Amending Patent Eligibility

David O. Taylor[*]

The Supreme Court's recent treatment of the law of patent eligibility has introduced an era of confusion, lack of administrability, and, ultimately, risk of under-investment in research and development. As a result, patent law — and in particular the law governing patent eligibility — is in a state of crisis. In this Article, I show why, despite this crisis, it is highly unlikely that the Supreme Court will correct itself and solve these problems. I therefore proceed to consider how Congress might — consistent with its constitutional authority — correct these problems through appropriate legislation. I identify principles that should guide Congress when it considers potential legislation, including amendments to the patent statute. I then analyze several options for revising the existing statutory language governing patent eligibility in light of those principles. Such legislation is urgently needed to resolve the present crisis.

TABLE OF CONTENTS

INTRODUCTION 2151
I. BASIS FOR A LEGISLATIVE SOLUTION 2153
  A. *The Supreme Court's Failure to Identify a Workable Standard* 2154
  B. *The Unlikelihood of the Supreme Court Reversing Course* . 2157
  C. *Constitutionality of Amending § 101* 2164
II. RECOGNIZING THE ABILITY OF NON-ELIGIBILITY DOCTRINES TO ADDRESS RELEVANT CONCERNS 2171

 Co-Director of the Tsai Center for Law, Science and Innovation and Associate Professor of Law, SMU Dedman School of Law; J.D., 2003, Harvard Law School; B.S., 1999, Texas A&M University. This Article was funded in part by the WWB Law Professors Fund and the Tsai Center for Law, Science and Innovation. I am grateful for the opportunity to present this Article at the Patent Conference at the University of Kansas School of Law and the Intellectual Property Scholars Conference at DePaul University College of Law. Thanks to the participants in those conferences for their insightful comments. Special thanks to Rachel, Caroline, Emily, and Joshua Taylor. The views expressed in this Article, as well as any errors, are my own.

A. The Ability of Existing Requirements to Address Relevant Concerns 2172
B. The Ability to Improve Existing Requirements 2182
III. GUIDING PRINCIPLES FOR AMENDING PATENT ELIGIBILITY 2189
A. Broad Eligibility 2189
B. Clarity 2192
C. Constraint on Judicial Intervention 2193
D. Flexibility 2197
IV. PATHS FORWARD 2198
A. The Laundry List Approach 2198
B. Creating a Workable Eligibility Standard 2202
1. Anything Under the Sun Made by Man 2202
2. Practical Application or Embodiment 2205
C. Laying the Ghost of the Non-Statutory Exceptions 2207
CONCLUSION 2211

INTRODUCTION

The time has come for Congress to consider legislation to clarify the law governing patent eligibility. The Supreme Court's recent treatment of this aspect of patent law has introduced an era of confusion, lack of administrability, and, ultimately, risk of under-investment in research and development. Confusion reigns, for example, because the Court has based its patent eligibility doctrine on policy concerns already and better addressed by other statutory patent law doctrines. Moreover, the Court has settled upon a test — the so-called *Mayo* two-part test first articulated in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.* — that lacks administrability.[1] As a result of this confusion and lack of administrability, the Court's two-part test has created a significant risk of reduced incentive to invent. In short, patent law — and in particular the law governing patent eligibility — is in a state of crisis.

Despite this crisis, it is highly unlikely that the Supreme Court will correct itself and solve these problems. In its recent decision in *Alice Corp. v. CLS Bank International*, the Court doubled down on *Mayo*, adopting the *Mayo* two-part test to govern the inquiry of all the so-called exceptions to patent eligibility.[2] Moreover, even more recently in *Kimble v. Marvel Enterprises*, the Court showed how it would likely rely upon the doctrine of *stare decisis* in the context of the law governing patent eligibility to reject pleas to overturn its confusing precedent.[3] Anyway, the Court would have to grant a petition for certiorari to even reach the question of whether the two-part test set forth in *Mayo* and *Alice* should be overturned. And most recently the Court denied certiorari in a case in which the Federal Circuit judges and twenty-two amici — all in support of the petitioner and therefore

---

[1] *See generally* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289 (2012). The first step asks whether the claim is directed to a patent-ineligible concept such as a law of nature, and if so the second step asks whether the claim does more than simply describe a natural relationship, which involves a search for an "inventive concept." *Id.* at 1296-99.

[2] *See generally* Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014). The Court described *Mayo* as "set[ting] forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Id.* at 2355.

[3] *See* Kimble v. Marvel Entm't, LLC, 135 S. Ct. 2401, 2406 (2015). While applying *stare decisis* as a basis not to overturn its precedent on a matter of patent misuse law, the Court explicitly tied its analysis to its precedent on eligible subject matter. *See id.* at 2410-11.

certiorari — practically cried out for guidance on how to apply the two-part test set forth in *Mayo* and *Alice*.[4]

In this Article, I therefore proceed to consider how Congress might correct these problems through appropriate legislation. As a preliminary matter, I show how, given the broad power granted to Congress under the Constitution to fashion the conditions and requirements of patentability, the Supreme Court would likely defer to Congress and find legislation clarifying — and perhaps even eliminating — the exceptions to be constitutional. I then contemplate what approach Congress should take. I address whether the existing statutory patentability and specification requirements sufficiently address the relevant concerns raised by the Supreme Court in its cases addressing eligibility. Ultimately, I conclude that the other patentability and specification requirements already do, without amendment, address those concerns. But even if they do not do so sufficiently, I explain how the appropriate first step is for Congress to consider amending those requirements. I identify principles that should guide Congress when it considers potential legislation addressing the law governing patent eligibility as opposed to the other patentability and specification requirements: broad eligibility, clarity, constraint on judicial intervention, and flexibility.

Using these guiding principles, I next analyze several options for revising the existing statutory language governing patent eligibility. One approach is what I call the "laundry list" approach, which would amend the patent statute to identify specific subject matter that is eligible or ineligible for patenting. In this way, Congress would decide in advance what subject matter is eligible and ineligible, rather than provide a rule or standard for the United States Patent and Trademark Office or courts to apply in the future to make this determination. Another approach is to create a workable standard with objective limitations on eligibility. For example, Congress might put in place a standard that eliminates from eligibility anything that is not the result of human effort, or one that eliminates from eligibility anything that is not a practical application of a natural law, physical phenomenon, or abstract idea. The third approach would be to "lay the ghost" of the exceptions to eligibility. In other words, have Congress expressly eliminate the exceptions. Instead, the relevant policy concerns would be addressed only by the patentability and specification requirements actually expressed in the patent statute.

[4] *See* Ariosa Diagnostics, Inc. v. Sequenom, Inc., 788 F.3d 1371, 1379 (Fed. Cir. 2015), *cert. denied*, 136 S. Ct. 2511 (Mem.) (2016).

To those ends, I have organized this Article into four parts. Part I describes the basis for legislative action: the problems associated with the Supreme Court's failure to identify a workable standard, the unlikelihood of the Court reversing course, and the constitutionality of Congress passing legislation addressing patent eligibility. Part II recognizes the ability of non-eligibility doctrines to address the policy concerns that have driven the Supreme Court in its eligibility cases. Part III identifies the principles that should guide any effort to pass legislation to eliminate the crisis regarding patent eligibility: clarity, broad eligibility, constraint on judicial intervention, and flexibility to address unforeseen technologies. In light of these principles, Part IV considers potential paths forward: (1) the "laundry list" approach; (2) the codification of an exclusive, broad standard for patent examiners and judges to apply to determine whether subject matter is ineligible; and (3) an approach that would eliminate the eligibility exceptions in favor of addressing the relevant policy concerns under existing and modified versions of existing patentability doctrines.

I. BASIS FOR A LEGISLATIVE SOLUTION

The Supreme Court's treatment of the law governing patent eligibility has proven problematic in several respects. Given these problems, it is clear that something ought to be done to improve this area of the law. Unfortunately, it is also clear that the Supreme Court lacks the willingness or ability to do so. Despite having an obsession with the law governing patent eligibility, the Court has repeatedly failed to identify a workable standard for patent eligibility,[5] and most recently it denied certiorari in an important case in which lower court judges cried out for the Court to clarify the law.[6] Moreover, it is unlikely to overturn its precedent given the doctrine of *stare decisis*. As a result, it is time for Congress to craft legislation to overrule the Court's misguided law of ineligibility. Such legislation would be constitutional, reflecting the legislature's role in crafting statutory law that promotes the progress of the useful arts.[7]

[5] *See, e.g.*, *Alice*, 134 S. Ct. at 2347; *Mayo*, 132 S. Ct. at 1289.

[6] *See Ariosa*, 788 F.3d at 1379.

[7] *See* U.S. CONST. art. I, § 8, cl. 8 (authorizing Congress to pass laws "[t]o promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries").

A. The Supreme Court's Failure to Identify a Workable Standard

The Supreme Court is both obsessed with the law governing eligible subject matter and unable to identify a workable standard. Indeed, the Court has paid significant attention to what it refers to as the "implicit exception" (what I will refer to more accurately as the *non-statutory* exceptions) to subject-matter eligibility,[8] to the relative exclusion of the patentability and specification requirements actually written in the patent statute. And yet all the Court has to show for its efforts is considerable confusion, a test that lacks administrability, and a result that presents the significant risk of reduced incentive to invent.[9]

Regarding the Supreme Court's obsession with patent eligibility, simply consider the data. In the five year period between 2010 and 2014, for example, the Court decided four cases on patent eligibility[10] and merely one case on any of the matters of utility, novelty, non-obviousness, written description, enablement, definiteness, and experimental use combined.[11] Moreover, since 1976 — in other words, in the last forty years — the Court has heard and decided eight cases on subject matter eligibility.[12] In the same time period, it has decided only four cases addressing other doctrines: one on the test applicable under 35 U.S.C. § 102 and one on the test applicable under 35 U.S.C. § 103;[13] two on the statutory experimental use exception;[14] and none on the utility, written description, and enablement requirements. Thus, it is quite clear that the Court is obsessed with the non-statutory exceptions

[8] *See Mayo*, 132 S. Ct. at 1293 ("The Court has long held that [35 U.S.C. § 101] contains an important implicit exception. '[L]aws of nature, natural phenomena, and abstract ideas' are not patentable." (quoting Diamond v. Diehr, 450 U.S. 175, 185 (1981)).

[9] *See infra* discussion accompanying notes 15–29.

[10] *See, e.g.*, *Alice*, 134 S. Ct. at 2347; Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107 (2013); *Mayo*, 132 S. Ct. at 1289; Bilski v. Kappos, 561 U.S. 593 (2010).

[11] *See* Nautilus, Inc. v. Biosig Instruments, Inc., 134 S. Ct. 2120, 2124 (2014) (discussing claim definiteness).

[12] *See, e.g.*, *Alice*, 134 S. Ct. at 2347; *Ass'n for Molecular Pathology*, 133 S. Ct. at 2107; *Mayo*, 132 S. Ct. at 1289; *Bilski*, 561 U.S. at 593; J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc., 534 U.S. 124 (2001); Diamond v. Diehr, 450 U.S. 175 (1981); Diamond v. Chakrabarty, 447 U.S. 303 (1980); Parker v. Flook, 437 U.S. 584 (1978).

[13] *See* KSR Int'l Co. v. Teleflex, Inc., 550 U.S. 398, 406 (2007) (addressing § 103); Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 57 (1998) (addressing § 102).

