agreed to have her patents tried for validity in common law courts in exchange for the bill before Parliament to be discarded. Id.
43 Id. at 866.
least two notable cases: *Darcy v. Allein*<sup>44</sup> and *The Clothworkers of Ipswich*.<sup>45</sup> Both of these cases noted the general invalidity of a patent granting a monopoly<sup>46</sup> except where the patent was granted for a limited time and dealt with either establishing a new trade within England<sup>47</sup> or the discovery of something new and useful.<sup>48</sup>

When King James I succeeded Queen Elizabeth I the tension between the crown and Parliament regarding the power to regulate letters patent had not been remedied.<sup>49</sup> Further, James I implemented a policy for granting patents that was nearly the same as Elizabeth I’s.<sup>50</sup> This relative lack of change may have been the problem as public outrage concerning “odious monopolies” continued to mount while patent policy hung in stasis.<sup>51</sup> In any event, King James I assented when Parliament decided to firmly root the law of patents within what became known as the 1623 Statute of Monopolies.<sup>52</sup> This was the first statutory basis for patent law in England and remained the only statutory basis for two hundred years.<sup>53</sup> Moreover, it was during this time that both the United States Constitution was ratified with a provision for legislative power over patents<sup>54</sup> and the first American patent statute was enacted.<sup>55</sup>

During the Constitutional Convention, James Madison of Virginia and Charles Pinckney of South Carolina discussed the necessity of federal jurisdiction over patents and copyrights.<sup>56</sup> Following review by the Drafting Committee of the Convention, their proposed provisions were merged into one provision reading, “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.”<sup>57</sup> Unanimously adopted without a dissenting voice,<sup>58</sup> this

<sup>44</sup> Id. at 867 (citing Darcy v. Allein, (1602) 72 Eng. Rep. 1260 (K.B.)).

<sup>45</sup> Id. at 869 (citing The Clothworkers of Ipswich, (1615) 78 Eng. Rep. 147 (K.B.)).

<sup>46</sup> Id. at 868–69 (stating, in *The Clothworkers of Ipswich*, that there was no power to grant monopolies “for that is to take away free trade”).

<sup>47</sup> Id. at 869 (quoting, from *Darcy*, that monopoly patents were valid “where any man by his own charge and industry, or by his own wit or invention doth bring any new trade into the realm,” and quoting, from *The Clothworkers of Ipswich*, that monopoly patents were valid “if a man hath brought in . . . a new trade within the kingdom”).

<sup>48</sup> Walterscheid, *supra* note 18, at 869 (quoting, from *Darcy*, that monopoly patents were valid for “any engine tending to the furtherance of a trade that never was used before,” and quoting, from *The Clothworkers of Ipswich*, that monopoly patents were valid where “a man hath made a new discovery of any thing”).

<sup>49</sup> See id. at 871.

<sup>50</sup> Id.

<sup>51</sup> Id. at 873.

<sup>52</sup> Id.

<sup>53</sup> Id. at 874.

<sup>54</sup> U.S. CONST. art. I, § 8, cl. 8 (ratified on June 21, 1788).


<sup>57</sup> Id. The merging of Madison’s and Pinckney’s proposed provisions is apparent after dissecting the final provision into a copyright provision and a patent provision. *Id.* “[T]o promote the progress of science by securing for limited times to authors the exclusive right to their writings” evidences the copyright provision whereas “to promote the progress of useful arts by securing for limited times to inventors the exclusive right to their discoveries” evidences the patent provision. *Id.*

<sup>58</sup> Id.
provision was engrained in Article I, Section 8, Clause 8 of the United States Constitution. Congress’ constitutional power to grant patent rights to inventors was thereby established.

Although Article I, Section 8, Clause 8 was unanimously adopted, substantial doubts concerning the granting of patents persisted for some time. The month following ratification of the Constitution, Thomas Jefferson sent a letter from France to James Madison, “urging a Bill of Rights provision restricting monopoly, and as against the argument that limited monopoly might serve to incite ‘ingenuity,’ he argued forcefully that ‘the benefit even of limited monopolies is too doubtful to be opposed to that of their general suppression.”

In 1789 and after the Bill of Rights had been drafted, Jefferson again wrote to Madison, this time stating he would have liked a provision allowing monopolies for a limited term only for literature and inventions.

Not only did statesmen privately debate the probable integrity of any system for granting patent monopolies, but a more public discourse was under way. During the first session of Congress, South Carolina Representative Aedanus Burke presciently noted that drafting a bill upon improvements or inventions in the useful arts would be a difficult task that would occasion a substantial measure of discussion. On January 8, 1790, President George Washington contributed the following discourse:

The advancement of agriculture, commerce, and manufactures, by all proper means, will not, I trust, need recommendation. But I cannot forbear intimating to you the expediency of giving effectual encouragement as well to the introduction of new and useful inventions from abroad, as to the exertions of skill and genius in producing them at home . . . Nor am I less persuaded that you will agree with me in opinion, that there is nothing which can better deserve your patronage than the

59 U.S. CONST. art. I, § 8, cl. 8.
60 Id. Placement of the Patent and Copyright Clause within Article I, Section 8 specifically identifies the provision as one of Congress’ enumerated powers. Id.; see generally McCulloch v. Maryland, 17 U.S. 316, 405 (1819):

This government is acknowledged by all, to be one of enumerated powers. The principle, that it can exercise only the powers granted to it, would seem too apparent, to have required to be enforced by all those arguments, which its enlightened friends, while it was depending before the people, found it necessary to urge; that principle is now universally admitted.

A corollary principle is that patents are a right created through a government grant. ROBERT L. HARMON, PATENTS & THE FEDERAL CIRCUIT § 1.2 (8th ed. 2007). It must be noted that this constitutional grant of power is also recognized as a limitation in order to prevent the inequities that arose before the 1623 Statute of Monopolies. Graham v. John Deere Co., 383 U.S. 1 (1966).

61 See Graham, 383 U.S. at 7–11 (1966) (discussing Thomas Jefferson’s critical role in debating the propriety of patents and stating that “[t]he difficulty of formulating conditions for patentability was heightened by the generality of the constitutional grant”).
62 Id. at 7–8 (quoting V Writings of Thomas Jefferson 47 (Ford ed., 1895)).
63 Id. at 8 (quoting V Writings of Thomas Jefferson 113 (Ford ed., 1895)).
64 See generally Proceedings in Congress During the Years 1789 and 1790, Relating to the First Patent and Copyright Laws, 22 J. PAT. OFF. SOC’Y 243 (1940) (compiling documents related to the first congressional proceedings).
65 Id. at 259.
promotion of science and literature.\textsuperscript{66}

Washington approved and signed the Patent Act of 1790 three months later on April 10, 1790, creating the first American patent legislation.\textsuperscript{67}

The debate continued. Expressing a substantial change in thought from earlier letters to James Madison, Jefferson wrote to Oliver Evans in 1807 that “[c]ertainly an inventor ought to be allowed a right to the benefit of his invention for some certain time. . . . Nobody wishes more than I do that ingenuity should receive a liberal encouragement.”\textsuperscript{68} In an 1813 letter to Isaac McPherson, Jefferson elaborated on his philosophy of patent monopolies.\textsuperscript{69} He understood that people cannot naturally own a property right of exclusion in the ideas of their invention because, once made known to the public, information spreads freely from person to person.\textsuperscript{70} Therefore, Jefferson concluded that patent monopolies are only born by society’s recognition that exclusive rights encourage the pursuit of useful ideas.\textsuperscript{71} With one issue rested, another arose: When does the benefit to the public justify “the embarrassment of an exclusive patent[?]”\textsuperscript{72} Offering one line of thought, Jefferson argued that patents should only be granted for ideas of relatively high utility.\textsuperscript{73} These letters to Mr. Evans and Mr. McPherson came after Jefferson had experience as a member on the patent board and drafter of the 1793 Patent Act.\textsuperscript{74}

