Mayo v. Prometheus: Patent Eligibility of Claims Covering Natural Laws

by Angela L. Morrison

This article reviews the U.S. Supreme Court’s patent eligibility jurisprudence and discusses Mayo v. Prometheus, the most recent patent eligibility decision. The article also examines the implications of Prometheus on patents and suggests practice tips in light of the decision.

Patent law and related cases in the United States create a broad scope of patent-eligible subject matter. Importantly, though, there are at least three exceptions to patent-eligible subject matter: laws of nature, natural phenomena, and abstract ideas. Thus, Einstein could not have patented E=mc², nor could Newton have patented the law of gravity. However, courts have recognized that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” Consider a smart phone, the components of which likely are or could be patented: all of the underlying circuits operate based on principles of electricity, and the display and speaker work according to the fundamentals of light and sound transmission. Thus, courts have long held that applications of laws of nature, natural phenomena, or abstract ideas may be patent eligible.

The U.S. Supreme Court recently decided Mayo Collaborative Services v. Prometheus Laboratories Inc., a case involving the patent eligibility of claims to methods of optimizing therapeutic efficacy or reducing toxicity of certain drugs used to treat gastrointestinal disorders. The unanimous Court held that the claims at issue are not patent-eligible subject matter because they are directed to unpatentable laws of nature without adding “enough” to push them into patent-eligible application-of-natural-laws territory.

Prometheus arguably dealt a blow to the personalized medicine and diagnostic methods industries that have invested in and relied on patent protection using claims similar to those at issue in this case. However, the language in Prometheus is broad enough that the decision is likely to affect patents in other fields, as well. Patent professionals should familiarize themselves with the decision and may need to update their strategies—especially prosecution-oriented strategies—based on its holdings.

35 USC § 101—Inventions Patentable

The U.S. Constitution grants Congress the power “to promote the progress of . . . useful arts, by securing for limited times to . . . inventors the exclusive right to their . . . discoveries.” These exclusive rights are codified in the patent laws of Title 35 of the United States Code. Inventions eligible for these rights are described in § 101, which states:

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.

This brief statutory text has been interpreted broadly to mean that “anything under the sun that is made by man” is patentable. The “made by man” qualifier is an important limitation to this otherwise sweeping statement. Even though not specifically excluded by § 101, the U.S. Supreme Court has long held that laws of nature, natural phenomena, and abstract ideas are not patent eligible. These exceptions cover concepts that “are part of the storehouse of knowledge of all men . . . free to all men and reserved exclusively to none.” Although claims to laws of nature, natural phenomena, or abstract ideas are not patent eligible, an application of one of those principles may be patent eligible.

The Supreme Court has heard approximately ten cases on patent eligibility, several even before there were codified laws on the topic. Several of these cases have addressed the patentability of inventions in new technological fields. Because the development of these technologies could not have been foreseen by Congress when Congress drafted patent legislation, uncertainty often exists about the applicability of the patent laws to such technologies.

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Intellectual Property Law articles are sponsored by the CBA Intellectual Property Section. They provide information of interest to intellectual property attorneys who advise clients on protecting and exploiting various forms of intellectual property in the marketplace.
For example, forty years ago, the Court made its first foray into the patent eligibility of computer software in *Gottschalk v. Benson.* The claims at issue were directed to a method for converting binary code decimal numerals into pure binary numerals using a series of mathematical steps. The claims were not limited to any particular field, machine, or end use; they covered any use of the method in any type of computer.

The Court held that the claims were not patent eligible because they were drawn to an abstract idea—a mathematical formula or algorithm. Because the formula had no practical application except in connection with a computer, a patent on the claimed method “would wholly preempt the mathematical formula and in practical effect would be a patent on the algorithm itself.”

The Supreme Court heard another case on patent eligibility of computer software a few years later in *Parker v. Flook.* Flook claimed a method of calculating and updating alarm limits using a new algorithm. The Court held that the claimed process was not patent eligible “not because it contain[ed] a mathematical algorithm” but because it did not contain “some other inventive concept.” Flook’s contribution to the art was the use of an algorithm, but the mere discovery of such an algorithm is not sufficient to create a patent-eligible invention.