[14] *See* Merck KGaA v. Integra Lifesciences I, Ltd., 545 U.S. 193, 208 (2005); Eli Lilly & Co. v. Medtronic, Inc., 496 U.S. 661, 665 (1990).

to patent eligibility, at least relative to the statutory patentability requirements and other patent law doctrines.

Unfortunately, however, it is also quite clear that the Court's decisions in the area of patent eligibility have caused significant problems. First, the Court's decisions both reflect and have produced considerable confusion.[15] The Court, for example, confuses the relevant policy concerns underlying existing statutory patent law doctrines. In particular, the Court bases its patent eligibility doctrine on policy concerns already and better addressed by other statutory patent law doctrines.[16] For example, while the Court is concerned with the breadth of claims, that concern is already addressed by the non-obviousness, written description, and enablement requirements.[17] Furthermore, while the Court is concerned with abstractness, that concern is already addressed by the utility, written description, and definiteness requirements, combined with the limit on functional claiming.[18] And while the Court is concerned with preemption of the basic building blocks of human ingenuity, that concern is already addressed by the enablement and written description requirements, the limited terms of patents, and the statutory experimental use exception.[19] In short, given the existing statutory patent law doctrines, the Court has identified no policy-based justification for an independent, non-statutory patent eligibility requirement. In the process, the Court has usurped Congress's role of crafting statutory patentability requirements.[20] And the United States Patent and Trademark Office (USPTO) and the lower courts are left to wonder exactly how to apply a doctrine based on a confused understanding of the patent statute and the relevant policies.

Second, the Court has settled upon a test — the so-called *Mayo* two-part test first articulated in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.* — that lacks administrability.[21] The first part of the test asks whether a claimed invention is directed to a law of nature,

---

[15] *See* David O. Taylor, *Confusing Patent Eligibility*, 84 TENN. L. REV. 157, 158-59 (2017) (describing these problems with the current state of patent eligibility law).

[16] *See id.*

[17] *See id.*

[18] *See id.* at 160.

[19] *See id.*

[20] *See* U.S. CONST. art. I, § 8, cl. 8 (authorizing Congress to pass laws "[t]o promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries").

[21] *See* Taylor, *supra* note 15, at 160-61 (discussing the test set forth in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1297 (2012)).

physical phenomenon, or abstract idea.[22] But every invention is based upon a law of nature, physical phenomenon, or abstract idea, and determining whether an invention is "directed to" one of these concepts is a subjective question given that the Supreme Court has sanctioned ignoring the language used by inventors in their patent claims.[23] The second part of the test is even more problematic. It asks whether something in a patent claim transforms the nature of the claim into a patent-eligible application of the ineligible concept. The Court has labeled this analysis as the search for an "inventive concept" — a concept that sufficiently ensures that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.[24] The problem is no one can agree upon what the Supreme Court meant by "inventive concept," let alone what is an "inventive concept." And, anyways, the test is purely subjective in that it requires the determination of whether something "significantly more" than an ineligible concept is present. As a result, the lower courts are in disarray.[25] In short, the Supreme Court has resurrected a purely subjective test that the USPTO and courts cannot apply with any predictability given its subjective nature.

Third, as a result of the first two problems, the Court's two-part test has created a significant risk of reduced incentive to invent.[26] Lower courts' applications of the *Mayo* two-part test have unnecessarily invalidated unworthy patent claims that the existing statutory patentability requirements would invalidate.[27] More importantly, however, lower courts have also invalidated claims — including claims to potentially lifesaving inventions — that the statutory patentability requirements would not invalidate.[28] As a result, there is a prevailing view that, because of the non-statutory exceptions to patent eligibility, patents will not be available to protect worthy

[22] *See id.* at 161.

[23] *See id.* at 228-30.

[24] *See id.* at 161.

[25] *See id.* at 162, 236-40. Ironically, the search for an "inventive concept" — and the level of subjectivity inherent in it — resembles the Supreme Court's old, discarded search for an "invention." *See id.* at 231. Notably, in 1952 Congress replaced the search for an "invention" with the question of whether one of ordinary skill in the art to which the claimed invention pertains would regard the claimed invention as a whole non-obvious given the differences between the claimed in invention and the prior art. *See id.* at 232-33.

[26] *See id.* at 162-63.

[27] *See id.* at 240.

[28] *See id.* at 236-38 (citing Ariosa Diagnostics, Inc. v. Sequenom, Inc., 788 F.3d 1371 (Fed. Cir. 2015)).

inventions, and as a result individuals and companies may not invest efficiently in research and development. Indeed, those espousing this view include the former director of the USPTO, current and former judges of the United States Court of Appeals for the Federal Circuit, and an overwhelming number of patent practitioners.[29]

In short, while the Supreme Court has repeatedly focused on 35 U.S.C. § 101 and the eligibility requirement to the exclusion of the other statutory requirements, the result is not pretty. Given all of the problems associated with the two-part test for eligibility, it is apparent that the Supreme Court has been unable to identify a workable standard.

B. The Unlikelihood of the Supreme Court Reversing Course

Even if one recognizes all of the problems with the Supreme Court's test for eligibility, before reaching the conclusion that Congress should act to correct these problems, one should consider whether the Court itself might reverse course. Indeed, as just shown, the Court is obsessed with the question of patent eligibility, and so it seems likely that the Court would grant certiorari in yet another case on point. But granting review in another case does not necessarily mean that the Court will reverse its precedent. So if the question is whether Congress should wait for the Supreme Court to correct itself, the answer lies in whether there is any reasonable chance that the Court will reverse its precedent.[30] Unfortunately, it seems unlikely.

In *Alice Corp. v. CLS Bank International*,[31] the Court already confronted urgent pleadings to clarify the two-part test it articulated in *Mayo*.[32] The petitioner, in particular, asked the Court to reject *Mayo*'s suggestion that it is appropriate to dissect claims to search for an abstract idea given the resulting uncertainty.[33] Amici similarly asked

---

[29] *See id.* at 240-44.

[30] For example, might the Court finally reach the conclusion that the appropriate approach for patent eligibility is to focus on whether a claimed invention is the result of human effort and a practical application of a natural law, physical phenomena, or abstract idea? *See id.* at 212-21 (discussing these concepts).

[31] Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014).

[32] *See* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1294 (2012).

[33] Brief for Petitioner at 53-54, *Alice Corp.*, 134 S. Ct. 2347 (No. 13-298) ("In particular, lower courts have misinterpreted some of the Court's decisions — particularly *Flook* and *Mayo* — to authorize a dissection of claims to search for an abstract idea, vaguely defined, at their core. Such an approach is not just contrary to this Court's case law and the statutory text. It is entirely unworkable . . . . Such uncertainty imposes real costs on courts, litigants, innovators, and the broader

the Court to reject, in whole, the two-part test articulated in *Mayo*. As just one example, former Federal Circuit Chief Judge Paul Michel's amicus brief asked the Court to reject or at least clarify statements in *Mayo*, return to the Court's traditional analysis in *Diamond v. Diehr*,[34] and spurn any notion of adopting the Court's other approaches in other cases.[35]

In *Alice*, however, the Court doubled down on *Mayo*.[36] The Court adopted *Mayo*'s two-part test as the controlling test for all of the non-statutory exceptions to patent eligibility. The Court first described *Mayo* as "set[ting] forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts."[37] The Court then explained each part of the test in detail, quoting and citing *Mayo* without any criticism.[38] Only in a footnote did the Court meekly attempt to explain how *Mayo* was consistent with *Diehr*.[39] In the end, the Court simply applied *Mayo*'s two-part test.[40]

If in a future case the Court were to squarely address calls to reverse its precedent, the Court would no doubt consider the doctrine of *stare decisis* as a ground to continue use of the two-part test, even if that test contradicts the Court's precedent and, ultimately, is wrong. Moreover, it seems likely that the Court would rely upon *stare decisis* to reject any argument for it to overturn its precedent on § 101.[41] A recent decision of the Supreme Court in a patent case shows why.

---

economy. . . . Indeed, the costs of the current confusion can be vividly seen in this case.").

[34] *See* Diamond v. Diehr, 450 U.S. 175, 191-93 (1981).

[35] *See* Brief for Paul R. Michel as Amicus Curiae in Support of Neither Party, *Alice Corp.*, 134 S. Ct. 2347 (No. 13-298) ("Nor should the Court rely on statements in its two recent life-science Section 101 cases *Mayo v. Prometheus* . . . and *Ass'n For Molecular Pathology v. Myriad Genetics, Inc.* . . . beyond those statements' applicable bounds, lest they be applied in a manner that does not fit the realities of computer technology. . . . [T]he Court should return to its seminal precedent in *Diehr*, a computer case, which provides the best approach. Any recourse to the aberrational approach of *Flook* or the unworkable notion of relative abstractness of *Bilski* will complicate, confuse, and confound the patent law." (citations omitted)).

[36] *See Alice Corp.*, 134 S. Ct. at 2355.

[37] *Id.*

[38] *See id.*

[39] *Id.* at 2355 n.3 ("Because the approach we made explicit in *Mayo* considers all claim elements, both individually and in combination, it is consistent with the general rule that patent claims 'must be considered as a whole.'" (quoting *Diehr,* 450 U.S. at 188)).

[40] *See id.* at 2355-60.

[41] While it has not relied upon the doctrine of *stare decisis*, the Court in *Mayo* did

The Supreme Court's decision in *Kimble v. Marvel Enterprises* provides guidance on the likelihood of its application of *stare decisis* in the context of the law governing patent eligibility.[42] In the case, the Court considered whether to overturn its precedent holding that it is patent misuse to require payments for a license to a patent where the payments are based on use of the patented technology after the patent has expired.[43] The Court decided not to overturn its precedent based on the doctrine of *stare decisis*.[44] It did so despite overwhelming legal and economic literature indicating that its precedent is unequivocally wrong.[45]

The Court began its analysis by highlighting that reversal of its precedent required "a 'special justification' — over and above the belief 'that the precedent was wrongly decided.'"[46] "What is more," noted the Court, "*stare decisis* carries enhanced force when a decision . . . interprets a statute."[47] The Court explained that it would

> apply statutory *stare decisis* even when a decision has announced a "judicially created doctrine" designed to implement a federal statute. All our interpretive decisions, in whatever way reasoned, effectively become part of the statutory scheme, subject (just like the rest) to congressional change. Absent special justification, they are balls tossed into Congress's court, for acceptance or not as that branch elects.[48]

Thus, special justification is needed to overturn any interpretation of a federal statute.

But even more than the "special justification" needed to be shown in the context of the facts in *Kimble*; "superspecial" justification needed to be shown for three additional reasons.[49] First, the Court pointed to the fact that its prior case interpreted a statute rather than the

note that an argument presented by the government — that the other sections of the patent statute adequately protect the public from the problems associated with the claims at issue in the case — were "not consistent with prior law." *See* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1303 (2012).

[42] *See generally* Kimble v. Marvel Entm't, LLC, 135 S. Ct. 2401 (2015).

[43] *See id.* at 2406.

[44] *See id.*

[45] *See id.* at 2412 ("A broad scholarly consensus supports Kimble's view of the competitive effects of post-expiration royalties, and we see no error in that shared analysis.").

[46] *Id.* at 2409.

[47] *Id.*

[48] *Id.*

[49] *See id.* at 2410.