Despite the ongoing debates concerning patent policy, relatively minor changes were made to the Patent Act of 1790 until a substantial revision occurred with the Patent Act of 1870.\textsuperscript{75} And although the current Patent Act of 1952 has been considered the second substantial revision,\textsuperscript{76} the provisions concerning patent-eligible subject matter appear to have undergone only minor changes. The Patent Act of 1790 provided that “any person or persons . . . . setting forth that he, she or they hath or have invented or discovered any useful art[s], manufacture[s], engine[s], machine[s], device[s], or any improvement[s] therein . . . . [may be] granted a patent.”\textsuperscript{77} And where “art” has the same meaning as “process,”\textsuperscript{78} the current Patent Act of 1952 provides little variation in its provision that “[w]hoever 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 therefore, subject to the conditions and requirements of this title.”\textsuperscript{79}

\begin{footnotesize}
\footnote{\textsuperscript{66} Id. at 253–54.}
\footnote{\textsuperscript{67} Id. at 276.}
\footnote{\textsuperscript{68} \textit{Graham}, 383 U.S. at 8 (quoting \textit{Writings of Thomas Jefferson} 75–76 (Washington ed.)).}
\footnote{\textsuperscript{69} Id. at 8–9 & n.2 (quoting \textit{VI Writings of Thomas Jefferson} 180–81 (Washington ed.)).}
\footnote{\textsuperscript{70} Id. (quoting \textit{VI Writings of Thomas Jefferson} 180–81 (Washington ed.)).}
\footnote{\textsuperscript{71} Id. (quoting \textit{VI Writings of Thomas Jefferson} 180–81 (Washington ed.)).}
\footnote{\textsuperscript{72} See id. at 9.}
\footnote{\textsuperscript{73} Id. at 9–10 & n.3 (quoting \textit{VI Writings of Thomas Jefferson} 180–81 (Washington ed.)).}
\footnote{\textsuperscript{74} \textit{Graham}, 383 U.S. at 9–10 (1966).}
\footnote{\textsuperscript{75} S. Rep. No. 82-1979 (1952), reprinted in \textit{1952 U.S.C.C.A.N.} 2394, 2397.}
\footnote{\textsuperscript{76} Id.}
\footnote{\textsuperscript{77} \textit{Patent Act of 1790}, ch. 7, 1 Stat. 109 (1790).}
\footnote{\textsuperscript{78} 35 U.S.C. § 102 (2000).}
\footnote{\textsuperscript{79} Id. § 101.}
\end{footnotesize}
Under the Patent Act of 1952, modern American patent grants are recognized as property rights of exclusion. Generally, a patent grant affords the patentee "the right to exclude others from making, using, selling, or offering to sell the patented invention in the United States, or importing the invention." However, this right to exclude is for a limited term and generally lasts for seventeen to twenty years depending on particular dates of issue and application. Additionally, a patentee may license his or her patent to others. If a party takes action in contradiction to any right held by a patentee, a constitutional injury has occurred and the injured patentee's remedies may be for damages, costs, attorney fees, and injunction. However, the government has the power of eminent domain to deprive a patentee of his or her patent rights. These general rights and remedies create the opportunity for a patentee to exercise a limited monopoly in order to obtain economic advantages. The following case implicates currently held patent rights as well as potential patent rights as it raises a fundamental question not altogether clear from the current Patent Act of 1952 and relevant case law: What is capable of being patented?

III. FACTS

Bernard L. Bilski and Rand A. Warsaw (collectively, "Applicants") filed a patent application entitled "Energy Risk Management Method" on April 10, 1997. The application set out eleven claims, the first reading:

A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

(b) identifying market participants for said commodity having a counter-risk position to said consumers; and

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80 HARMON, supra note 60, §1.1(a) ("It is beyond reasonable debate that patents are property . . . .") To be sure, the Patent and Copyright Clause affords the grant to inventors of an "exclusive Right to their . . . Discoveries[,]" U.S. CONST art. I, § 8, cl. 8, and the right to exclude is the hallmark of property. HARMON, supra note 60, §1.1(a).
81 Id. §1.1(a) (Supp. 2008).
82 Id. §1.1(a) (8th ed. 2007).
83 Id.
84 Id. §1.1(a) (Supp. 2008).
85 Id. §1.1(a) n.25 (8th ed. 2007).
86 Id.
87 HARMON, supra note 60, §1.1(a).
88 Id.
(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.90

Generally, this first claim describes a method for hedging risk associated with commodities trading.91 Claims two through eleven delimit the broad first claim.92 The particular consumption risk sought to be managed is weather-related price risk and the commodity involved is energy.93 Moreover, the transactions involving commodities are not limited to sales and may also consist of options for the right to purchase the commodity at a fixed price during a defined timeframe.94

The subject matter of the patent can be illustrated by an example of parties having different interests in coal.95 Changes in the weather can change how much coal a power company will need for producing electricity based upon increases and decreases in the amount of power customers need for heating and air conditioning. If the demand and price of coal increases due to weather, the power company suffers while the coal mining company that supplies the coal benefits, and vice versa if the demand and price decrease.96 Patent protection was claimed for the method of establishing an intermediary party who sells coal to the power company at one fixed price and buys coal from the mining company at a second fixed price.97 Adverse, as well as beneficial, weather-related changes in coal prices for the power and mining companies are thereby eliminated and uncertainty is minimized.98 Moreover, the commodity provider has hedged against uncertainty because increases in demand and price mean that it has sold coal at a disadvantageous price but has bought coal at an advantageous price, and vice versa if demand and price decrease.99

Each of Bilski and Warsaw’s eleven claims were rejected under 35 U.S.C. § 101 by the patent examiner because “the invention is not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem without any limitation to a practical application, therefore, the invention is not directed to the technological arts.”100 The Applicants appealed and the Board of Patent Appeals and Interferences (“Board”) found the examiner erred insofar as any technological arts or specific apparatus tests were applied.101 Applying a transformation test did not save the claims either because the Board

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91 Id.
92 Id.
93 Ex parte Bilski, 2006 WL 5738364.
94 Id.
95 Bilski, 545 F.3d at 950.
96 See id. at 949–50.
97 Id.
98 Id. at 950.
99 See id. at 949–50.
100 Id. at 950.
101 In re Bilski, 545 F.3d 943, 950 (Fed. Cir. 2008).
102 Id.
concluded that transforming non-physical financial risks was not a patent-eligible process. Moreover, the Board found the claims were not patent-eligible because they only claimed an abstract idea and did not satisfy the “useful, concrete and tangible result” test.

Bilski and Warsaw appealed to the United States Court of Appeals for the Federal Circuit (“Federal Circuit”). Their argument that the examiner and the Board arrived at erroneous decisions regarding patent-eligibility under § 101 was originally presented before a Federal Circuit panel on October 1, 2007. Before disposition, however, an en banc review was ordered and oral argument was again heard on May 8, 2008. The Federal Circuit affirmed the conclusion that the Applicants’ claims were not patent-eligible.

IV. OPINION ANALYSIS

A. Majority Opinion

Chief Judge Michel wrote for the majority, discussing the nettlesome issue of what is patent-eligible under § 101—a threshold issue that determines when a patent may issue regardless of the possibility that all other conditions of patentability have been satisfied. However, a patent examiner is not required to address § 101 patent-eligibility before rejecting an application on other grounds. Because there was no dispute upon the meaning of the claims, the court strictly focused on whether the claims were patent-eligible within the meaning of § 101.