Instead, to be patent eligible, an “inventive application” of an algorithm is necessary. Flook argued that post-solution activity—the adjustment of alarm limit values to the number computed according to the algorithm—met the patent-eligibility bar. The Court rejected the notion that post-solution activity, at least when “conventional or obvious,” “can transform an unpatentable principle into a patentable process.” Thus, the claimed process was not patent eligible because it did not include an inventive concept beyond the unpatentable algorithm.

The Supreme Court finally held a computer software claim patent eligible three years after *Flook* in *Diamond v. Diehr.* The patent applicants claimed a process for molding and curing raw synthetic rubber. The process included steps for constantly measuring the temperature inside the mold, sending the measurements to a computer that repeatedly recalculated the cure time using the Arrhenius equation, and then, when the recalculated cure time equaled the actual time the rubber had been curing, signaling a device to open the mold.

The Supreme Court in *Diehr* held the claimed process patent eligible because it involved the “transformation of an article … into a different state or thing.” In contrast to *Flook,* the applicants here were not attempting to patent the Arrhenius equation itself or to preempt all uses of that equation; they wanted only “to foreclose from others the use of that equation in conjunction with all of the other steps in the claimed process.” The inclusion of a mathematical equation and a computer in that process did not negate patentability.

The Court held that the claimed bacterium was patentable because it was not naturally occurring. The Court stated that, when it came to patent eligibility, Congress’s “relevant distinction was not between living and inanimate things, but between products of nature, whether living or not, and human-made inventions.” Thus, the important factor for patent eligibility was that the bacterium did not exist in nature.

Until March 2012, the Supreme Court had issued only one other decision on the patent eligibility of an invention in the life sciences fields, *Funk Brothers Seed Co. v. Kalo Inoculant Co.* Like the later-decided *Chakrabarty,* the claimed invention in *Funk Brothers* dealt with bacteria. The patentee claimed an inoculate of mixed species of root-nodule bacteria. These bacteria beneficially infect legumes, but each bacteria species will infect only a limited and defined group of legumes. Thus, farmers growing multiple varieties of legumes usually needed more than one bacteria species. Previous attempts to combine bacteria species had proved unsuccessful because the species inhibited each other. The patentee discovered and combined strains of each species that were not mutually inhibitory.

The Court held that the claimed inoculate was not patent eligible because it merely was a “discovery of some handiwork of nature.” Each bacteria species in the mixed inoculate had the same properties as it had when it was alone; each species infected the same group of plants with the same level of efficacy. In contrast, the claimed bacterium in *Chakrabarty* possessed “markedly different characteristics” than those found in nature.

The Supreme Court addressed another relatively new patented technology—business methods—in the 2010 *Bilski v. Kappos* decision. The claims at issue related to risk hedging in commodities markets. The claimed method included the steps of initiating a series of transactions between commodity providers and commodity consumers who had a certain risk position, identifying market participants for the commodity who had a counter-risk position, and initiating a series of transactions between the commodity providers and market participants.

The Court held that the claims in *Bilski* were unpatentable abstract ideas. The Court characterized the claims as an attempt to patent both the concept of hedging risk and the application of the concept to energy markets. The former is an unpatentable abstract idea. Although the latter involved a limited application to specific markets, “limiting an abstract idea to one field of use or adding token post-solution components [does] not make the concept patentable.” Thus, neither the abstract idea of hedging alone nor the idea in combination with insignificant post-solution elements was patent eligible.

The above cases summarize the state of the U.S. Supreme Court’s jurisprudence on patent eligibility under 35 USC § 101 until March 2012. That is when the Court issued its decision in *Mayo v. Prometheus.*

### The Mayo v. Prometheus Story

Prometheus Laboratories Inc. (Prometheus) is a San Diego-based company and part of Nestlé Health Science. The company focuses on gastroenterological and oncological therapeutics. It also specializes in the use of serologic, genetic, and inflammation markers to diagnose gastrointestinal disorders and to monitor and predict treatment outcomes (also known as personalized medicine).