Constitution.[50] Second, the Court highlighted the fact that "Congress ha[d] spurned multiple opportunities to reverse" the relevant precedent despite multiple opportunities to do so over a half century.[51] Third, the Court explained that cases involving property and contract rights favor *stare decisis* in particular "because parties are especially likely to rely on such precedents when ordering their affairs" and reversing course would "upset expectations."[52]

The Court found no "superspecial" justification in the relevant circumstances to overrule its precedent for the following reasons. First, the "statutory and doctrinal underpinnings [of the precedent] ha[d] not eroded over time."[53] Second, "nothing about [the precedent] had proved unworkable."[54] Third, the precedent in question was not an interpretation of antitrust law but instead patent law, and therefore did not fall within the category of antitrust cases in which the Court had "viewed *stare decisis* as having less-than-usual force."[55] Fourth, the precedent in question did not "hinge on the mistake Kimble identifies," the mistaken economic claim "that post-patent royalties harm competition."[56] Fifth, the Court rejected the argument that *stare decisis* allowed for overturning its precedent based on the "the wellspring of all patent policy: the goal of promoting innovation."[57]

Based on all of these considerations, it seems unlikely that the Supreme Court would reverse course in the area of patent eligibility. The Court's patent eligibility cases hinge on the interpretation of a statutory section, § 101, that Congress has not yet amended. Thus, their reversal at least requires special justification. Moreover, "superspecial" justification may be needed. On the one hand, Congress has similarly "spurned multiple opportunities" to reverse the "true origin of inventive application as a test for patent eligibility,"[58] the case of *Funk Brothers Seed Co. v. Kalo Inoculant Co.*[59] That case was

[50] *See id.* at 2409.

[51] *Id.*

[52] *Id.* at 2410.

[53] *Id.*

[54] *Id.* at 2411.

[55] *Id.* at 2412.

[56] *Id.* at 2413.

[57] *Id.* at 2414.

[58] Jeffrey A. Lefstin, *Inventive Application: A History*, 67 FLA. L. REV. 565, 624 (2015) ("The true origin of inventive application as a test for patent eligibility was Justice Douglas's opinion in *Funk Brothers*.").

[59] Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132 (1948) ("The application of this newly-discovered natural principle to the problem of packaging of inoculants may well have been an important commercial advance. But once nature's

decided in 1948, and Congress has amended the patent statute several times since then without overturning its holding.[60] On the other hand, the Court's recent decision in *Mayo* somewhat resurrects the bad law from *Funk* and *Parker v. Flook*,[61] which *Diehr* seemed to displace.[62] Also, patent eligibility cases do not involve contracts rights in the same manner as *Kimble*. The Supreme Court's decisions on patent eligibility affect inventors and users of technology. Inventors would not be adversely affected by a change in the law to the extent they have decided *not* to invent given *Mayo* and *Alice*. Users of technology, however, might cry foul based on their reliance on the Court's decisions on patent eligibility to order their affairs. In particular, users of technology may have decided to use certain technology on the basis of belief that the two-part test articulated in *Mayo* and *Alice* renders certain patent claims invalid.

Regardless of whether special or "superspecial" justification is needed to overturn *Mayo* and *Alice*, there is significant doubt that the

secret of the non-inhibitive quality of certain strains of the species of Rhizobium was discovered, the state of the art made the production of a mixed inoculant a simple step. Even though it may have been the product of skill, it certainly was not the product of invention."). Since 1948, Congress has twice amended the patent statute in substantial ways. *See* Leahy-Smith America Invents Act, Pub. L. No 112-29, 125 Stat. 284 (2011); Patent Act of 1952, Pub. L. No. 593, §§ 1–293, 66 Stat. 797 (1952) (current version at 35 U.S.C. §§ 1–376). Neither time did Congress expressly overrule *Funk Bros*.

[60] *See, e.g.*, Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011); American Inventors Protection Act of 1999, Pub. L. No. 106-113, 113 Stat. 1501 (1999).

[61] Parker v. Flook, 437 U.S. 584 (1978).

[62] *Compare* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1294, 1304 (2012) ("Those cases . . . insist that a process that focuses upon the use of a natural law also contain other elements or a combination of elements, sometimes referred to as an 'inventive concept,' sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself. . . . We recognize that, in evaluating the significance of additional steps, the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap."), *Flook*, 437 U.S. at 594 ("Even though a phenomenon of nature or mathematical formula may be well known, an inventive application of the principle may be patented. Conversely, the discovery of such a phenomenon cannot support a patent unless there is some other inventive concept in its application."), *and Funk*, 333 U.S. at 131 ("But a product must be more than new and useful to be patented; it must also satisfy the requirements of invention or discovery."), *with* Diamond v. Diehr, 450 U.S. 175, 193 n.15 (1981) ("In order for the dissent to reach its conclusion it is necessary for it to read out of respondents' patent application all the steps in the claimed process which it determined were not novel or 'inventive.' That is not the purpose of the § 101 inquiry and conflicts with the proposition recited above that a claimed invention may be entitled to patent protection even though some or all of its elements are not 'novel.'").

Supreme Court would find the relevant hurdle cleared. Pointing in the direction of *stare decisis* stands the fact that the statutory and doctrinal underpinnings of *Mayo* and *Alice* have not eroded over time. In particular, Congress has not rewritten § 101 and the Court has not overturned any of its patent eligibility precedent. Furthermore, the precedent in question was an interpretation of patent law, not antitrust law. Moreover, the Court is unresponsive to arguments based on the goal of promoting invention and innovation. Pointing in the direction of overturning the Court's precedent, by contrast, stands the fact that everything about the Court's precedent has proven unworkable; as I have shown, the two-part test simply is not administrable.[63] In addition, recent scholarship has highlighted that one of the primary bases for the Court's approach in this area — the old case of *Neilson v. Harford* — in fact condemns the Court's approach.[64] In short, while some factors favor allowing the Court to reverse its precedent on patent eligibility, more favor the application of *stare decisis*. And given the Court's aggressive application of *stare decisis* in *Kimble*, it seems unlikely that the Court would reverse its precedent in the area of patent eligibility.

But the Court would have to grant a petition for certiorari to even reach the question of whether the two-part test set forth in *Mayo* and *Alice* should be overturned. And recently the Court denied certiorari in a case in which the Federal Circuit judges practically cried out for guidance on how to apply the two-part test set forth in *Mayo* and *Alice*.

In *Ariosa v. Sequenom*,[65] a Federal Circuit panel applied the *Mayo* two-part test to invalidate claims to an invention for "prenatal diagnosis of fetal DNA that avoids the risks of widely-used techniques that took samples from the fetus or placenta."[66] In an opinion concurring in the panel decision, Judge Linn noted that he joined the court's opinion only because he felt "bound by the sweeping language of the test set out in *Mayo*."[67] He pointed out that "the breadth of the second part of the test was unnecessary to the decision reached in *Mayo*."[68] After highlighting the importance of the invention — citing evidence that the invention was "groundbreaking" and represented a "paradigm shift" — and explaining how the claims would traditionally be found eligible, Judge Linn remarked that, "[b]ut for the sweeping

63 *See* Taylor, *supra* note 15, at 227-35.

64 *See, e.g.*, Lefstin, *supra* note 58, at 570.

65 788 F.3d 1371 (Fed. Cir. 2015).

66 *Id.* at 1373.

67 *Id.* at 1380 (Linn, J., concurring).

68 *Id.*

language in the Supreme Court's *Mayo* opinion," he could "see no reason, in policy or statute, why this breakthrough invention should be deemed patent ineligible."[69] Thus, Judge Linn essentially asked the Supreme Court to explain either why this claimed invention should not be eligible for patenting, or how under the *Mayo* two-part test it could be found eligible. Likewise, in response to a motion for en banc rehearing, other judges on the Federal Circuit similarly cried out for the Supreme Court to provide more guidance in terms of how to apply the *Mayo* two-part test to provide appropriate incentives for inventors.[70]

Despite the Federal Circuit judges' desperate pleas — and twenty-two amicus briefs in favor of certiorari compared to none opposing it — the Supreme Court denied the petition.[71] Beyond its denial of certiorari in this important case, however, there are two additional signs of just how out of touch the Supreme Court remains with respect to its patent eligibility jurisprudence. First, the Court did not even request the Solicitor General's view on whether it should grant or deny certiorari, an increasingly common practice and one clearly justified in view of the Federal Circuit judges' views and the overwhelming, unanimous amici support for a grant of certiorari. Second, on the same day the Court denied certiorari in *Ariosa v. Sequenom*, it granted certiorari in another relatively unimportant

[69] *Id.* at 1381.

[70] *See* Ariosa Diagnostics, Inc. v. Sequenom, Inc., 809 F.3d 1282, 1287 (Fed. Cir. 2015) (Lourie, J., concurring in the denial of the petition for en banc rehearing, joined by Moore, J.) ("In sum, it is unsound to have a rule that takes inventions of this nature out of the realm of patent-eligibility on grounds that they only claim a natural phenomenon plus conventional steps, or that they claim abstract concepts. But I agree that the panel did not err in its conclusion that under Supreme Court precedent it had no option other than to affirm the district court."); *id.* at 1293 (Newman, J., dissenting from the denial of en banc rehearing) ("I agree with my colleagues that this case is wrongly decided. However, I do not share their view that this incorrect decision is required by Supreme Court precedent. . . . In *Mayo* . . . the Court recognized the principle that patent eligibility is not disabled when science is put to practical use . . . ."); *id.* at 1287 (Dyk, J., concurring in the denial of en banc rehearing) ("In my view the framework of *Mayo* and *Alice* is an essential ingredient of a healthy patent system, allowing the invalidation of improperly issued and highly anticompetitive patents without the need for protracted and expensive litigation. Yet I share the concerns of some of my colleagues that a too restrictive test for patent eligibility under 35 U.S.C. § 101 with respect to laws of nature (reflected in some of the language in *Mayo*) may discourage development and disclosure of new diagnostic and therapeutic methods in the life sciences, which are often driven by discovery of new natural laws and phenomena.").

[71] *See* Sequenom, Inc. v. Ariosa Diagnostics, Inc., 136 S. Ct. 2511 (2016) (mem.) (denial of certiorari).

patent case — one addressing a narrow issue of the proper interpretation of the statutory section governing a rare form of infringement, infringement by exportation.[72] In short, the Supreme Court has signaled that it is unwilling or unable to solve the crisis of confusion, lack of administrability, and reduced incentive to invent that its jurisprudence has created.

C. Constitutionality of Amending § 101

Another important question — beyond whether Congress should wait for the Supreme Court to correct this area of the law — is whether Congress has the authority to amend the patent statute to overturn any of the Supreme Court's decisions on patent eligibility. In particular, one must ask whether Congress may overturn the judicially created non-statutory exceptions to eligibility, or if instead whether any such attempt would be unconstitutional.

The Constitution, of course, grants to Congress the power to craft a patent statute that promotes the progress of the useful arts by providing exclusive rights in discoveries to inventors for limited time periods.[73] But the Supreme Court might confront an argument one day that Congress passed an unconstitutional amendment to the Patent Act when it overruled the Court's precedent in favor of expanded patent eligibility. Congress overstepped its bounds, so the argument would go, because by expanding eligibility Congress impeded rather than promoted the progress of the useful arts.