There was no dispute that the claimed invention sought protection as a “process” under § 101. The court noted that if it were not for intervening Supreme Court decisions, the claims at issue would meet the definition of “process” as was originally understood under the 1952 Patent Act. Specifically, the broad ordinary meaning of “process”—“[a] procedure, . . . [a] series of actions, motions, or operations definitely conducing to an end, whether voluntary or involuntary”—had been constricted.

Various Supreme Court cases were discussed by the court as standing for the
rule that a patent applicant cannot claim a fundamental principle or mental process even if the claim can literally be understood as a process. The court specified that fundamental processes consist of laws of nature, natural phenomena, and abstract ideas. Processes that fit these categories are patent-ineligible because they are basic foundations of knowledge that must be free to all persons. Logically, determining when an applicant claims a fundamental principle or mental process is difficult because inventions must incorporate and rely on these foundations of human knowledge. The court turned to the Supreme Court cases of *Gottschalk v. Benson* and *Diamond v. Diehr* for guidance.

From *Benson*, the court considered significant the Supreme Court’s analysis that where a patent applicant’s claims cover all uses of an abstract idea, the practical effect of granting the patent would be an improper monopoly on the idea itself. Elaborating on this analysis, the court identified a critical distinction that was made in *Diehr*: Despite the fact that claims may incorporate or rely on a fundamental principle, a particular application of the fundamental principle would not be improper because such a patent would not operate to preempt all uses of the fundamental principle or mental process. The court thus concluded that whether a patent was improperly drawn to a fundamental principle was a matter of determining to what degree a patent applicant’s claims would exclude others from a fundamental principle. However, the court was not clear in explaining what degree of exclusion was improper or whether mental processes should be examined under the same preemption analysis.

Despite any ambiguity in the preemption analysis, the court claimed that the Supreme Court had “enunciated a definitive test to determine whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself.” The court called this test the “machine-or-transformation test” and stated it as follows: “A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular

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117 *Id.* at 952 & n.4.

118 *In re Bilski*, 545 F.3d 943, 952 (Fed. Cir. 2008).

119 *See Diehr*, 450 U.S. at n.12 (“[A]ll inventions can be reduced to underlying principles of nature.”).

120 *Bilski*, 545 F.3d at 952–54.

121 *Id.* at 953–54.

122 *Id.* at 952–53.

123 *Id.* at 953.

124 *See id.* at 954 (stating the degree of exclusion to be either preemption of “substantially all uses of [a] fundamental principle” or preemption of “all uses of a fundamental principle”).

125 *See id.* at 952–54 (stating that “[t]he true issue before us then is whether Applicants are seeking to claim a fundamental principle (such as an abstract idea) or a mental process,” but arriving at a modified notion that “[t]he question before us then is whether Applicants’ claim recites a fundamental principle and, if so, whether it would pre-empt substantially all uses of that fundamental principle if allowed”).

126 *In re Bilski*, 545 F.3d 943, 954 (Fed. Cir. 2008). The court noted that this test was “articulated in *Benson* and reaffirmed in *Diehr*.” *Id.* at 955.
machine or apparatus, or (2) it transforms a particular article into a different state or thing.” Under the machine branch of this test, the court rationalized that “[a] claimed process involving a fundamental principle that uses a particular machine or apparatus would not pre-empt uses of the principle that do not also use the specified machine or apparatus in the manner claimed.” And under the transformation branch of this test, the court reasoned that:

[A] claimed process that transforms a particular article to a specified different state or thing by applying a fundamental principle would not pre-empt the use of the principle to transform any other article, to transform the same article but in a manner not covered by the claim, or to do anything other than transform the specified article.

Next, the court addressed the arguments from Applicants and various amici concerning whether the machine-or-transformation test was the sole test governing analysis of process patents under § 101. The court conceded that in Benson—the first case of the Supreme Court’s trilogy discussing patent eligibility under § 101—the Court was equivocal in establishing any machine-or-transformation test. This fact is fairly odd because Benson unequivocally rejected the argument that a process patent must be either tied to a machine or transform an article. Further, the court recognized the statement in Flook that “we assume that a valid process patent may issue even if it does not meet [the machine-or-transformation test].” The court apparently thought the assumptive nature of the statement was evidence of equivocalness rather than suspicion that such cases would be rare. Finally, the Court in Diehr, the last case of the trilogy, stated that “[t]ransformation and reduction of an article to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.” Because this “clue” is similar to the machine-or-transformation test and there was no statement in Diehr that it was not the sole test of patent-eligibility for process patents under § 101, the court inferred that the machine-or-transformation test was rendered the sole test for such determinations. In circular fashion, the court concluded that their reliance on “the Supreme Court’s machine-or-transformation test” was acceptable.

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127 Id. at 954.
128 Id.
129 Id.
130 Id. at 955–56.
131 Id. at 956.

It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a ‘different state or thing.’ We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.

133 Bilski, 545 F.3d at 956 (alteration in original) (quoting Parker v. Flook, 437 U.S. 584, 589 (1978)).
135 Bilski, 545 F.3d at 956.
136 Id. ("Therefore, we believe our reliance on the Supreme Court’s machine-or-transformation test...")
Two requirements of the machine-or-transformation test were then explained by the court. First, *Diehr* stated that § 101 “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” This holding was interpreted to mandate that no potential process patent that merely claims a fundamental principle or mental process may become patentable by limiting its application to a particular field-of-use. The court noted that this is not contrary to the aforementioned preemption analysis undergirding the machine-or-transformation test because “pre-emption is merely an indication that a claim seeks to cover a fundamental principle itself rather than only a specific application of that principle.” Moreover, the court stated, “Pre-emption of all uses of a fundamental principle in all fields and pre-emption of all uses of the principle in only one field both indicate that the claim is not limited to a particular application of the principle.” It was summarily concluded that satisfying the machine-or-transformation test necessarily satisfies the requirement in *Diehr*.

Second, the court discussed *Diehr*’s statement that “insignificant post-solution activity will not transform an unpatentable principle into a patentable process.” This finding built upon the idea in *Flook* that “[t]he notion that post-solution activity . . . can transform an unpatentable principle into a patentable process exalts form over substance.” The Court in *Flook* provided an example: “A competent draftsman could attach some form of post-solution activity to almost any mathematical formula; the Pythagorean theorem would not have been patentable, or partially patentable, because a patent application contained a final step indicating that the formula, when solved, could be usefully applied to existing surveying techniques.”

Tension arises when it is remembered that fundamental principles and mental processes will exist in all patents to some degree. Does this mean that significant post-solution activities may transform fundamental principles into a patentable process? If fundamental principles and mental processes are always patent-ineligible, is the post-solution activity rule superfluous?

The court also discussed other considerations in an effort to clarify the limits of § 101. First noted was the Supreme Court’s holding in *Diehr* that § 101 does not require examination of whether an applicant’s claims recite any new or obvious

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as the applicable test for § 101 analyses of process claims is sound.”