One of these latter diagnostic tools is a test that helps physicians calibrate the proper dose of thiopurine drugs for patients. Thio-
purines, such as 6-mercaptopurine (6-MP) and azathioprine (AZA), are used to treat immune-mediated gastrointestinal disorders, such as inflammatory bowel disease, which in turn includes Crohn’s disease and ulcerative colitis. After ingestion, the body breaks down the drugs into metabolites including 6-methylmercaptopurine (6-MMP) and 6-thioguanine (6-TG), and their nucleotides. Two little 6-MP is ineffective, but too much is toxic. Researchers and clinicians knew that measurement of 6-MMP or 6-TG levels could be used to predict efficacy or toxicity of thiopurine drugs, but the exact concentrations of metabolites that correlated with efficacy or toxicity had been unknown. Two researchers in Montreal, Canada determined these concentrations and correlations and incorporated them into patent applications from which several patents have issued.

Prometheus is the sole and exclusive licensee of at least two of those patents: U.S. Patent Nos. 6,355,623 (’623 patent) and 6,680,302 (’302 patent). Most of the claims in these patents are directed to methods of determining and optimizing the dose of a thiopurine drug. Claim 1 of the ’623 patent is representative:

A method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder, comprising:
(a) administering a drug providing 6-thioguanine to a subject having said immune-mediated gastrointestinal disorder; and 
(b) determining the level of 6-thioguanine in said subject having said immune-mediated gastrointestinal disorder, wherein the level of 6-thioguanine less than about 230 pmol per 8×10⁸ red blood cells indicates a need to increase the amount of said drug subsequently administered to said subject and wherein the level of 6-thioguanine greater than about 400 pmol per 8×10⁸ red blood cells indicates a need to decrease the amount of said drug subsequently administered to said subject.

Prometheus marketed a thiopurine metabolite test using the technology covered by the ’623 and ’302 patents. Mayo Collaborative Services and Mayo Clinic Rochester (collectively, Mayo) bought and used Prometheus’s tests. In 2004, however, Mayo announced that it would begin using and selling its own test, which measured the same metabolites but designated slightly different levels as indicative of drug toxicity.

The District Court’s Decision

Not long after Mayo’s announcement, Prometheus sued Mayo for infringement of the ’623 and ’302 patents. The U.S. District Court for the Southern District of California initially granted summary judgment of infringement in favor of Prometheus. The court found that Mayo’s accused thiopurine metabolite test literally infringed claim 7 of Prometheus’s ’623 patent.

Despite the district court’s initial finding of infringement by Mayo, in a subsequent hearing, the court granted Mayo’s motion for summary judgment of patent invalidity under 35 USC § 101. The court found that the steps of the claimed method “embody only the correlations”between 6-TG and 6-MMP levels and therapeutic efficacy or toxicity of thiopurine drugs, and the correla-
tions are a natural phenomenon.67 Further, the claims “wholly pre-
empt” use of that phenomenon such that the “practical effect is a patent on the phenomenon itself,”68 which of course is impermis-
sible under the Supreme Court’s § 101 jurisprudence.

The Federal Circuit’s First Decision
Prometheus appealed the district court’s patent invalidity holding to the U.S. Court of Appeals for the Federal Circuit in May 2008. The Federal Circuit reversed the district court’s decision.

The Federal Circuit based its decision on its then-definitive (now less so) test for determining patent eligibility:
A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.69

This so-called machine or transformation (MOT) test also requires that
the use of a specific machine or transformation of an article must impose meaningful limits on the claim’s scope [and] the involvement of the machine or transformation must be central to the method, or at least not be insignificant extra-
solution or data-gathering activity.70