The Supreme Court has stated that the constitutional provision in question is "both a grant of power and a limitation."[74] In terms of how the provision limits the power of Congress, the Court has explained that Congress may not

> enlarge the patent monopoly without regard to the innovation, advancement or social benefit gained thereby. Moreover, Congress may not authorize the issuance of patents whose effects are to remove existent knowledge from the public domain, or to restrict free access to materials already available. Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system

[72] *See* Life Techs. Corp. v. Promega Corp., 773 F.3d 1338 (Fed. Cir. 2014), *cert. granted*, (June 27, 2016) (No. 14-1538).

[73] U.S. CONST. art. I, § 8, cl. 8 (authorizing Congress to pass laws "[t]o promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries").

[74] Graham v. John Deere Co. of Kan. City, 383 U.S. 1, 5 (1966).

> which by constitutional command must 'promote the Progress of . . . useful Arts.' This is the standard expressed in the Constitution and it may not be ignored.[75]

Congress must ensure that any legislation addressing the non-statutory exceptions, including any legislation amending § 101, complies with these restrictions. In particular, any such legislation must have social utility by encouraging the creation and disclosure of inventions that add to the "sum of useful knowledge," and conversely must not remove existent knowledge from the public domain or restrict free access to materials already available.

In terms of how the provision empowers Congress, the Court has likewise explained:

> Within the limits of the constitutional grant, the Congress may, of course, implement the stated purpose of the Framers by selecting the policy which in its judgment best effectuates the constitutional aim. This is but a corollary to the grant to Congress of any Article I power. Within the scope established by the Constitution, Congress may set out conditions and tests for patentability.[76]

Thus, Congress has broad power to select the policy that in its view best promotes the progress of the useful arts, and to set forth statutory conditions and requirements for patentability consistent with its view of the best policy.

Given this broad power given to Congress under the Constitution to fashion the conditions and requirements of patentability, the Supreme Court would likely defer to Congress and find legislation clarifying, and perhaps even eliminating, the non-statutory exceptions to be constitutional. Indeed, in *Kimble* the Court repeatedly highlighted that it is the role of Congress to correct the Supreme Court's mistakes in statutory interpretation and determination of patent policy.[77] While the Court ultimately decided not to reverse its precedent related to patent misuse law based on the doctrine of *stare decisis*, in this context the Court explained why Congress has the power to overturn the

---

[75] *Id.* at 6.

[76] *Id.* (citations omitted).

[77] *See, e.g.*, Kimble v. Marvel Entm't, LLC, 135 S. Ct. 2401, 2409 (2015) ("All our interpretive decisions, in whatever way reasoned, effectively become part of the statutory scheme, subject (just like the rest) to congressional change. Absent special justification, they are balls tossed into Congress's court, for acceptance or not as that branch elects."); *id.* at 2414 ("[T]he choice of what patent policy should be lies first and foremost with Congress.").

Court's precedent.[78] Thus, the Court's reasoning in *Kimble* is highly relevant to any challenge to an amendment to the patent statute to overturn the Court's precedent interpreting the patent statute.

So, what was the Court's reasoning? The Court explained that, "[b]y contrast with the Sherman Act, the patent laws do not turn over exceptional law-shaping authority to the courts."[79] It went on to say that "[c]laims that a statutory precedent has 'serious and harmful consequences' for innovation are (to repeat this opinion's refrain) 'more appropriately addressed to Congress.'"[80] In more detail, it explained:

> That branch, far more than this one, has the capacity to assess Kimble's charge that *Brulotte* suppresses technological progress. And if it concludes that *Brulotte* works such harm, Congress has the prerogative to determine the exact right response — choosing the policy fix, among many conceivable ones, that will optimally serve the public interest.[81]

By simultaneously adhering to its precedent and deferring to Congress, the Court claimed it would "promote the rule-of-law values to which courts must attend while leaving matters of public policy to Congress."[82] And, finally, in the end the Court conclusively stated that "the choice of what patent policy should be lies first and foremost with Congress."[83]

While there is a significant question whether the Court was correct when it proclaimed that the patent misuse doctrine is "statutory precedent,"[84] the Court would likely view its precedent in the area of patent eligibility as "statutory precedent." In these cases, the Court has repeatedly explained that it derives the judicial exceptions from the statutory text of § 101.[85] The Court, by contrast, has not couched its

---

[78] *See id.* at 2409, 2412-14.

[79] *Id.* at 2413.

[80] *Id.* at 2414 (quoting Halliburton Co. v. Erica P. John Fund, Inc., 134 S. Ct. 2398, 2413 (2014)).

[81] *Id.*

[82] *Id.*

[83] *Id.*

[84] *Id.* at 2415 (Alito, J., dissenting) ("*Brulotte* was . . . a bald act of policymaking. It was not simply a case of incorrect statutory interpretation. It was not really statutory interpretation at all."). For a discussion of whether the Court's eligibility precedent is "a bald act of policymaking," see *infra* Part III.C.

[85] *See, e.g.*, Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347, 2354 (2014) ("We have interpreted § 101 and its predecessors in light of this exception for more than 150 years.").

subject matter eligibility cases as addressing matters of constitutional interpretation rather than statutory interpretation.[86] Thus, with respect to efforts to amend the patent statute to expand eligibility, *Kimble* is helpful. It signals the probability that the Court will defer to Congress with respect to any codification or overruling of Supreme Court precedent related to patent eligibility. Thus, while it is likely that the Supreme Court would rely upon *stare decisis* to reject any argument for the Court to overturn its precedent on § 101, it simultaneously is likely that it would defer to Congress to the extent Congress adopts another standard or weighs the competing policies differently.

Moreover, the Court's opinion in *Kimble* explicitly ties its analysis in the context of its precedent on patent misuse to its precedent on eligible subject matter. Indeed, in dicta the Court went out of its way to highlight these points in the very context of its precedent applying "subject matter limits" to patenting, when *Kimble* itself did not relate to subject matter eligibility.[87] The Court states that it has "carefully guarded [the] cut-off date, *just as it has the patent law's subject matter limits*: In case after case, the Court has construed those laws to preclude measures that restrict free access to formerly patented, *as well as unpatentable*, inventions."[88] While dicta, this language highlights that, like the court's precedent on patent misuse, the court's precedent on eligible subject matter is a matter of statutory interpretation based on the Court's view of the governing policies. In

---

[86] While the Court has not referred expressly to the Constitution in this context, the closest the Court has come is probably in *Mayo*, where it referred to the purpose of promoting innovation:

> 'Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.' And monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it.

Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1293 (2012) (quoting Gottschalk v. Benson, 409 U.S. 63, 67 (1972)). Innovation is not exactly the purpose of patent law, however. Patent law seeks to promote invention — the creation of new technology — and not necessarily innovation — the use of new technology. *See generally, e.g.*, Cont'l Paper Bag Co. v. E. Paper Bag Co., 210 U.S. 405, 429-30 (1908) (finding no requirement to practice or license a patented invention). And anyway the Court's interpretation of § 101 is not needed to address the Court's concerns with "the basic tools of scientific and technological work." *See* Taylor, *supra* note 15, at 190, 212-21.

[87] *Kimble*, 135 S. Ct. at 2407.

[88] *Id.* (emphasis added).

other words, just as in *Kimble* with respect to patent misuse law, however carefully the Court has guarded eligibility, the exact content of the law guarding eligibility is a matter of policy that is first the responsibility of Congress.

Other Supreme Court opinions more clearly make the case that eligibility law is a question of policy appropriately directed to Congress. In *Gottschalk v. Benson*, for example, the Court noted that "considerable problems are raised" by the prospect of eligibility for computer programs, "which only committees of Congress can manage, for broad powers of investigation are needed, including hearings which canvass the wide variety of views which those operating in this field entertain."[89] Now, as then, "considered action by the Congress is needed."[90] In like fashion, the Court in *Parker v. Flook* stated that "[d]ifficult questions of policy concerning the kinds of programs that may be appropriate for patent protection . . . can be answered by Congress on the basis of current empirical data not equally available to this tribunal."[91] More recently, in *Mayo* the Court highlighted its belief that it is "the role of Congress in crafting more finely tailored rules where necessary" such that the Court did not need to "determine here whether, from a policy perspective, increased protection for discoveries of diagnostic laws of nature is desirable."[92] Similarly, in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, the Court rebuffed the argument that it should consider the reliance interest of patent owners based on USPTO determinations of eligibility; it indicated that "[c]oncerns about reliance interests arising from PTO determinations, insofar as they are relevant, are better directed to Congress."[93]

If Congress acted upon these statements and passed legislation overruling (as opposed to codifying or clarifying) the Supreme Court's two-part test for eligibility, however, the Court might still be called upon to decide whether that legislation was unconstitutional. An important consideration in this regard is that any argument that a statutory amendment to § 101 (or another form of legislation eliminating or modifying the current non-statutory exceptions) is unconstitutional would have to prove that the entire patent statute, not just § 101, is unconstitutional. Congress has not decreed that any claim

89 *Gottschalk*, 409 U.S. at 73.

90 *Id.*

91 Parker v. Flook, 437 U.S. 584, 595 (1978).

92 Mayo Collaborative Servs. v. Prometheus Labs, Inc., 132 S. Ct. 1289, 1305 (2012).

93 Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107, 2119 n.7 (2013).

that complies with the eligibility requirement of § 101 must issue in a patent. No, by its very terms § 101 requires compliance, not just with the subject matter and utility requirements articulated in § 101, but also with the other "conditions and requirements of this title."[94]

The patent statute includes many patentability and specification requirements.[95] Any challenge to the constitutionality of legislation eliminating the non-statutory exceptions would have to analyze whether the combination of all of these requirements (subject matter, utility, novelty, non-obviousness, written description, enablement, the limitation on functional claiming, and definiteness) fail to bar patents from issuing to unworthy patent applicants, such that it is clear that those patents do not promote the progress of discovery in the useful arts but instead impede that progress. Unfortunately, what might have led to the present state of the law governing eligibility is the fact that the Supreme Court repeatedly confronts cases where the only question it is tasked with answering is the correct application of its case law applying the non-statutory exceptions excluding laws of nature, physical phenomena, and abstract ideas from patenting.[96] In the face of a constitutional challenge, by contrast, the Court would not be able to avoid consideration of all of the statutory doctrines that already address concerns with the ability to claim laws of nature, physical phenomena, and abstract ideas.

In this regard, it is important to recognize the problem with the related arguments made by perhaps the most frequent and animated judicial supporter of the Supreme Court's approach to § 101, Senior Circuit Judge Mayer of the Federal Circuit. He makes several arguments in support of a central role in the analysis of patent claims for § 101 and, in particular, the Supreme Court's law on eligibility. First, he criticizes "the view that section 101 is a 'coarse eligibility filter' and that other patent validity requirements — such as novelty, non-obviousness, and adequate written description — should be used to weed out patents of dubious quality."[97] He argues that the other patentability requirements have, "as a practical matter, proved woefully inadequate in preventing a deluge of very poor quality patents."[98] Second, as a matter of precedent he cites recent Supreme

[94] 35 U.S.C. § 101 (2012).

[95] *See* Taylor, *supra* note 15, at 186-88.

[96] *See Mayo*, 132 S. Ct. at 1303 ("The relevant cases rest their holdings upon section 101, not later sections.").

[97] MySpace, Inc. v. GraphOn Corp., 672 F.3d 1250, 1268 (Fed. Cir. 2012) (Mayer, J., dissenting) (citations omitted).