137 Id. at 957.
138 *Diehr*, 450 U.S. at 191.
139 *Bilski*, 545 F.3d at 957.
140 Id.
141 Id.
142 Id.
143 Id. (quoting *Diehr*, 450 U.S. at 191–92).
145 Id.
146 See supra note 119 and accompanying text.
147 See supra note 116 and accompanying text.
148 See *Bilski*, 545 F.3d at 958.
subject matter because these statutory requirements are governed only by 35 U.S.C. §§ 102 and 103.\textsuperscript{149} Second, the Court in \textit{Diehr} explained that “under § 101, [an applicant’s] claims must be considered as a whole . . . [and] it is inappropriate to dissect the claims.”\textsuperscript{150} \textit{Diehr} recognized that “[t]his 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 [might be patent-ineligible].”\textsuperscript{151}

In section III, the court reviewed its own prior cases and others from its predecessor, the United States Court of Customs and Patent Appeals, which followed the Supreme Court’s patent-eligibility cases.\textsuperscript{152} It was claimed that these decisions provided “a wealth of detailed guidance and helpful examples on how to determine the patent-eligibility of process claims” because they discussed technologies unimaginable at the time the Supreme Court decided its trilogy of patent-eligibility cases.\textsuperscript{153} However, the court began by rejecting two § 101 tests promulgated by at least six prior decisions.\textsuperscript{154} Three cases from the Court of Customs and Patent Appeals—\textit{In re Freeman}, \textit{In re Walter}, and \textit{In re Abele}—developed the now-defunct Freeman-Walter-Abele test.\textsuperscript{155} The court stated the two-step test as follows: “(1) determining whether the claim recites an ‘algorithm’ within the meaning of \textit{Benson}, then (2) determining whether that algorithm is ‘applied in any manner to physical elements or process steps.’”\textsuperscript{156} After noting a possible argument that the test may conflict with the holistic claim construction rule,\textsuperscript{157} the court invalidated the test.\textsuperscript{158} Another three cases—\textit{In re Alappat}, \textit{State Street Bank & Trust Co. v. Signature Financial Group Inc.}, and \textit{AT&T Corp. v. Excel Communications, Inc.—}stood for the “useful, concrete and tangible result” inquiry.\textsuperscript{159} The court noted that this test was related to the machine-or-transformation test, but it “was certainly never intended to supplant the Supreme Court’s test.”\textsuperscript{160} As a result, the test was invalidated.\textsuperscript{161}

\begin{itemize}
\item\textsuperscript{149} Id. (quoting Diamond v. Diehr, 450 U.S. 175, 188–91 (1981)).
\item\textsuperscript{150} \textit{Diehr}, 450 U.S. at 188.
\item\textsuperscript{151} Id. Therefore, post-solution activity must be analyzed with regard to all claims made by a patent applicant rather than any individual post-solution step. \textit{See supra} text accompanying notes 143–46.
\item\textsuperscript{152} \textit{Bilski}, 545 F.3d at 958.
\item\textsuperscript{153} Id.
\item\textsuperscript{154} Id.
\item\textsuperscript{155} Id. at 958–60.
\item\textsuperscript{156} Id. at 958–59 (citing \textit{In re Freeman}, 573 F.2d 1237 (C.C.P.A. 1978); \textit{In re Walter}, 618 F.2d 758 (C.C.P.A. 1980); \textit{In re Abele}, 684 F.2d 902 (C.C.P.A. 1982)).
\item\textsuperscript{157} Id. at 959 (citing \textit{In re Abele}, 684 F.2d at 905–07).
\item\textsuperscript{158} \textit{Bilski}, 545 F.3d at 954.
\item\textsuperscript{159} \textit{Supra} notes 150–51 and accompanying text. The court also cited \textit{In re Grams} for the proposition a claim might be patent-eligible despite the Freeman-Walter-Abele test. \textit{In re Bilski}, 545 F.3d at 959 (citing \textit{In re Grams}, 888 F.2d 835, 838–39 (Fed. Cir. 1989)). However, the court later acknowledged \textit{In re Grams}’s reliance on the Freeman-Walter-Abele test. \textit{Id.} at n.17.
\item\textsuperscript{160} \textit{Bilski}, 545 F.3d at 959.
\item\textsuperscript{161} Id. (citing \textit{In re Alappat}, 33 F.3d 1526 (Fed. Cir. 1994); \textit{State St. Bank & Trust Co. v. Signature Fin. Group Inc.}, 149 F.3d 1368 (Fed. Cir. 1998); \textit{AT&T Corp. v. Excel Commc’ns, Inc.}, 172 F.3d 1352 (Fed. Cir 1999)).
\item\textsuperscript{160} Id.
\item\textsuperscript{161} Id. at 959–60.
\end{itemize}
Without citing any specific decisions, the court then addressed a call from some amici curiae to adopt a technological arts test.\textsuperscript{162} Such a test would require claims drafted to some sort of technological art.\textsuperscript{163} The court stated that a technological arts test would be inherently vague because “the terms ‘technological arts’ and ‘technology’ are both ambiguous and ever-changing.”\textsuperscript{164} Ultimately, this type of test was not adopted by the court because a technological arts test had never before been explicitly adopted by the court, its predecessor, or the Supreme Court.\textsuperscript{165}

Supporting one aspect of State Street, the court reaffirmed its decision not to create any categorical exclusion beyond fundamental principles.\textsuperscript{166} Under State Street, the court rejected the categorical exclusion of business methods from § 101 eligibility because business methods are “subject to the same legal requirements for patentability as applied to any other process or method.”\textsuperscript{167} Moreover, the court declined to create a categorical exclusion regarding computer software.\textsuperscript{168}

After sorting out the above issues, the court reexamined the facts of prior cases in order to elaborate on the machine-or-transformation test.\textsuperscript{169} However, the court first restricted its discussion with an eye toward the facts presently before it.\textsuperscript{170} This approach focused solely on the transformation branch of the machine-or-transformation test because the Applicants had admitted their first claim did not tie any step of their process to a machine or apparatus.\textsuperscript{171} Therefore, the question of § 101 patent eligibility was first narrowed to whether the central purpose of the claimed process was to transform an article into a different state or thing.\textsuperscript{172}

Looking to Benson, the court honed in on the Supreme Court’s statement that “chemical process[es] or the physical acts which transform . . . raw material are . . . sufficiently definite to confine the patent monopoly within rather definite bounds.”\textsuperscript{173} This proposition first meant that the transformation of an article must give the patentee’s monopoly “meaningful limits.”\textsuperscript{174} Next, it classified physical objects or substances as “articles,” which may be the focus of a patent eligible

\textsuperscript{162} Id. at 960.  
\textsuperscript{163} Id. at n.21.  
\textsuperscript{164} In re Bilski, 545 F.3d 943, 960 (Fed. Cir. 2008).  
\textsuperscript{165} Id.  
\textsuperscript{166} Id.  
\textsuperscript{167} State St. Bank & Trust Co. v. Signature Fin. Group Inc., 149 F.3d 1368, 1375–76 (Fed. Cir. 1998), abrogated in part by Bilski, 545 F.3d 943.  
\textsuperscript{168} Bilski, 545 F.3d at 960, n.23. The court noted that it would not be helpful to discuss computer software patent-eligibility because the facts before the court involved no computer software. Id.  
\textsuperscript{169} Id. at 961.  
\textsuperscript{170} Id. at 962.  
\textsuperscript{171} Id. This is a somewhat odd analysis because the court had recognized the impropriety of dissecting an applicant’s claims when applying a § 101 analysis. See supra notes 150–51 and accompanying text. However, the court already noted this was not a case of claim construction, and the patent examiner found that none of the Applicants’ claims were tied to an apparatus. See supra notes 100, 112 and accompanying text.  
\textsuperscript{172} Bilski, 545 F.3d at 962.  
\textsuperscript{173} Id. (citing Gottschalk v. Benson, 409 U.S. 63, 70 (1972)).  
\textsuperscript{174} Id at 961.
physical or chemical transformation. The critical issue of the transformation test thus became “what sorts of things constitute ‘articles’ such that their transformation is sufficient to impart patent-eligibility under § 101.”

Arriving at an issue sure to become paramount, the Federal Circuit confronted whether “articles” could be electronic signals, electronic data, legal obligations, organizational relationships, or business risks. The court found that a broadly stated process of visually displaying data would be patent-ineligible, but a process transforming data about a specific physical object or substance into a visual display could be patent-eligible. Moreover, the underlying physical object or substance need not be transformed “[s]o long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and . . . there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.” However, the court found that mere data gathering usually will not transform any article and the mere addition of a data gathering step cannot transform an algorithm into a patent-eligible process. The court was less than clear when it stated that “the inherent step of gathering data can also fairly be characterized as insignificant extra-solution activity” because it is incongruous to identify an inherent step of a process as an activity that is insignificant or extra-solution.