The Federal Circuit determined that Prometheus’s claims fell within the scope of 35 USC § 101, because both the “administer-
ing” and “determining” steps “transform an article into a different state or thing” and this transformation “is central to the purpose of the claimed process.”71 The human body necessarily undergoes a transformation when drugs are administered; that, in fact, is the whole point of administering a drug.72 Even though an adminis-
tered drug is metabolized via a natural process, the administering step still is patentable because every transformation of physical matter necessarily occurs according to natural processes.73 Here, a drug is administered to “transform—i.e., treat—the subject which is not itself a natural process.”74

The Federal Circuit held that the “determining” step of the claimed method also was “transformative and central.”75 The step is transformative because metabolite levels cannot be determined simply by inspection; some form of manipulation is required to extract the metabolites from a bodily sample and determine their concentration.76 The step is central to the claimed method because measuring metabolite levels is what enables the indication of a pos-
sible need to adjust a drug’s dosage to optimize its efficacy or reduce its toxicity.77

The Federal Circuit further held that even though the “wherein” clause recited an unpatentable mental step, that alone that did not negate the transformative nature of the previous steps.78 Finally, the Federal Circuit held that “because the claims meet the machine—or-transformation test, they do not preempt a fundamental principle” and were clearly patent eligible subject matter under § 101.79 Thus, the Federal Circuit reversed the judgment of the district court and remanded the case with instructions to deny Mayo’s motion for summary judgment of patent invalidity.80

Mayo again appealed to the Supreme Court, which again granted certiorari in June 2011. This time, the Court heard the case on its merits.

The Supreme Court Weighs In
On March 20, 2012, Justice Stephen Breyer delivered the opinion for a unanimous Supreme Court. The Court held that the claims at issue are not directed to patent-eligible subject matter under 35 USC § 101.89

The Court characterized the claims at issue as covering “natural laws” that describe the relationships between thiopurine drug metabolites and therapeutic efficacy or toxicity.90 The relationships are natural laws because they arise from “entirely natural processes” of the body metabolizing thiopurine drugs.91 As described above, and as reiterated in the instant opinion, Supreme Court jurispru-
dence on § 101 has established that laws of nature are not patent eligible, but applications of laws of nature may be. Thus, the ques-
tion for the Court was whether “the claims do significantly more than simply describe” natural laws or relationships.92 That is, “do the patent claims add enough to their statements of the correlations to allow the processes they describe to qualify as patent-eligible processes that apply natural laws?”93

Here, the claims did not add “enough” to the laws of nature covered therein. The Court stated that, outside the natural laws them-
selves, the steps in the claimed method involved “well-understood, routine, conventional activity.”94 That is, at the time the claimed correlations were discovered, researchers already knew that metabolite levels were associated with therapeutic efficacy or toxicity of thiopurine drugs, but they did not know the precise correla-
tions.95

Laws of nature are not patent eligible, nor are processes that recite a law of nature, “unless that process has additional features that provide practical assurance that the process is more than [an attempt] to monopolize the law of nature itself.”96 The Court

The Bilski Interlude
Meanwhile, another 35 USC § 101 case, In re Bilski, already had made its way through the lower courts, including the Federal Cir-
cuit, and up to the Supreme Court. In June 2010, the Supreme Court in Bilski held that the MOT test is not the sole test for
searched the claims for at least one additional feature sufficient to transform the claims from unpatentable natural laws into patentable applications of those laws, but failed to find one.

First, the Court stated that the administering step “simply refers to the relevant audience”—doctors who have long used thiopurine drugs to treat patients.97 Second, the “wherein” clauses at the end of the claims “simply tell a doctor about the relevant natural laws.”98 At best, the clauses suggest to a physician that he or she should consider those natural laws when treating patients.99

Third, the Court characterized the “determining” step as one in which the doctor is told to “engage in well-understood, routine, conventional activity.”100 This “activity” is the ascertainment of metabolite levels, but the step is not limited to any particular method, and methods for determining metabolite levels were well known at the time of the claimed invention.101 Finally, the Court found nothing additional when it considered the steps in combination.102 The Court summarized that the claims “inform a relevant audience about certain laws of nature,” and the additional steps “consist of well-understood, routine, conventional activity” that, “when viewed as a whole, add nothing significant beyond the sum of their parts.”103