[98] *Id.*; *see also id.* ("[T]here is no evidence that relying on §§ 102, 103, or 112 will

Court opinions as justification for a robust application of § 101.[99] Third, and most relevant here, he concludes that "[a] robust application of section 101 is *required* to ensure that the patent laws comport with their constitutionally-defined objective."[100]

Judge Mayer's arguments fail to prove that § 101, in particular, must be — to use his metaphor — a "fine eligibility filter" that *alone* ensures that no "poor quality patents" issue.[101] In any particular case, a judge cannot conclude that a non-statutory exception is *necessary* let alone *required by the Constitution* unless that judge has analyzed every other statutory requirement — and the evidence relevant to compliance with those requirements — and concluded that those requirements fail to exclude an unworthy claim from issuance. Judge Mayer, in particular, has not expressly made this analysis in the cases where he has made sweeping conclusions regarding the necessity of the non-statutory exceptions.[102] Nor has he identified any independent purpose of the non-statutory exceptions in terms of policy, let alone any particular failings of interpretations or applications of existing patentability and specification requirements to meet the objectives of those policies. He has made only generalized criticisms of "poor patent quality,"[103] which does not help advance the cause of identifying particular problems with the existing statutory law, let alone solving them. Moreover, it is not a sufficient argument, in terms of a policy debate at least, to point to the Supreme Court's confusing precedent. And, anyway, even if it is true that the statutory patentability requirements are not working based on some preferred policy goal, problems with those requirements ought to be addressed and corrected directly — whether through better interpretations of the existing statutory language or by amending the relevant statutory language.

In short, in view of all of the problems with the Supreme Court's jurisprudence on the issue of patent eligibility, the time has come for

solve the problem [of poor quality business method and software patents]. This claim was made ten years ago. It is still being made now. At what point does this argument run out of credibility?" (quotation marks and footnote call number omitted) (quoting Gerard N. Magliocca, *Patenting the Curve Ball: Business Methods and Industry Norms*, 2009 BYU L. REV. 875, 900)).

99 *See id.* at 1268-69.

100 *Id.* at 1269 (emphasis added).

101 *See id.* at 1268 (criticizing those who "take the view that section 101 is a 'coarse eligibility filter'"); *see also* Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 720 (Fed. Cir. 2014) (Mayer, J., concurring).

102 *See* OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1364 (Fed. Cir. 2015) (Mayer, J., concurring); *Ultramercial*, 772 F.3d at 718; *MySpace*, 672 F.3d at 1269.

103 *MySpace*, 672 F.3d at 1268.

Congress to consider overturning the Court's approach in this area. Given the doctrine of *stare decisis*, it is unlikely that the Supreme Court will resolve the confusion it has created and put in place an administrable test for eligibility. As a result, and given its broad constitutional authority, Congress should do so; it should seek to provide greater clarity regarding the appropriate policies governing eligibility and the statutory patentability requirements, to provide administrable tests to further those policies, and to maintain the incentive patent law provides for potential inventors and their supporters to invest in the acts of invention — research and development. Such legislation would not likely violate the Constitution;[104] instead it would reflect Congress taking responsibility to fine tune the patent statute to ensure that appropriate statutory patent law doctrines "promote the Progress of . . . useful Arts."[105]

II. RECOGNIZING THE ABILITY OF NON-ELIGIBILITY DOCTRINES TO ADDRESS RELEVANT CONCERNS

Once convinced of the appropriateness of legislative action to resolve the existing problems with the Supreme Court's approach to patent eligibility, Congress should consider whether the existing statutory patentability and specification requirements sufficiently address the relevant concerns raised by the Supreme Court. Those other patentability and specification requirements do *already, without amendment* address those concerns. But even if they do not do so *sufficiently*, the appropriate step is for Congress to consider amending those requirements rather than perpetuate unnecessary non-statutory exceptions to eligibility. An independent eligibility requirement would be necessary only if there is some independent policy basis for it. In other words, Congress should confront the preliminary question of whether the patentability and specification requirements need

[104] For another perspective on the issue of the constitutionality of legislation overruling the Supreme Court on the issue of the non-statutory exceptions, see Hayden W. Gregory, *Patent Eligibility: Should Congress Overrule the Supreme Court's Recent Decisions? Would the Court Overrule the Overrule?*, 7 LANDSLIDE 1, 65 (2015) ("Should Congress decide to depart from th[e] tradition [of not adding statutory requirements for patentability] and no longer leave 'wide latitude for judicial construction,' the Court's precedents allow it wide latitude for decision, ranging from confirmation as an exercise of Congress's legislative authority to rejection as an act in excess of its constitutional power.").

[105] U.S. CONST. art. I, § 8, cl. 8 (authorizing Congress to pass laws "[t]o promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries").

amendment. Congress should perform this analysis before deciding whether there is an independent basis for a separate eligibility requirement and, if so, what that requirement should address.

A. The Ability of Existing Requirements to Address Relevant Concerns

The Supreme Court has twice explicitly rejected the idea that the patent statute, rather than the non-statutory exceptions to eligible subject matter, already address the Court's concerns.[106] In both instances, however, the Court was wrong.

In *Parker v. Flook*, the court rejected the argument that its approach "improperly imports into § 101 the consideration of 'inventiveness' which are the proper concerns of §§ 102 and 103."[107] It did so based on two alleged "fundamental misconceptions."[108] Describing the first "fundamental misconception," the Court rejected the position that "if a process application implements a principle in some specific fashion, it automatically falls within the patentable subject matter of § 101."[109] This is not so, according to the Court, for three reasons. The Court said it is inconsistent with Supreme Court precedent.[110] The Court held it would "make the determination of patentable subject matter depend simply on the draftsman's art."[111] And the Court stated it "would ill serve the principles underlying the prohibition against patents for 'ideas' or phenomena of nature."[112]

None of these three arguments regarding the first "fundamental misconception"[113] holds water. First, § 101, and in particular the utility requirement, exactly requires the claim to cover a specific implementation of a principle; this is the requirement of a practical application.[114] Not only is the requirement of a practical application

---

[106] *See* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1303 (2012); Parker v. Flook, 437 U.S. 584, 592-94 (1978).

[107] *Flook*, 437 U.S. at 592.

[108] *Id.*

[109] *Id.* at 593.

[110] *See id.*

[111] *Id.*

[112] *Id.*

[113] *Id.* at 592.

[114] Several old Supreme Court cases support the idea that § 101 requires only a practical application, meaning some specific implementation, of an idea. *See, e.g.*, Le Roy v. Tatham, 63 U.S. 132, 135-36 (1859) ("A patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is, by the specification, applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained."); Corning v. Burden, 56 U.S. 252, 268 (1853) ("It is for the discovery or

not inconsistent with Supreme Court precedent, it is exactly consistent with some of the earliest Supreme Court and English precedent on point. Consider, for example, the Supreme Court's decision in *Le Roy v. Tatham* in 1859, which included the following quote from the English decision in *Household Co. v. Neilson* from 1843:

> A patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is, by the specification, applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained.[115]

These cases cannot more clearly contradict the Supreme Court's rejection of the requirement of a practical application for purposes of patent eligibility. Indeed, later Supreme Court cases cited in the Court's decision in *Flook* in 1978 (primarily *Funk* from 1948) contradict this early Supreme Court and English precedent to the extent they require an "inventive application" rather than merely a practical application of the underlying principle for purposes of patent eligibility.[116]

Second, the argument that a focus on whether the claim describes a practical application of a natural law would cause the determination of eligibility to depend on the "draftsman's art"[117] is exactly backwards. The Supreme Court should not blame patent prosecutors for attempting to draft claims that pass muster under patent eligibility law. That is exactly what Congress and the Supreme Court should *want* patent prosecutors to do; they should want them to draft claims that comply with eligibility law. At the same time, they should expect them to exploit any loopholes in eligibility law. The Supreme Court seems to view patent prosecutors as the personification of Justice Holmes' "bad [men],"[118] without appreciating *why* they should be viewed that way. Justice Holmes's idea was that the law should be

invention of some practicable method or means of producing a beneficial result or effect, that a patent is granted, and not for the result or effect itself. . . . But it is well settled that a man cannot have a patent for the function or abstract effect of a machine, but only for the machine which produces it.").

115 *Le Roy*, 63 U.S. at 135-36 (quoting Household Co. v. Neilson, Webster's Patent Cases, 683).

116 Lefstin, *supra* note 58, at 570 ("It was not until 1948, when the Supreme Court decided *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, that a test of inventive application entered the mainstream of American patent law.").

117 *See Flook*, 437 U.S. at 593.

118 Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 459 (1897).

viewed from the perspective of a bad man — a man who cares not about right or wrong but instead only about the consequences of his actions under the law.[119] But the purpose of viewing the law from the perspective of a bad man is to understand the law and its ability to conform the behavior of the bad man to good ends.[120] The bad man's behavior is changed by calibrating the legal consequences, not by relying on the bad man's inherent appreciation of right or wrong or good policy. In the context of patent law, then, we should ask: how would a patent prosecutor — who cares nothing about encouraging investment in efforts to invent, advancing public understanding of technology, or ensuring that the basic tools of science remain in the public domain, but instead only about his and his client's bottom line — draft a claim given the law of eligibility and the consequences for not complying with that law?[121]

In this regard, the Supreme Court's criticism of the claim drafting of patent prosecutors sounds like criticism of corporate attorneys who exploit tax loopholes. In that field, until recently attempts to exploit loopholes were viewed as a "legitimate point-and-counterpoint that more involved a thwarting of tax avoidance than serious tax evasion."[122] Furthermore, the Supreme Court's proverbial finger

[119] *See id.* at 458 ("One of the many evil effects of the confusion between legal and moral ideas, about which I shall have something to say in a moment, is that theory is apt to get the cart before the horse, and to consider the right or the duty as something existing apart from and independent of the consequences of its breach, to which certain sanctions are added afterward. But, as I shall try to show, a legal duty so called is nothing but a prediction that if a man does or omits certain things he will be made to suffer in this or that way by judgment of the court; — and so of a legal right."); *id.* at 459 ("If you want to know the law and nothing else, you must look at it as a bad man, who cares only for the material consequences which such knowledge enables him to predict, not as a good one, who finds his reasons for conduct, whether inside the law or outside of it, in the vaguer sanctions of conscience.").

[120] *See id.* at 459. *See generally* Marco Jimenez, *Finding the Good in Holmes's Bad Man*, 79 FORDHAM L. REV. 2069 (2011).

[121] Interestingly, the recent criticism of patent prosecutors stands in stark contrast with the historical recognition of the difficult task of drafting patent claims and the implicit respect for successful completion of the task. Indeed, in a different era — the late nineteenth century — the Supreme Court expressly recognized that "[t]he specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy." Topliff v. Topliff, 145 U.S. 156, 171 (1892). While the difficulty the Court referred to then reflected the complexity of the technology, ("particularly if the invention be at all complicated"), the difficulty also reflects the complexity and uncertainty of the underlying law, including the law governing patent eligibility. *Id.*

[122] Richard J. Kovach, *Taxes, Loopholes and Morals Revisited: A 1963 Perspective on the Tax Gap*, 30 WHITTIER L. REV. 247, 276 (2008) (describing the cycle of "opening

pointed at patent prosecutors reminds one of the old saying, "when you point a finger at someone, you always have three fingers pointed at yourself." If there are loopholes in eligibility law, then the Supreme Court — or better yet, as I have discussed, Congress — should close the undesirable ones, just as tax regulators do. This would involve applying or amending the statutory patentability requirements.