In section IV, the majority applied the machine or transformation test to the facts of the case. Expounding further on the metes and bounds of patent-eligible process claims, the court held that transformations of “public or private legal obligations or relationships, business risks, or other such abstractions” cannot satisfy the machine-or-transformation test because “they are not physical objects or substances, and they are not representative of physical objects or substances.” The court explained that Bilski and Warsaw’s process of trading commodities was merely an exchange of legal rights that could only amount to abstract mental and mathematical processes. And even if the trading was limited to the specific process of hedging consumable commodities, the effective pre-emption of such a fundamental concept would at least require the impermissible pre-emption of an entire field-of-use. Therefore, the process was not statutory subject matter because it failed to meet the machine-or-transformation test and the BPAI was accordingly affirmed.

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175 Id. at 962.
176 Id.
177 Id. at 962.
178 In re Bilski, 545 F.3d 943, 962–63 (Fed. Cir. 2008).
179 Id. at 963.
180 Id.
181 Id.
182 Id. at 963–64.
183 Id. at 964–66.
184 In re Bilski, 545 F.3d 943, 964–65 (Fed. Cir. 2008).
185 Id. at 966.
186 Id. at 964–66.
B. Mayer Dissent

Judge Mayer dissented from the majority’s failure to overrule State Street Bank & Trust Co. v. Signature Financial Group, Inc. and AT&T Corp. v. Excel Communications, Inc. on the ground that business methods should be categorically excluded from the scope of patent-eligible subject matter.\(^{187}\) First, Judge Mayer argued that history likely lent no support to the constitutionality of business method patents because the Framers were familiar with the English Statute of Monopolies that restricted the Crown’s ability to grant “monopolies to court favorites in goods or businesses which had long before been enjoyed by the public,”\(^{188}\) and therefore “consciously acted to bar Congress from granting letters patent in particular types of business.”\(^{189}\) Key to Judge Mayer’s constitutional argument is that the term “useful arts” in Article I, Section 8 equates to the modern term “technology” and that Congress does not have the power to allow patents for business methods because these methods “are not directed to any technological or scientific innovation.”\(^{190}\) Moreover, Judge Mayer argued that when the current 1952 Patent Act was enacted Congress intended to promote the case law that stood for the proposition that business methods are ineligible for patent protection.\(^{191}\) After reviewing the possible evils of business method patents,\(^{192}\) Judge Mayer concluded that the majority’s machine-or-transformation test was an insufficient method for determining patent-eligibility and asserted a technological arts test asking whether claims are drawn to the natural sciences.\(^{193}\)

C. Rader Dissent

Judge Rader dissented because the majority “link[ed] patent eligibility to the age of iron and steel at a time of subatomic particles and terabytes.”\(^{194}\) Specifically, Judge Rader’s opinion regarded the machine-or-transformation test as an amalgamation of Supreme Court dicta\(^{195}\) that raised more problems than it solved\(^{196}\) and hindered innovation in increasingly ethereal technologies.\(^{197}\) For these reasons, Judge Rader concluded that the Patent Act sets a broad standard for statutory subject matter under § 101\(^{198}\) and the present claims were patent-ineligible because they sought to monopolize an abstract idea.\(^{199}\)

\(^{187}\) Id. at 998 (Mayer, J., dissenting).
\(^{188}\) Id. (emphasis added) (citing Graham v. John Deere Co., 383 U.S. 1, 5 (1966)).
\(^{189}\) Id. (emphasis added) (citing In re Comiskey, 499 F.3d 1365, 1375 (Fed. Cir. 2007)).
\(^{190}\) In re Bilski, 545 F.3d 943, 1001 (Fed. Cir. 2008).
\(^{191}\) Id. at 999–1000.
\(^{192}\) Id. at 1004–08 (Mayer, J., dissenting).
\(^{193}\) Id. at 1008–11.
\(^{194}\) Id. at 1011 (Rader, J., dissenting).
\(^{195}\) Id.
\(^{196}\) In re Bilski, 545 F.3d 943, 1015 (Fed. Cir. 2008) (Rader, J., dissenting).
\(^{197}\) Id.
\(^{198}\) Id. at 1012.
\(^{199}\) Id. at 1011.
D. Newman Dissent

Judge Newman decried the majority for contravening the Patent Act, contrary precedent, and contravening the Constitution. Further, Judge Newman reasoned that neither the early English Statute of Monopolies nor the English common law limited the § 101 term “process” in the manner the majority reasoned. After recognizing that the Patent Act contains other provisions regarding novelty, obviousness, and specification that could more properly preclude or permit a patent for Bilski’s claimed invention, Judge Newman concluded that the majority had improperly created an unpredictable standard that cast present and future patent rights into doubt and undermined the policy of spurring innovation.

E. Dyk & Linn Concurrence

The concurring opinion joined fully with the majority opinion and wrote separately to rebut the assertion in the dissents from Judges Rader and Newman that the majority had “usurp[ed] the legislative role” by straying from the scope of patent-eligibility under § 101. Analyzing the legislative history of the current patent act, the concurring judges ascribed various principles from the English Statute of Monopolies and English case law to the first couple American Patent Acts. The concurring opinion concluded that early American patent law did not support claims for “organizing human activity” such as Bilski and Warsaw’s claims and that there has been no intervening change that would render these claims patent-eligible.

V. IMPACT

A. Direct Impact

1. Post-Bilski Federal Circuit Decisions

By January 1, 2010, four Federal Circuit decisions relying on Bilski had issued. In Classen Immunotherapies, Inc. v. Biogen Idec, the court exemplified three patent-ineligible biotechnology claims, one covering natural phenomena and the other two covering insignificant post-solution activity. Next, the Federal
Circuit differentiated between business method claims that are patent-ineligible for reciting mere mental processes and business method claims involving computers that come closer to passing the machine prong of the machine-or-transformation test in *In re Comiskey*.211 Defining abstract ideas under § 101, the court, in *In re Ferguson*, found claims related to a marketing business method to be patent-ineligible.212 Lastly, the Federal Circuit found biotechnology-related claims patent-eligible for their transformative nature despite close ties to patent-ineligible mental processes in *Prometheus Laboratories, Inc. v. Mayo Collaborative Services*.213

The non-precedential Federal Circuit opinion *Classen Immunotherapies, Inc. v. Biogen Idec* summarily affirmed the invalidation of multiple biotechnology patents because they neither tied a process to a machine nor transformed a specific article into a different state or thing.214 The lower court described three of Classen’s patents at issue as “methods for evaluating and improving the safety of immunization schedules.”215 Each of the patents was held by the lower court to claim patent-ineligible subject matter for claiming a natural phenomenon described as “an inquiry of the extent of the proposed correlation between vaccines and chronic disorders.”216 Moreover, two of the patents included a step of immunizing patients pursuant to a low-risk schedule, which was held to be insignificant post-solution activity.217

Vacating its previous 2007 decision decided upon obviousness principles under 35 U.S.C. § 103218 and issuing, over dissent, a revised version decided upon wholly new § 101 grounds,219 the Federal Circuit in *In re Comiskey* held multiple claims patent-ineligible and remanded other claims to the United States Patent and Trademark Office (“PTO”).220 The first group of claims discussed by the court described a method for resolving unilateral and contractual document disputes through mandatory arbitration.221 These claims were found patent-ineligible because they were drawn to mental processes and sought to monopolize human intelligence itself.222 However, the second group of claims discussed by the court recited an arbitration module, arbitration system, and arbitration database.223 This

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212 558 F.3d 1359 (Fed. Cir. 2009).
213 581 F.3d 1336 (Fed. Cir. 2009).
216 Id. at *5.
217 Id.
218 *In re Comiskey*, 499 F. 3d 1365 (Fed. Cir. 2007).
221 Id. at *10.
222 Id. The court noted that the applicant had conceded that these claims neither required a machine nor described a process of manufacture or process to alter the composition of matter, closely tracking the machine-or-transformation test. Id.
223 Id.
second group of claims was limited “wherein access to the mandatory arbitration is established through the Internet, intranet, World Wide Web, software applications, telephone, television, cable, video [or radio], magnetic, electronic communication, or other communications means.”