After reviewing previous § 101 cases, the Court found the present claims to be “weaker than the (patent-eligible) claim in Diehr and no stronger than the (unpatentable) claim in Flook.”104 Like Flook, the present claims say no more than measure something (an alarm limit or a metabolite); use a law of nature to make a calculation (an updated alarm limit or a therapeutic threshold/toxic limit); and reconsider (an alarm limit or a drug dosage) in light of the law. Although the Court made clear that these steps were insufficient to create a patent-eligible claim, it declined to decide whether “less conventional” steps would have led to a different result.105

Finally, the Court considered and rejected arguments in favor of patentability. As discussed above, the Federal Circuit had determined that the “administering” and “determining” steps of the claimed methods were transformative of the human body and the bodily sample, respectively. The Court rejected the transformation of the human body as “irrelevant” and rejected the transformation of the bodily sample as unnecessary, because a different system for determining metabolite levels might be developed that does not require such a transformation.106

The U.S. government had argued that the Court should take a permissive stance under § 101 on patent eligibility of claims directed to laws of nature, and leave the rest of the patentability determination to the other statutory provisions that cover novelty (§ 102), nonobviousness (§ 103), written description (§ 112), and enablement (§ 112).107 The Court dismissed this proposal, predicting it would make the law of nature exception “a dead letter” and would create “significantly greater legal uncertainty.”108 In sum, the Supreme Court held that Prometheus’s claims were invalid for patent eligibility of classic method of treatment claims—a method of treating disease X by administering drug Y—may be vulnerable post-Prometheus.109 Even when drug Y has been known in the art, a new, nonobvious, and useful method of using it has long been patentable as a method of treatment. However, under the reasoning in Prometheus, the administration of a known drug to a patient would be considered “well understood, routine, and conventional.”110 Also, doctors would constitute a pre-existing audience that administers the drug to patients.111 Further, the ability of drug Y to treat disease X is a “natural phenomenon,” because the drug interacts with the body via “entirely natural processes.”112

The Supreme Court did distinguish the claims at issue in Prometheus from “say, a typical patent on a new drug or a new way of using an existing drug.”113 However, without any further exposition of that statement from the Court, and in light of language elsewhere in the opinion, it is unclear what distinction the Court had in mind.

**Myriad Genetics and Gene Patents**

The Prometheus decision already has had an effect—albeit likely a temporary one—on the highly publicized Association for Molecular Pathology v. Myriad Genetics case. A few days after the decision in Prometheus was announced, the Supreme Court granted the pending petition for writ of certiorari, vacated the Federal Circuit’s

**Implications of Prometheus**

The Supreme Court’s decision immediately prompted strong praise and equally strong criticism from across the medical and scientific communities. It seems that everyone agrees on the benefits of medical advances, but disagrees on whether patents like those at issue in Prometheus—and, more important, the Court’s analysis of those patents—will promote or discourage such advances.
judgment, and remanded the case for further consideration in light of the new decision.\textsuperscript{114}

As background, in 2009 a group of plaintiffs, including medical associations, researchers, service providers, and patients, sued Myriad Genetics, the University of Utah Research Foundation, and the U.S. Patent and Trademark Office (PTO), challenging the patentability of claims related to the BRCA1 and BRCA2 genes, mutations in which correlate with increased risk of developing breast and ovarian cancer.\textsuperscript{115} The plaintiffs sought a declaratory judgment, and remanded the case for further consideration in light of the new decision.\textsuperscript{116} The plaintiffs were drawn to unpatentable subject matter.\textsuperscript{117} The claims in the patents-in-suit can be categorized as: (1) composition of matter claims to isolated DNA sequences covering all or a portion of the BRCA genes; (2) methods of screening potential cancer therapeutics by analyzing the growth rates of cells with altered BRCA genes in the presence or absence of a treatment; and (3) methods of analyzing BRCA gene sequences and comparing those with cancer-predisposing mutations to normal sequences.\textsuperscript{118}

The District Court invalidated all of the claims.\textsuperscript{119} The Federal Circuit upheld the patentability of claims in categories (1) and (2), but rejected the claims in category (3) as unpatentable.\textsuperscript{120}