Tax law, like patent law, has at least one common law doctrine that deals with the problem of exploitation of tax loopholes: the step transaction doctrine, which "is a judicial manifestation of the more general tax law ideal that effect should be given to the substance, rather than the form, of a transaction, 'by ignoring for tax purposes, steps of an integrated transaction that separately are without substance.'"[123] Likewise, the Supreme Court has said in patent cases that the substance of the patent claim governs, not necessarily its form. Interestingly, originally the Court said this to justify broad rights in a patent — to find infringement when someone appropriated an invention but made minor changes to it.[124] Only later did the Court distinguish between form and substance to *eliminate* patent rights using the doctrine of *patent eligibility*.[125] In distinguishing between

and closing [tax] loopholes" as viewed historically as a "legitimate point-and-counterpoint that more involved a thwarting of tax avoidance than serious tax evasion" by "taxpayers and their advisers, who would ceaselessly attempt to extract loopholes from existing rules while regulators tirelessly attempt to alter or create rules to block such attempts").

[123] Falconwood Corp. v. United States, 422 F.3d 1339, 1349 (Fed. Cir. 2005) (quoting Dietzsch v. United States, 498 F.2d 1344, 1346 (Ct. Cl. 1974)).

[124] *See* Winans v. Denmead, 56 U.S. 330, 343 (1853) ("Where form and substance are inseparable, it is enough to look at the form only. Where they are separable; where the whole substance of the invention may be copied in a different form, it is the duty of courts and juries to look through the form for the substance of the invention — for that which entitled the inventor to his patent, and which the patent was designed to secure; where that is found, there is an infringement; and it is not a defence, that it is embodied in a form not described, and in terms claimed by the patentee."). In *Winans*, the reference to the substance of the invention meant that the invention received broad protection. *See id.* ("The exclusive right to the thing patented is not secured, if the public are at liberty to make substantial copies of it, varying its form or proportions. And, therefore, the patentee, having described his invention, and shown its principles, and claimed it in that form which most perfectly embodies it, is, in contemplation of law, deemed to claim every form in which his invention may be copied, unless he manifests an intention to disclaim some of those forms.").

[125] *See* Parker v. Flook, 437 U.S. 584, 590 (1978) ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance. 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

form and substance in the context of patent eligibility, the Court has effectively discounted or ignored conventional elements in patent claims.[126]

Of course the substance of the patent claim — which I take to mean how the claimed invention is different from what is in nature or what is in the prior art — does matter; these really are the exact concerns of the novelty and non-obviousness requirements. As discussed, moreover, the substance of the claim is also important for the determination of infringement.[127] But the form of a patent claim, not just its substance, also is an important concern. The form of the claim — every word in the claim — matters, for example, because the language of the claim identifies *how* to determine whether there is invalidity and infringement. Anticipation and infringement, for example, require finding *every element* of the claim in the prior art or the accused process or method, respectively.[128] Language in the claim likewise determines whether infringement occurs when a *method* is performed, or instead when a *device* is made, used, sold, or offered for sale.[129] Language in the claim similarly determines whether the on-sale bar results in invalidity when either a *method* has been performed or a

the formula, when solved, could be usefully applied to existing surveying techniques.").

126 *See id.*; Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1294 (2012) ("In particular, the steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field."). *But see* Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347, 2355 n.3 (2014) ("Because the approach we made explicit in *Mayo* considers all claim elements, both individually and in combination, it is consistent with the general rule that patent claims 'must be considered as a whole.'" (quoting Diamond v. Diehr, 450 U.S. 175, 188 (1981))).

127 *See Winans*, 56 U.S. at 343. In modern terms, this concern with the substance of the invention is the focus of the modern theory of infringement under the doctrine of equivalents. *See, e.g.*, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 732 (2002) ("The scope of a patent is not limited to its literal terms but instead embraces all equivalents to the claims described." (citing *Winans*, 56 U.S. at 347)).

128 *See, e.g.*, K-TEC, Inc. v. Vita-Mix Corp., 696 F.3d 1364, 1377 (Fed. Cir. 2012) ("To prove that a claim is invalid for anticipation, the accused infringer must show by clear and convincing evidence that a single prior art reference discloses each and every element of a claimed invention." (quotation marks and citation omitted)); Gen. Elec. Co. v. Int'l Trade Comm'n, 685 F.3d 1034, 1042 (Fed. Cir. 2012) ("For infringement, every element and limitation of a claim of the patent must be found in the accused device, literally or in accordance with the doctrine of equivalents.").

129 *See, e.g.*, AK Steel Corp. v. Sollac & Ugine, 344 F.3d 1234, 1240 (Fed. Cir. 2003) (identifying "the separate steps in an infringement analysis" as "claim construction and comparison of the construed claim to the accused device or method").

device has been made, used, sold, or offered for sale more than a year prior to the filing of the patent application.[130]

If the form of the claim did not matter, the language in the claim would not matter, and claim construction disputes would not be the most important part of infringement litigation. But, in reality, "the name of the game is the claim."[131] If the form of a claim did not matter, § 101 would not list statutory subject matter categories. But it does.[132] Moreover, if the form did not matter, the preamble of patent claims would not recite the relevant statutory subject matter category, or at least a similar term (e.g., "A device for doing this comprising the following elements" or "A method for doing that comprising the following steps"). The form of the claim matters, in other words, because of the subject matter requirement of § 101. Likewise, the definiteness requirement of 35 U.S.C. § 112 concerns itself with the form of patent claims; the claims must not be vague and ambiguous but instead reasonably clear.[133] In short, while the substance of the claim (ultimately how the claimed invention differs from the prior art) matters, so too does the form of the claim for purposes of determining whether the claim meets the statutory conditions and requirements of patentability.[134]

The Supreme Court's third and last argument supporting its view that practical application is not the relevant test for eligibility was that focusing on whether the claim is directed to a practical application of a natural law "would ill serve the principles underlying the prohibition against patents for ideas or phenomena of nature."[135] According to the Court, "they are not the kind of 'discoveries' that the statute was enacted to protect."[136] In a footnote, the Court explains that the

130 *See, e.g.*, Minton v. Nat'l Ass'n of Sec. Dealers, Inc., 336 F.3d 1373, 1376 (Fed. Cir. 2003) (describing the on-sale bar assessment where the "final step involves a comparison of the asserted claims with the device or process that was sold").

131 Giles S. Rich, *The Extent of the Protection and Interpretation of Claims-American Perspectives*, 21 INT'L REV. INDUS. PROP. & COPYRIGHT L., 497, 499 (1990) ("To coin a phrase, *the name of the game is the claim*.").

132 *See* 35 U.S.C. § 101 (2012).

133 *See* 35 U.S.C. § 112(b) (2012); Nautilus, Inc. v. Biosig Instruments, Inc., 134 S. Ct. 2120, 2129 (2014) (interpreting the language in § 112(b) "to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty").

134 Oskar Liivak, *The Unresolved Interpretive Ambiguity of Patent Claims*, 49 UC DAVIS L. REV. 1851, 1853 (2016) ("Claims are at the heart of almost every critical question in patent law.").

135 Parker v. Flook, 437 U.S. 584, 593 (1978).

136 *Id.*

"underlying notion is that a scientific principle, such as that expressed in [the] respondent's algorithm, reveals a relationship that has always existed."[137] This reasoning is wholly unpersuasive. A claim to a practical application of a scientific principle is by definition not a claim to the scientific principle itself. Others are free to use the scientific principle, just not using the same practical application covered by the claim at issue. And the patent statute, and § 101 in particular, was exactly drafted to protect practical applications of ideas.[138]

The Supreme Court's second alleged "fundamental misconception" is the position that the Court's approach requiring inventiveness is inconsistent with the view that a patent claim must be considered as a whole.[139] According to the Court, there was no eligible subject matter before it because, "once [the claimed] algorithm is assumed to be within the prior art, the [claim], considered as a whole, contains no patentable invention."[140] This reasoning fails for several reasons. Most importantly, the patent statute says nothing about assuming any part of a claim is within the prior art; to the contrary, the patent statute goes to great lengths to describe what qualifies as prior art.[141] But even if the statute did condone making an assumption that part of a claim is within the prior art, at that point it is not really true that the entire claim is being considered as a whole; the part of the claim that is assumed to be in the prior art is ignored. In short, ignoring part of the claim is contrary to the Supreme Court's directive to consider the claim as a whole.[142] Anyway, the Court has confused novelty and non-obviousness with eligibility; the inventiveness inquiry is contrary to the Court's well-founded directive in *Diehr* not to consider the novelty of claim elements when determining eligibility.[143] Inventiveness and eligibility should be unrelated inquiries; otherwise, they unnecessarily duplicate one another.

---

137 *Id.* at 593 n.15.

138 *See* Taylor, *supra* note 15, at 226.

139 *See Flook*, 437 U.S. at 593-94.

140 *Id.* at 594.

141 *See* 35 U.S.C. § 102 (2012).

142 Diamond v. Diehr, 450 U.S. 175, 188 (1981) ("In determining the eligibility of respondents' claimed process for patent protection under § 101, their claims must be considered as a whole. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis.").

143 *See id.* at 188-89 ("The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.").

While *Flook*'s reasoning is unpersuasive, unfortunately it is not the only Supreme Court case to reject the argument that "inventiveness" is not a relevant concern of § 101 but instead should be relegated to §§ 102 and 103. In *Mayo*, the Court stated that "[t]his approach . . . would make the 'law of nature' exception to § 101 patentability a dead letter" and that "[t]he approach is therefore not consistent with prior law."[144] For support, the Court cited *Flook* and other decisions applying the non-statutory exceptions, used reasoning that contradicted *Diehr* and *Flook*, and made additional unpersuasive arguments.

In terms of contradictions, in *Mayo* the Court contradicted *Diehr* by stating that, "in evaluating the significance of additional steps, the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap."[145] *Diehr* said the exact opposite, that "[t]he 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter."[146]

Now consider the additional arguments. In rejecting the primacy of the statutory analysis of novelty and non-obviousness under §§ 102 and 103 as compared to non-statutory analysis of inventiveness under § 101, the Court in *Mayo* misleadingly and incorrectly interprets the legislative history behind the Patent Act of 1952. It does so by highlighting certain language in the House Report accompanying the Patent Act of 1952. In *Mayo*, the Court emphasized the language "not necessarily patentable under section 101" when quoting the longer statement from the report that "[a] person may have 'invented' a machine or a manufacture, which may include anything under the sun that is made by man, but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled."[147] The Court seemingly did so to try to emphasize that § 101 limits patentability even if a machine or manufacture is made by a human. The extra limitation, according to the Court, is the requirement of

---

[144] Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1303 (2012).

[145] *Id.* at 1304.

[146] *Diehr*, 450 U.S. at 188-89. Given the numerous contradictions in the Court's precedent on eligible subject matter, one law professor has called for a housecleaning. *See generally* John M. Golden, Flook *Says One Thing,* Diehr *Says Another: A Need for Housecleaning in the Law of Patentable Subject Matter*, 82 GEO. WASH. L. REV. 1765 (2014).