Finding that this second group of claims could, under the broadest reasonable interpretation, require the use of a machine, the Federal Circuit remanded to the PTO to consider whether the second group of claims recited statutory subject matter under § 101.

In *In re Ferguson*, the Federal Circuit held claims reciting a method relating to a collective marketing regimen for computer software companies patent-ineligible. While the method claims were tied to a “marketing force,” the court concluded that the claims still failed the machine prong of the machine-or-transformation test because no “concrete thing, consisting of parts, or of certain devices and combination of devices” existed. Those claims, the court found, also failed the transformation prong because they merely organized business or legal relationships. Other “paradigm claims” were similarly held patent-ineligible for failure to fit within any one of the four § 101 categories. Circuit Judge Newman filed a concurring opinion stating that the majority improperly expanded upon *Bilski* by defining abstract ideas as anything that does not meet the machine-or-transformation test.

Providing contrast to *Classen*, the Federal Circuit unanimously reversed an invalidation of biotechnology patents in *Prometheus Laboratories, Inc. v. Mayo Collaborative Services*. The two patents at issue concerned two different autoimmune disease drugs to be used within similar methods of calculating dosages for optimal therapeutic efficacy. While the lower court found these patents invalid for claiming “natural correlations and data-gathering steps,” the Federal Circuit explained that “methods of treatment . . . are always transformative when a defined group of drugs is administered to the body to ameliorate the effects of an undesired condition.” Regardless of whether the above explanation was meant as a per se rule under the transformation prong, the Federal Circuit advanced the following grounds for finding patent-eligibility: (1) the patents recited transformative claims because the diagnostic processes required both the transformation of drugs into metabolites within the human body and the transformation of human tissue samples into non-human samples; (2) the

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224 Id.
225 Id. at *11.
226 558 F.3d 1359, 1361 (Fed. Cir. 2009).
227 Id. at 1363–64 (quoting *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007)).
228 Id. at 1364.
229 Id. at 1365–66.
230 Id. at 1366–68 (Newman, J., concurring).
231 Prometheus Labs., Inc. v. Mayo Collaborative Servs., 581 F.3d 1336, 1339 (Fed. Cir. 2009). It should be remembered that while viewing *Prometheus* alongside *Classen* may provide contrast of certain concepts, *Classen* remains a non-precedential opinion. See supra note 214 and accompanying text.
232 Prometheus Labs., 581 F.3d at 1339–40.
233 Id. at 1346.
234 Id. at 1345–47.
patents’ data gathering steps were neither “mere data-gathering” steps nor “insignificant extra-solution activity” because those steps were central to the purpose of medical diagnosis; and (3) the patents’ final mental step of producing a particular medical warning was innocuous because “[a] subsequent mental step does not, by itself, negate the transformative nature of prior steps.”

2. Petition for Writ of Certiorari

On January 28, 2009, a petition for certiorari was filed on behalf of petitioners Bernard L. Bilski and Rand A. Warsaw. The first question presented to the Court reads:

Whether the Federal Circuit erred by holding that a “process” must be tied to a particular machine or apparatus, or transform a particular article into a different state or thing (“machine-or-transformation” test), to be eligible for patenting under § 101, despite this Court’s precedent declining to limit the broad statutory grant of patent eligibility for “any” new and useful process beyond excluding patents for “laws of nature, physical phenomena, and abstract ideas.”

The second question reads: “Whether the Federal Circuit’s ‘machine-or-transformation’ test for patent eligibility, which effectively forecloses meaningful patent protection to many business methods, contradicts the clear Congressional intent that patents protect ‘method[s] of doing or conducting business.’”

Certiorari was granted on June 1, 2009.

3. Supreme Court Briefs

a. Brief for Petitioners

The Brief for Petitioners can be reasonably broken down into four main arguments. Within the first main argument, petitioners asserted that the machine-or-transformation test conflicts with statutory and case authority establishing that the scope of § 101 is broad. The second main argument proposed that the Patent Act recognizes the patent-eligibility of business methods within 35 U.S.C. § 273. Third, petitioners argued that the Court should recognize a practical application test for patents involving fundamental principles. Lastly, petitioners’ fourth argument alleged that Bilski’s claims at

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235 Id. at 1343, 1347–48.
236 Id. at 1348–50.
238 Id. at *i.
239 Id.
242 See id.
243 See id.
244 See id.
issue are patent-eligible when analyzed under the averred proper framework for § 101 process inventions.  

While partly enabling the ultimate conclusion of patent-eligibility, petitioners’ first main argument that § 101 is more broad in scope than the machine-or-transformation test permits is also critical for understanding how the legal system should promote the policies underlying the Patent Act. Petitioners began by identifying statutory support in the expansive words of § 101 that “any new and useful process” is patent-eligible in order to foster human innovations. Juxtaposing the words of the statute with steadfast Supreme Court support for an expansive reading of the statute enabled petitioners to argue that the Federal Circuit has not only flouted two express denials of the machine-or-transformation test, but has also intruded into the ambit of the legislature. Corollary to the above, petitioners noted that the rigid and limiting qualities of the machine-or-transformation test disrupt inventors’ settled expectations of what is patent-eligible and disrupt how other sections of the Patent Act were meant to operate within the statutory scheme.

245 See id.

246 See id. at 18–28, 37–42.

247 Brief for Petitioners, supra note 241, at 18–19, 26–28 (emphasis added) (quoting 35 U.S.C. § 101). “[T]he Court has also been informed by congressional intent that statutory subject matter ‘include[s] anything under the sun that is made by man.’” Id. at 19 (quoting S. Rep. No. 82-1979, at 5 (1952), reprinted in 1952 U.S.C.C.A.N. 2394, 2399; H.R. Rep. No. 82-1923, at 6 (1952)).

248 Id. at 26–28 (quoting Diamond v. Chakrabarty, 447 U.S. 303, 316 (1980) (“Congress employed broad general language in drafting § 101 precisely because . . . inventions are often unforeseeable.”)).

249 Id. at 19–20 (citing J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc., 534 U.S. 124, 130 (2001) (“As this Court recognized over 20 years ago in Chakrabarty, the language of § 101 is extremely broad.”); Chakrabarty, 447 U.S. at 308 (“Congress plainly contemplated that the patent laws would be given wide scope.”)).

250 Id. at 20–21 (quoting Gottschalk v. Benson, 409 U.S. 63, 71 (1971):

It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a ‘different state or thing.’ We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents;

Parker v. Flook, 437 U.S. 584, 588 n.9 (1978)

The statutory definition of ‘process’ is broad. An argument can be made, however, that this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a ‘different state or thing.’ As in Benson, we assume that a valid process patent may issue even if it does not meet one of these qualifications of our earlier precedents. (citations omitted)).

251 Id. at 37–42 (quoting Expanded Metal Co. v. Bradford, 214 U.S. 366, 382 (1909) (“[T]he statute . . . secures to inventors the right of protection; and it is not the province of the courts to so limit the statute as to deprive meritorious inventors of its benefits.”); Chakrabarty, 447 U.S. at 318 (“Congress is free to amend § 101 . . . but, until Congress takes such action, this Court must construe the language of § 101 as it is.”)).