On remand, the Federal Circuit likely will hold again that the claims in category (3), which are the most similar to the claims in Prometheus, are not directed to statutory subject matter.\textsuperscript{121} A ruling on the claims in categories (1) and (2) is much harder to predict. The Federal Circuit could decide that Prometheus, which addressed only method claims, does not apply to the composition of matter claims in category (1).\textsuperscript{122} Alternatively, the Federal Circuit could find that the information contained in DNA represents a law of nature or that DNA itself is a natural phenomenon, that isolation of DNA employs processes already well known at the time of the invention, and that claims to isolated DNA therefore are unpatentable because they effectively claim a law of nature or a natural phenomenon.\textsuperscript{123}

The claims in category (2) also could fall either way (patentable or unpatentable) under Prometheus. “Comparing” the growth rates of cells simply may be an abstract idea representable by a mathematical formula. Even so, the “growing” step might add “enough” to transform the otherwise unpatentable abstract idea into a patentable application of that idea.\textsuperscript{124}

Regardless of what the Federal Circuit decides, one side or the other will be dissatisfied with the result and likely will appeal again to the Supreme Court. Then, if the Court hears the case, we may be afforded the first opportunity to see the Court’s application of its Prometheus holding to claims outside the personalized medicine context. In the meantime, though, the lower courts and the PTO will be applying Prometheus to pending cases and applications, and litigators and prosecutors alike must be prepared.

**Practice Tips**

Prometheus represents the current state of patent-eligibility requirements under § 101 and, as such, patent professionals should incorporate it into their practice strategies. The following discussion includes general suggestions based on guidance from the PTO and specific tips based on a close reading of the language of the decision.

For starters, the PTO has issued a memorandum providing preliminary guidance on examination procedures in light of Prometheus and promises more soon.\textsuperscript{125} The memo states that, for a claim that includes a law of nature, natural phenomenon, or abstract idea to be patent eligible, it should include other elements such that the “claimed product or process amounts to significantly more than” the law of nature, natural phenomenon, or abstract idea.\textsuperscript{126}

The careful reader will note that the PTO refers to both product and process claims, even though Prometheus addressed only a process. Thus, it is best to consider the following suggestions no matter what type of claim is being drafted.

Practitioners should stay current with and follow all guidance from the PTO. When drafting new applications, they should ensure that all new, or newly clarified, requirements are being satisfied. For applications already filed and in prosecution, it might be worth postponing a response to have the benefit of the forthcoming guidance documents and to better preempt an examiner’s initial application of those guidelines.

It is unclear from the decision how much added to a law of nature, natural phenomenon, or abstract idea will be “enough” to tip the scales from unpatentable fundamental principle to patentable application of that principle. The Court declined to speculate on what additional limitations could have saved Prometheus’s claims, but the following tips may help save future claims.

First, be novel. Ensure that there are novel and nonobvious elements in the claims. The Prometheus Court found it relevant and important that the additional steps (those aside from the recitation of the law of nature) were “well understood, routine, and conventional.” That language arguably leaves open a patent-eligible space for claims that include a law of nature but also include at least one
other component that is novel. For example, in a method claim, include a novel composition that must be used in the method, a novel relationship between what is detected and a particular disease, a novel method of administration, or a novel means of detecting or determining the target.

Second, be active. Passive or mental steps like Prometheus’s "wherein" clause "simply tell" a relevant audience about an unpatentable principle. Instead, draft method claims with active steps, those in which an actor physically does something. For example, if a claim is based on identifying the presence or absence of a nucleic acid, include active steps for detecting the nucleic acid, rather than stating "wherein the presence of said nucleic acid indicates X"; or, for a method of treatment claim, include the step "administering drug A when the blood level of metabolite B is below level C."