[147] *Mayo*, 132 S. Ct. at 1303-04 (quoting H.R. REP. NO. 82-1923, at 6 (1952)).

inventiveness.[148] But the relevant part of this statement from the report, and the one that truly deserves emphasis, is the last phrase, "unless the conditions of the title are fulfilled." Given this phrase, as a whole this statement from the legislative history provides a clear reference to limits on patentability that exist in the remainder of the patent statute, and in particular §§ 102 and 103. Those are the "conditions" of patentability that must be fulfilled. Indeed, the patent statute itself labels §§ 102 and 103 as the "conditions for patentability."[149]

Of more importance, however, because it addresses the relevant policy considerations, is the Court's insistence in *Mayo* that "to shift the patent-eligibility inquiry entirely to these later sections risks creating significantly greater legal uncertainty, while assuming that those sections can do work that they are not equipped to do."[150] As a preliminary matter, it is the Supreme Court's two-part test for eligibility, and in particular the searches for abstract ideas and "inventive concepts," that has created the uncertainty.[151] There would be more certainty if the Court eliminated its test in favor of the established and well-developed statutory and historical approaches to eligibility, novelty, and non-obviousness. But the Court's main point is that "§§ 102 and 103 say nothing about treating laws of nature as if they were part of the prior art when applying those sections,"[152] and the Court clearly believes as a policy matter that laws of nature must not be patentable.

Setting aside how ironic it is for the Court to criticize anyone else for not pointing to specific statutory language to justify its approach in this area — after all the Court is applying what it itself calls an "implicit exception"[153] — in reality there is no need for § 102 to say that laws of nature qualify as prior art. The main reason is that the statutory subject matter requirement of § 101 excludes claims to

[148] The Court highlighted this language in the course of defending its conclusion that "the process claims at issue here do not satisfy [the requirement of an inventive concept]" because "the steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field," *id.* at 1294, and in particular while rejecting the Government's argument that "virtually any step beyond a statement of a law of nature itself should transform an unpatentable law of nature into a potentially patentable application sufficient to satisfy § 101's demands," *id.* at 1303.

[149] *See* 35 U.S.C. §§ 102, 103 (2012).

[150] *Mayo*, 132 S. Ct. at 1304.

[151] *See* Taylor, *supra* note 15, at 225-26.

[152] *Mayo*, 132 S. Ct. at 1304.

[153] *Id.* at 1293.

natural laws. The statutory subject matter requirement mandates that only processes, machines, manufactures, and compositions of matter are eligible for patenting;[154] as I have discussed elsewhere, to qualify as eligible subject matter, what is claimed must be the result of human effort.[155] There is no need to search for an "inventive concept" to exclude natural laws from being patented. All that one needs to do is ensure that a claim describes one of the listed categories of subject matter, be it a process, machine, manufacture, or composition of matter. If a claim does so, that claim will describe something manmade and therefore eligible for patenting, but the claim will be patentable only if the claim meets the conditions and requirements of §§ 102, 103, and 112.

Furthermore, as a matter of statutory interpretation and policy, § 102 should not be interpreted to mean that laws of nature qualify as prior art. Laws of nature are not prior art because they are not "art."[156] But even if laws of nature were prior art, the law should not require the first person to discover a law of nature to invent non-obvious applications of that law of nature. To encourage the discovery and application of natural laws, the first person to discover a natural law should be able to obtain a patent on practical applications of the natural law that are claimed and supported in the specification of a patent. In other words, those claims must meet the utility, written description, and enablement requirements.[157]

Notably, as a matter of policy, even Judge Dyk — a supporter of the misguided decisions of *Mayo* and *Alice*[158] — would not require the first discoverer of a natural law to create inventive (non-obvious) applications of that natural law, or interpret § 102 to mean that natural laws qualify as prior art. He would allow the first discoverer to obtain a patent on practical applications of the natural law, but only those practical applications that are actually reduced to practice.[159] In other

154 35 U.S.C. § 101 (2012).

155 *See* Taylor, *supra* note 15, at 212-14.

156 *See id.* at 194, 213-15.

157 *See* 35 U.S.C. §§ 101 (utility), 112(a) (2012) (written description and enablement).

158 *See* Ariosa Diagnostics, Inc. v. Sequenom, Inc., 809 F.3d 1282, 1287 (Fed. Cir. 2015) (Dyk, J., concurring in the denial of en banc rehearing) ("In my view the framework of *Mayo* and *Alice* is an essential ingredient of a healthy patent system, allowing the invalidation of improperly issued and highly anticompetitive patents without the need for protracted and expensive litigation.").

159 *See id.* at 1291 ("[I]f the breadth of the claim is sufficiently limited to a specific application of the new law of nature discovered by the patent applicant and reduced to practice, I think that the novelty of the discovery should be enough to supply the

words, he would allow the patenting of those practical applications that the inventor actually builds and, if necessary, tests to confirm their workability.[160] He would not allow the patenting of practical applications that the inventor discloses and explains to one of ordinary skill in the art how to build and use, if the inventor did not actually build or use the practical applications.[161] Notably, Judge Dyk's approach is not consistent with the traditional approach to eligibility under the current patent statute, which merely requires disclosure of practical applications of natural laws, where the practical application takes the form of a man-made process, machine, manufacture, or composition of matter.[162] Nor is it consistent with the current statutory written description and enablement requirements, which focus on the disclosure in the specification rather than what the inventor built and tested.[163] Judge Dyk's approach is, thus, relatively radical; it would require not just a rewriting of the patent statute but one based on a new conception of the appropriate balancing of the competing policies underlying many different aspects of the patent statute. It certainly is not the one Congress wrote into the patent statute.

B. The Ability to Improve Existing Requirements

All of this is not to say that the existing statutory doctrines perfectly constrain the breadth of claims, eliminate abstract claim language, ensure that claims issue only to non-obvious inventions, and permit wide use of natural laws and natural phenomena.[164] Their success in

necessary inventive concept. My proposed approach would require that the claimed application be both narrow in scope and actually reduced to practice, not merely 'constructively' reduced to practice by filing of a patent application replete with prophetic examples.").

[160] *See id.* It is somewhat remarkable — and telling — that while Judge Dyk supports the Supreme Court's attempts to restrict patentability in *Mayo* and *Alice*, even he faults the Supreme Court's test for striking the wrong balance. *See id.* at 1287 ("I share the concerns of some of my colleagues that a too restrictive test for patent eligibility under 35 U.S.C. § 101 with respect to laws of nature (reflected in some of the language in *Mayo*) may discourage development and disclosure of new diagnostic and therapeutic methods in the life sciences, which are often driven by discovery of new natural laws and phenomena.").

[161] *See id.* at 1291.

[162] *See* Le Roy v. Tatham, 63 U.S. 132, 135-36 (1859) (citing Household Co. v. Neilson, Webster's Patent Cases, 683); Taylor, *supra* note 15, at 214-17, 216 n.314.

[163] *See* Alcon Research Ltd. v. Barr Labs., Inc., 745 F.3d 1180, 1188 (Fed. Cir. 2014) (discussing enablement); Ariad Pharm., Inc. v. Eli Lilly & Co., 598 F.3d 1336, 1340 (Fed. Cir. 2010) (en banc) (discussing written description).

[164] For a discussion of how the current patent statute already reflects these underlying policy goals, see Taylor, *supra* note 15, at 191-97.

this regard, of course, depends on their interpretation and application. But if claims merely describe natural laws or abstract claim language or do not describe something sufficiently inventive, these statutory doctrines are the ones to study and revise. Indeed, any continuing concerns with claim breadth, abstractness, and lack of inventiveness highlight that these longstanding statutory doctrines may need to be revised to take into account critics' concerns. But, in this regard, it is important to recognize that many of these statutory doctrines *have* been challenged and revised in favor of narrowing claims, more clearly defining claims, and increasing the level of inventiveness required — and only recently.

The Supreme Court has, for example, relatively recently addressed the non-obviousness requirement of § 103, tightening it to ensure that it is more difficult to obtain broad patent rights. In *KSR International Co. v. Teleflex Inc.*,[165] the Court rejected three aspects of the Federal Circuit's non-obviousness jurisprudence.[166] First, the Court expanded the obviousness inquiry by permitting courts and patent examiners to look beyond just the narrow problem the patentee was trying to solve.[167] Second, it similarly sanctioned an inquiry that looks beyond just the elements of the prior art designed to solve the same problem the inventor confronted.[168] Third, it extended the doctrine of obviousness to cover circumstances where a combination of elements was "obvious to try."[169] In each respect, the Court made it easier for patent examiners and courts to find claims to be non-obvious. The Court ultimately adopted an "expansive and flexible approach" to obviousness[170] — a "functional approach" that involves "a broad inquiry."[171] Thus, to the extent the non-obviousness requirement somehow did not require sufficient inventiveness, *KSR* presented an opportunity to fix this defect.

---

165 550 U.S. 398 (2007).

166 *See id.* at 419-22.

167 *See id.* at 420 ("The first error of the Court of Appeals in this case was to foreclose this reasoning by holding that courts and patent examiners should look only to the problem the patentee was trying to solve.").

168 *See id.* ("The second error of the Court of Appeals lay in its assumption that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem.").

169 *See id.* at 421 ("The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was '[o]bvious to try.'").

170 *Id.* at 415.

171 *Id.*

The Supreme Court, furthermore, recently revised the test for complying with the definiteness requirement of § 112, increasing its vigor as well. In *Nautilus, Inc. v. Biosig Instruments, Inc.*, the Court rejected the Federal Circuit's test for definiteness, which merely required that claims be "amenable to construction" and not "insolubly ambiguous."[172] In its place, the Court held that claims must be "reasonably certain."[173] It should thus be more difficult now for arguably ambiguous claim language to meet the definiteness requirement, and the result should be a reduction in abstract claiming.

Moreover, the Supreme Court's decision on the issue of definiteness comes on the heels of numerous cases decided by the Federal Circuit in the last eight years invalidating claims to software algorithms based on lack of definiteness. In these cases, the Federal Circuit has cited the lack of disclosure of algorithms in the specifications of the relevant patents as corresponding structures for those patents' means-plus-function limitations, resulting in findings of indefiniteness.[174] The requirement that the specifications of patents disclose algorithms supporting means-plus-function limitations drawn to functional computer language will also fight problems with abstract claiming, but also provide an incentive to craft claims more narrowly than they would otherwise be crafted.

Likewise, the Federal Circuit recently revised the test for determining whether claim language should be limited to the embodiments disclosed in the specification of a patent pursuant to 35 U.S.C. § 112(f), which governs functional claiming. Pursuant to the court's precedent, claims were subject to a "strong" presumption, "not readily overcome," that they were not limited to the embodiments disclosed in the

---

[172] Nautilus, Inc. v. Biosig Instruments, Inc., 134 S. Ct. 2120, 2124 (2014).

[173] *Id.* at 2129 (interpreting "§ 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty").