253 Brief for Petitioners, supra note 241, at 40–42 (arguing that certain criticisms of business method patents illustrate problems applying rules of novelty, obviousness, and specification rather than § 101) (citing 35 U.S.C. §§ 101–103, 112). For example, petitioners note prior disconnection from the Court that patents for business methods could be overly vague, e.g., eBay Inc. v. MercExchange, LLC,
Moreover, petitioners pointed out that not only is § 101 broad, but also that business methods are expressly recognized in § 273. Within § 273, Congress crafted a defense to actions alleging the infringement of patents for methods where “method” is defined as a “method of doing or conducting business.” Therefore, petitioners argued that because the Federal Circuit’s machine-or-transformation test has been interpreted as a threat to existing business method patents, then § 273 would be improperly rendered superfluous as a defense without any concomitant threat and thereby inharmonious relative to § 101 if the machine-or-transformation test is allowed to stand.

Instead of the machine-or-transformation test, petitioners posited that the proper § 101 test annunciated by the Court must be the practical application test. The practical application test states that although abstract ideas, laws of nature, and natural phenomena are not within the limits of § 101, a practical application of those principles would be. This position is supported with Supreme Court precedent dating back some 150 years, and continued into the present.

Although the majority declined to say so explicitly, Bilski’s holding suggests a perilous future for most business method patents. . . . The closing bell may be ringing for business method patents, and their patentees may find they have become . . . [just like] shareholder[s] left holding shares of worthless stocks.)

Further, petitioners analogized harmonizing §§ 101 and 273 with how the Court had previously rationalized the patent-eligibility of plant patents under § 101 by reference to 35 U.S.C. § 119.
Moreover, petitioners differentiated the evolution of the American patent system rather than paralleling it with English patent law, specifying that the English system began as a means to promote manufacturing industry while the American patent system markedly broke from that practice by allowing patents for a wide variety of human discoveries.264

Under the practical application test, petitioners alleged the Bilski patent to be patent-eligible under § 101.265 First, petitioners asserted that all the patent claims fall within the § 101 category of processes because they describe a method for hedging financial risk associated with commodities transactions.266 Petitioners then argued that the process of hedging is not an impermissible abstract idea because, rather than merely attempting to patent the abstract business concept of hedging, the claimed method is particularized with regard to the parties involved in the commodities trading and with regard to the weather-oriented aspect of the trading.267 Finally, the patent arguably satisfied § 101 strictures because the described mathematical formula itself was not claimed, but the formula was put to practical application to determine a certain price within the useful process of hedging financial risk through weather-related commodities trading.268

b. Brief for the Respondent

The Brief for the Respondent is broken into three main arguments.269 Respondent began by asserting that only industrial and technological processes, not methods of organizing human activity, fall within the protection § 101 offers.270 Next, the respondent argued that the scope of § 101 is not expanded by § 273.271 Hinged upon the preceding arguments, respondent lastly noted that the Federal Circuit correctly denied statutory eligibility for the Bilski patent under § 101.272

While respondent’s first main argument presented a mode of § 101 analysis parallel to that found in the Federal Circuit’s en banc opinion, respondent treaded further in countering a variety of petitioners’ arguments.273 In order to support congressional intent that § 101 is broad without encompassing methods of organizing human activity, respondent pointed to the plain statutory text and argued with support from Supreme Court precedent,274 support from historical

Alappat, 33 F.3d 1526 (Fed. Cir. 1994) (en banc); State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998); AT&T Corp. v. Excel Commc’ns, Inc., 172 F.3d 1352 (Fed. Cir. 1999)).

264 Id. at 47–52.
265 Id. at 52–59.
266 Brief for Petitioners, supra note 241, at 55–56.
267 Id. at 57–58.
268 Id. at 58–59.
270 Id. at 11–46.
271 Id. at 46–51.
272 Id. at 51–55.
273 See id. at 11–46.
274 Id. at 11–15 (citing Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 483 (1974); Lab. Corp. of
definition, and support from English patent law. Generally countering petitioners’ arguments, respondent presented the following: (1) that the congressional scope of “anything under the sun that is made by man” only includes machines and manufactures; (2) that “[t]he machine-or-transformation test accommodates evolving technology” rather than stifling modern advancements; and (3) that the § 101 rubric advanced by petitioners cannot be proper.

Regarding petitioners’ § 273 argument, the respondent characterized petitioners’ analysis as improper, conceding that while § 273 prevents actions for infringement of business methods, that provision does not protect methods for organizing human activity. Respondent asserted that § 273 protects against business method infringement suits relating to business methods arising out of any of the four subject matter categories within § 101. Moreover, respondent contended that petitioners’ analogy to a similar plant patent-eligibility issue was misplaced because the PTO has historically sought judicial approval regarding how to treat process patents unlike the inferred congressional approval for the validity of plant patents.

Before calling for affirmation of the Federal Circuit’s decision, respondent analyzed the facts surrounding the Bilski patent under the machine-or-transformation test in similar fashion as the Federal Circuit had. Respondent emphasized that the addition of a computer used to perform the mathematical calculations involved in the patent claims would “not [be] central to the purpose of the method invented by the applicant” and therefore patent-ineligible as “insignificant extra-solution activity.” As an additional ground for ruling the Bilski claims patent-ineligible, respondent proposed the claims would “pre-empt any application of the fundamental concept of hedging and mathematical calculations inherent in hedging consumption’ risk” for lack of meaningful claim


275 Brief for the Respondent, supra note 269, at 16–19 (citing Noah Webster, An American Dictionary of the English Language (1828)).

276 Id. at 19–25 (arguing that the American patent system elaborates upon, rather than breaks away from, the historical English practice issuing patents primarily for technological or industrial processes). However, respondent conceded that there were some English patents on methods of organizing human activity. Id. at 20 n.5.

277 Id. at 25–36. Specifically, respondent noted the congressional statement that “anything under the sun that is made by man” was tempered by the subsequent language reading, “is not necessarily patentable under [§ 101] unless the conditions of the title are fulfilled.” Id. at 28. Respondent interpreted one condition of the title through “the ‘commonsense’ cannon . . . [that] ‘a word is given more precise content by the neighboring words with which it is associated.’” Id. at 26. This interpretation enabled respondent to argue that the other § 101 categories of machine, manufacture, and compositions of matter restricted the scope of § 101 processes to those of an industrial or technological vintage. Id. at 26–27.

278 Id. at 36–44.

279 Id. at 44–46.

280 Id. at 46–49.

281 Brief for the Respondent, supra note 269, at 49.

282 Id. at 49–50; see supra note 258.


284 Id. at 52–53.
c. Reply Brief for Petitioners

The Reply Brief for Petitioners elaborated upon four arguments that had developed during the course of litigation. Petitioners’ maintained that upholding the technology limitation on process patents through the machine-or-transformation test would be improper. Second, petitioners confronted the respondent’s arguments that § 273 broadened the scope of § 101 and that the machine-or-transformation test embodied the scope of § 101. The practical application test, alongside other Patent Act limitations, was supported within the third argument. Finally, petitioners asserted pitfalls within the machine-or-transformation framework as illustrated by respondent’s analysis of petitioners’ arguments.