Third, be specific. The Court construed Prometheus's "determining" step to mean that a doctor could determine metabolite levels by any process that suited his or her fancy, including a process already well known in the art. In the nucleic acid example above, include steps designed not only to detect the nucleic acid, but also to detect it using a variety of specific methods. Also include specifics for commercial applications and embodiments. At the very least, draft dependent claims to the various specifics and incorporate them into the independent claims if necessary during prosecution.

Fourth, plan for infringement. If physicians are merely a "relevant audience"—not the ideal target for potential infringement, anyway—-draft claims with other potential infringers in mind. For example, focus on a company that might develop a competitive diagnostic method rather than on the doctor who practices the method. Try to draft the claims from the perspective of a single actor to avoid divided infringement concerns. As a precaution, also lay the groundwork for meeting all elements of inducement or contributory infringement.

Finally, do not rely solely on transformations. Administering and determining steps typically have been considered transformative, but not so for those steps in Prometheus. Passing the test no longer appears sufficient for patent eligibility, so if claims are drafted to include a transformative element, ensure that element—or another—is "enough" to make the claims patent eligible.

Conclusion

Under Prometheus, claims covering laws of nature must "do significantly more than simply describe" those natural laws. The decision has implications for the patent eligibility of inventions in many fields, and practitioners should reevaluate their practice strategies with the decision in mind.

In Greek mythology, the god Prometheus felt compassion for humans suffering in the darkness and brought them the gift of fire. Prometheus Laboratories states that it was founded in this same spirit, to develop and deliver medical technologies that will "illuminate treatment paths" and "elevate the quality of care" for patients. Perhaps Prometheus Labs now feels more like Icarus for flying too close to the patent-eligibility sun.

Notes

3. 35 USC § 101.
5. See, e.g., Bilski v. Kappos, 130 S.Ct. 3218, 3225, citing Chakrabarty, supra note 4 at 309.
10. Id. at 64.
11. Id.
12. See id. at 71.
13. Id. at 71-72.
15. Id. at 585.
16. Id. at 594.
17. Id. at 586.
18. Id. at 594.
19. Id.
20. Id. at 590.
21. Id.
22. Diehr, supra note 7.
23. Id. at 177.
24. Id. at 178-79.
25. See id. at 184, citing Benson, supra note 9 at 70 ("Transformation and reduction of an article to a different state or thing is the clue to the patentability of a process claim that does not include particular machines.").
53. See id.
54. Prometheus V, supra note 1 at 4.
56. Prometheus III, supra note 51 at 1339.
58. ’623 patent, supra note 57.
59. Prometheus III, supra note 51 at 1340.
60. Id.
61. Id.

64. Id. at 21.
66. Id. at *6.
67. Id. at *7.
68. See id. at *10.
69. Prometheus III, supra note 51 at 1342, quoting In re Bilski, 545 F.3d 943, 953 (Fed.Cir. 2008), rev’d, 130 S.Ct. 3218 (2010).
70. Id. at 1342-43, quoting Bilski, supra note 69 at 961-62.
71. Id. at 1345, citing Bilski, supra note 69 at 962.
72. Id. at 1346.
73. Id.
74. Id.
75. Id. at 1347.
76. Id.
77. Id.
78. Id. at 1348.
79. Id. at 1349-50.
80. Id. at 1350.
81. Bilski, supra note 41 at 3227.
84. Id. at 1355.
85. Id.
86. Id.
87. Id. at 1357.
88. Id. at 1359.
89. Prometheus V, supra note 1 at 4.
90. Id. at 3.
91. Id. at 8.
92. Id.
93. Id. (emphasis in original).
94. Id. at 4.
95. Id. at 4-5.
96. Id. at 8-9.
97. Id. at 9.
98. Id.
99. Id.
100. Id. at 10.
101. Id.
102. Id.
103. Id. at 11.
104. Id. at 13.
105. Id. at 18.
106. Id. at 19.
107. Id. at 21.
108. Id.
110. Id.
111. Id.
112. Id.
113. Prometheus V, supra note 1 at 18.
116. Id. at 1.
118. AMP I, supra note 115 at 103, 137, 147.
121. Id.
123. Conley and Dobson, supra note 120.
125. Id. at 2.
126. Id. ■