B. Broader Impact

1. Effect on Business Methods, Computer Programs, and Biotechnology

Bilski’s relationship with business method patents is perhaps most obvious, yet the total effect the Federal Circuit decision will have is fairly elusive. Ambiguity stems from the court’s mandate that business method patents not be categorically excluded under § 101, coupled with the declination to elaborate on the contours of the machine-or-transformation test beyond what the facts required. For example, a patent applicant claiming a business method has very little guidance on whether the business method is sufficiently tied to a particular machine, whether any physical object qualifies as a particular machine, or whether the involvement of the machine is “insignificant post-

285 Id. at 53–54.
286 Id. at 3–20.
287 Id. at 20–24.
288 Id. at 24–27.
290 In re Bilski, 545 F.3d 943, 949 (Fed. Cir. 2008) (identifying the business method at issue, namely “[a] method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price”).
291 See Scott Bain, Patently Undecided: The Bilski Case, 26 INFO. TODAY 2 (2009) (“[T]he court’s lengthy attempt to enunciate the new, proper standard, along with exceptions, leaves much to be argued in future cases. Indeed, it seems that the real winners in the Bilski decision are the patent lawyers who will battle over the further contours of the law and not the investors in software and business ventures who were seeking more certainty.”).
292 Bilski, 545 F.3d at 960 (citing State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d at 1375–76)).
293 Id. at 962 (“We leave to future cases the elaboration of the precise contours of machine implementation[,]”).
294 Id. (“We leave to future cases . . . the answers to particular questions, such as whether or when recitation of a computer suffices to tie a process claim to a particular machine.”). In In re Ferguson, the Federal Circuit defined “machine” as a “concrete thing, consisting of parts, or of certain devices and combination of devices.” See supra note 227 and accompanying text. However, the Federal Circuit did
solution” activity.\(^\text{295}\)

Similarly vague is the effect Bilski will have on computer program processes.\(^\text{296}\) Again, ambiguity stems from the Federal Circuit’s refusal to elaborate on the contours of the machine-or-transformation test beyond what the facts required.\(^\text{297}\) To exemplify, a patent applicant claiming a process carried out by a particular computer program on a particular computer would have little guidance upon whether the computer would suffice the machine branch of the § 101 inquiry,\(^\text{298}\) or whether the computer would create a mere field-of-use limitation.\(^\text{299}\) This applicant would also have little guidance on whether the particular computer program must also be embodied on a specific medium.\(^\text{300}\)

Bilski’s § 101 precedent further casts a shadow of ambiguity over the field of biotechnology.\(^\text{301}\) For instance, a patent applicant claiming a method of collecting data about a person’s organs and transforming the “raw data” into a visual representation of numbers thereafter analyzed to detect abnormalities requiring medical attention is left in the dark regarding patent-eligibility.\(^\text{302}\) To the extent innovative medical diagnostic methods can be characterized as “an inquiry of the extent of the proposed correlation between vaccines and chronic disorders,” it appears that the Federal Circuit would find such methods patent-ineligible as natural phenomena.\(^\text{303}\) However, diagnostic processes are probably patent-eligible as long as those methods require the transformative administration of drugs to a human body.\(^\text{304}\)

2. Effect on Trade Secret Consideration

The term “trade secret” has been defined as follows:

A formula, process, device, or other business information that is kept confidential to maintain an advantage over competitors; information—including a formula, not explain how that definition excludes a human brain from being a “concrete thing” in light of the statement that “a claimed process wherein all of the process steps may be performed entirely in the human mind is obviously not tied to any machine.” Bilski, 545 F.3d at 961 n.26.

\(^\text{295}\) Bilski, 545 F.3d at 1015 (Rader, J., dissenting) ("[T]his opinion propagates unanswerable questions: . . . . What constitutes [insignificant] 'extra-solution activity'?").

\(^\text{296}\) See Bain, supra note 291; Bilski, 545 F.3d at 998 (Mayer, J., dissenting) (stating the majority failed to elucidate one of the “thorniest issues in the patent [eligibility] thicket. . . . [T]he extent to which computer software . . . constitute[s] statutory subject matter.").

\(^\text{297}\) Bilski, 545 F.3d at 962 ("We leave to future cases the elaboration of the precise contours of machine implementation . . . .")

\(^\text{298}\) See supra notes 223–25 and accompanying text.


\(^\text{302}\) See Bilski, 545 F.3d at 1015 (Rader, J., dissenting) ("[T]his opinion propagates unanswerable questions: . . . . When is a ‘representative’ of a physical object sufficiently linked to that object to satisfy the transformation test?").

\(^\text{303}\) See supra notes 214–17 and accompanying text.

\(^\text{304}\) See supra notes 231–36 and accompanying text.
pattern, compilation, program, device, method, technique, or process—that (1) derives independent economic value, actual or potential, from not being generally known or readily ascertainable by others who can obtain economic value from its disclosure or use, and (2) is the subject of reasonable efforts, under the circumstances, to maintain its secrecy.\(^ {305}\)

Augmenting this definition, trade secrets can be understood as relatives of patents.\(^ {306}\) However, trade secrets are broader in scope because protection of the asset is governed only by the ability of the owner to maintain secrecy whereas patent protection is defined relatively narrowly by the Patent Act.\(^ {307}\) Accordingly, inventors may choose to protect their processes or methods through the use of trade secrets rather than patents. Regarding business methods, computer programs and biotechnology, inventors expecting *Bilski* to foreclose their ability to obtain patents will protect their inventions with trade secrets so long as the specific inventions can practically be kept secret.

### 3. Effect on Patent Examination

Patent examiners who evaluate patent applications for, among other things, patent-eligibility under § 101 must meet various requirements set by the PTO.\(^ {308}\) Persons applying to become patent examiners “bear the burden of showing the requisite scientific and technical training.”\(^ {309}\) Applicants cannot meet this burden by demonstrating they have taken “courses in management, business administration and operations research; courses on how to use computer software; courses directed to data management and management information systems.”\(^ {310}\) However, *Bilski* specifically declined to categorically exclude business method patents from protection under § 101.\(^ {311}\) It is reasonable to assume that inventors will submit patent applications dealing with business concepts for examination by examiners who will be unable to properly evaluate the patent application. If the issuance of higher quality patents is desired,\(^ {312}\) the PTO must ensure that patent examiners are skilled in the areas related to § 101 subject matter, including business.

### 4. Effect on Deference to the Federal Circuit

The Federal Circuit has exclusive jurisdiction over patent appeals.\(^ {313}\) This

\(^{305}\) BLACK’S LAW DICTIONARY (8th ed. 2004) (emphasis added).
\(^{307}\) Id.
\(^{308}\) See id.
\(^{310}\) Id. at 7.
\(^{311}\) In re Bilski, 545 F.3d 943, 960 (Fed. Cir. 2008).
authority enables the Federal Circuit to be a specialized court that adeptly handles, among other matters, highly complex patent cases that might otherwise cause undue conflict among the various United States Courts of Appeals. Resultantly, a circuit split that might influence the Supreme Court’s decision to review a case regarding a patent matter cannot occur. Abrogating three of its own and three of its predecessor courts’ decisions en banc in Bilski and drawing three dissenting opinions, the Federal Circuit created a situation where review from the Court became necessary to resolve the apparent internal conflict at the Federal Circuit. Deference to the Federal Circuit should be given in order to allow the resolution of increasingly complex matters, but certainly not to allow the court to “usurp[] the legislative role.”

VI. CONCLUSION

Even if the machine-or-transformation test eventually achieved laudable results such as enhancing patent quality, the test leaves a multitude of open-ended questions that belie an entirely reasonable interpretation of the Patent Act, Federal Circuit case law, and Supreme Court precedent. Moreover, such open-ended questions inject uncertainty into a patent system that is already experiencing turbulence. Without explaining the machine prong and leaving the transformation prong fairly unrefined, it is not at all clear why the majority held that the machine-or-transformation test was a better means of rejecting the claims at issue rather than employing the principle that claims for abstract ideas are patent-ineligible.

315 See Bilski, 545 F.3d at 958–60.
316 See id at 997 (Newman, J., dissenting).
317 See id. at 1010–11, 1015 (Mayer & Rader, JJ., dissenting) (explaining that the court failed to clarify “three of the thorniest issues in the patentability thicket” and “propagate[d] unanswerable questions”).
319 See supra notes 130–36 and accompanying text. If the machine-or-transformation test has been the proper standard for determining patent eligibility since 1981, then one might expect more elaboration upon the contours of the test. See id.
320 See Bilski, 545 F.3d at1011 (Mayer, J., dissenting).