[174] *See, e.g.*, Function Media, LLC v. Google, Inc., 708 F.3d 1310, 1319 (Fed. Cir. 2013); ePlus, Inc. v. Lawson Software, Inc., 700 F.3d 509, 518 (Fed. Cir. 2012); Noah Sys., Inc. v. Intuit, Inc., 675 F.3d 1302, 1312 (Fed. Cir. 2012); Ergo Licensing, LLC v. CareFusion 303, Inc., 673 F.3d 1361, 1364 (Fed. Cir. 2012); Stamps.com, Inc. v. Endicia, Inc., 437 F. App'x 897, 912 (Fed. Cir. 2011); Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371, 1385 (Fed. Cir. 2009); Encyclopaedia Britannica, Inc. v. Alpine Elecs., Inc., 355 F. App'x 389, 395 (Fed. Cir. 2009); Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech., 521 F.3d 1328, 1338 (Fed. Cir. 2008); *see also* Dealertrack, Inc. v. Huber, 674 F.3d 1315, 1330 (Fed. Cir. 2012) (adopting narrow construction during analysis of indefiniteness defense). *But see* Chi. Bd. Options Exch., Inc. v. Int'l Secs. Exch., LLC, 748 F.3d 1134, 1140 (Fed. Cir. 2014) (finding compliance with definiteness requirement); Typhoon Touch Techs., Inc. v. Dell, Inc., 659 F.3d 1376, 1386 (Fed. Cir. 2011) (same).

specification.[175] To overcome this strong presumption required "a showing that the limitation essentially is devoid of anything that can be construed as structure" for performing a claimed function,[176] a significant hurdle. According to the Federal Circuit, the problem with this precedent was that it "resulted in a proliferation of functional claiming . . . free of the strictures set forth in the statute" — namely the requirement that functional claim language be limited to the embodiments disclosed in the specification.[177] So, the Federal Circuit announced, it was reversing its law. The court will no longer require any heightened evidence to prove that claim language is limited to the embodiments in the specification.[178] It expressly overruled the idea that the presumption that claim language was not limited to the specification was "strong," and it overruled its strict requirement that the claim language "must be essentially devoid of anything that can be construed as structure" before it would be limited to the embodiments disclosed in the specification.[179] As a result, claims should be construed more often to be limited to the specific embodiments disclosed in the corresponding specification of the patent. This too limits abstract claiming, and results in narrower claims.

In the not too distant past, the Supreme Court also expanded the statutory experimental use exception. In *Merck KGAA v. Integra Lifesciences I, Ltd.*,[180] the Court rejected the Federal Circuit's narrow interpretation of the governing statute, which limited its protection to uses of patented inventions that result in submission of information to the Food and Drug Administration ("FDA").[181] The Court instead determined that the statute extends to uses where there was a reasonable basis to believe that the uses would produce types of information relevant to the FDA.[182] By doing so, the Court expanded the statutory defense to experimental use of patented technology, and in the process — consistent with the theme of eligibility cases focused on concerns with preemption of use of natural laws and phenomena

[175] Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (quoting Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354, 1358 (Fed. Cir. 2004)).

[176] *Id.* at 1349.

[177] *Id.*

[178] *See id.*

[179] *Id.*

[180] 545 U.S. 193 (2005).

[181] *See id.* at 205-07.

[182] *See id.* at 207.

— limited the ability to exclude the use of basic tools of research and science.[183]

In all these ways, courts have shown a remarkable proclivity to reconsider the interpretation and application of various statutory doctrines that address the underlying concerns the Supreme Court has expressed in its eligibility cases. Besides these statutory doctrines, however, perhaps courts should focus attention on improving the common law doctrines, such as the common law experimental use exception. Indeed, there is reason to think that the common law experimental use exception is too narrow.[184] Yet the Supreme Court as a whole has never addressed the common law experimental use exception. Indeed, the only instances where any member of the Supreme Court has addressed it are the two opinions arguably creating the exception, both of which were written by Justice Story as he rode the circuit.[185] This has allowed the Federal Circuit, most recently, to develop the law. It, in turn, has interpreted the experimental use

[183] *See id.* This was not the only time the Court interpreted the patent statute broadly to favor experimental use of patented technology. In *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661 (1990), the Court considered whether activities that normally constituted patent infringement were non-infringing under 35 U.S.C. § 271(e)(1) if they were performed for the purpose of submitting information for consideration by the FDA to obtain marketing approval for a medical device. *Id.* at 663-64. The Court held that the statute broadly covers activities related both to drugs and to medical devices. *See id.* at 674. In that case, however, the Court was not patching a hole created by a lower court; it affirmed the Federal Circuit's similar conclusion. *See id.* at 678.

[184] *See, e.g.*, Shamnad Basheer & Prashant Reddy, *The "Experimental Use" Exception Through a Developmental Lens*, 50 IDEA 831, 833 (2010) (arguing that allowing the experimental use exception to cover "the testing of patented inventions with a view to creating improvements or inventing around such patents" is "particularly appealing in the context of developing countries"); Katherine J. Strandburg, *What Does the Public Get? Experimental Use and the Patent Bargain*, 2004 WIS. L. REV. 81, 83, 91 (arguing that there are "reasons to believe that a well-designed experimental-use exemption from infringement liability can promote faster cumulative technological progress without significantly diminishing incentives to invest in the original invention" and noting that "[p]atent exclusivity, while promoting inventive progress by providing incentives for innovation, can slow technical progress if the best follow-on inventors are prevented from building upon the inventive idea during the patent term.").

[185] "The so-called experimental use defense to liability for infringement generally is recognized as originating in an opinion written by Supreme Court Justice Story while on circuit in Massachusetts." Roche Prods., Inc. v. Bolar Pharm. Co., 733 F.2d 858, 862 (Fed. Cir. 1984) (citing Whittemore v. Cutter, 29 F. Cas. 1120, 1121, (C.C.D. Mass. 1813)). Justice Story also addressed the exception the same year in another case, Sawin v. Guild, 21 F. Cas. 554 (C.C.D. Mass. 1813). For a summary of all the cases prior to 1957 addressing the experimental use exception, see Richard E. Bee, *Experimental Use as an Act of Infringement*, 39 PAT. OFF. SOC'Y 357 (1957).

exception narrowly, limiting the exception to situations where actions were performed "for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry."[186] It has held that use does not qualify as experimental when it "has definite, cognizable, and not insubstantial commercial purposes."[187] And it has said that use is not experimental where the use is "in keeping with the legitimate business of the alleged infringer," such as use in research projects at universities that result in "educating and enlightening students and faculty participating in these projects," "increas[ing] the status of the institution," and "lur[ing] lucrative research grants, students and faculty."[188]

Returning to statutory doctrines, perhaps the courts also should focus attention on improving the statutory written description and enablement requirements. Indeed, some commentators think that the enablement requirement in particular is too lax.[189] Yet, while the Supreme Court has granted four petitions to hear cases involving § 101 in the last six years, it has not addressed either the written description or the enablement requirement since 1938, when it confronted a related argument in *Schribner-Schroth Co. v. Cleveland Trust*.[190] And even then, the discussion in that case focused on the policy of encouraging public disclosure, rather than on the concern of providing sufficient descriptions of how to make and use the patented technology to support the scope of broad claims.[191] Indeed, it is quite remarkable that the Supreme Court has not taken any case related to either the enablement or written description requirement given the numerous hotly disputed cases on point at the Federal Circuit in the last fifteen years.[192]

---

[186] Madey v. Duke Univ., 307 F.3d 1351, 1362 (Fed. Cir. 2002) (quoting Embrex, Inc. v. Service Eng'g Corp., 216 F.3d 1343, 1349 (Fed. Cir. 2000)).

[187] *Id.* (quoting Roche Prods., Inc. v. Bolar Pharm. Co, 733 F.2d 858, 863 (Fed. Cir. 1984)).

[188] *Id.*

[189] *See, e.g.*, Rebecca S. Eisenberg, *Wisdom of the Ages or Dead-Hand Control? Patentable Subject Matter for Diagnostic Methods After In re* Bilski, 3 CASE W. RES. J.L. TECH. & INTERNET 1, 59 (2012); *id.* at 59 n.290 (citing criticisms of the enablement doctrine by Tun-Jen Chiang, Kevin Collins, and Jeffrey Lefstin); Mark A. Lemley et al., *Life After* Bilski, 63 STAN. L. REV. 1315, 1330-31 (2011).

[190] 305 U.S. 47, 56 (1938) (finding a violation of the prohibition on introduction of new matter).

[191] *Id.* at 57 ("The object of the statute is to require the patentee to describe his invention so that others may construct and use it after the expiration of the patent and 'to inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not.'").

[192] *See generally, e.g.*, Ariad Pharm., Inc. v. Eli Lilly & Co., 598 F.3d 1336 (Fed.

The utility requirement, not recently revisited by courts,[193] is another statutory doctrine that is particularly important for purposes of reconsideration of the Supreme Court's eligibility cases; it also already advances the same policies the Supreme Court has favored in its most recent cases addressing eligibility. In *Brenner v. Manson*,[194] the Supreme Court interpreted the utility requirement to require specific and substantial utility;[195] it was insufficient that a chemical process produced the intended product and that the product belonged to a class of compounds the subject of serious scientific investigation.[196] The Court was concerned with granting "a monopoly of knowledge . . . only if clearly commanded by the statute."[197] The Court explained:

> Until the process claim has been reduced to production of a product shown to be useful, the metes and bounds of that monopoly are not capable of precise delineation. It may engross a vast, unknown, and perhaps unknowable area. Such a patent may confer power to block off whole areas of scientific development, without compensating benefit to the public. The basic quid pro quo contemplated by the Constitution and the Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility. Unless and until a process is refined and developed to this point — where specific benefit exists in currently available form — there is insufficient justification for

Cir. 2010) (en banc) (addressing whether a separate written description requirement exists in § 112 and the relevant policies the requirement supports); LizardTech, Inc. v. Earth Res. Mapping, Inc., 433 F.3d 1373 (Fed. Cir. 2006) (denying rehearing en banc on the question whether a separate written description requirement exists in § 112); Univ. of Rochester v. G.D. Searle & Co., 375 F.3d 1303 (Fed. Cir. 2004) (same); Enzo Biochem, Inc. v. Gen-Probe, Inc., 323 F.3d 956, 970 (Fed. Cir. 2002) (same).

193 The other statutory doctrines not recently revisited by courts are the novelty requirement and statutory bars. The Supreme Court last considered either of these doctrines in *Pfaff v. Wells Electronics*, where the Court decided that the on-sale bar may apply even if the invention is not yet reduced to practice but is ready for patenting and on sale. *See generally* Pfaff v. Wells Elecs., 525 U.S. 55 (1998). The Court explained that one of the policies supporting this statutory bar is that it "serves as a limiting provision, both excluding ideas that are in the public domain from patent protection and confining the duration of the monopoly to the statutory term." *Id.* at 64.

194 383 U.S. 519 (1966).

195 *See id.* at 534.

196 *See id.* at 532-33.

197 *Id.* at 534.

> permitting an applicant to engross what may prove to be a broad field.[198]

Thus, the Court used the utility requirement to ensure that claims are clear, narrow, and do not inappropriately prevent use of the basic tools of science and technological development — the very concerns of the Supreme Court in its recent cases addressing patent eligibility.[199] In one respect, however, the utility requirement might be improved. Rather than merely require the inventor to describe a practical application *in the specification*, which is already a feature of the enablement requirement, the utility requirement in § 101 might require the inventor to describe the practical application *in the claim*. Indeed, this distinction might point to an independent need for the utility requirement in § 101 as opposed to § 112.

In short, the Supreme Court's concerns with claim breadth, abstract claiming, and preclusion of the building blocks of science and technology ought first to be addressed by continued common law interpretation and application of the statutory patentability and specification requirements. And to the extent the interpretation and application of those requirements fail to address the Supreme Court's concerns adequately, Congress should first consider amending the statutes governing those requirements.

III. GUIDING PRINCIPLES FOR AMENDING PATENT ELIGIBILITY

Regardless of whether Congress amends any of the statutory patentability requirements, the confusion, lack of administrability, and risk of underinvestment in research and development created by the Supreme Court's two-part test for eligibility articulated in *Mayo* — and the Court's inability or unwillingness to correct these problems — provides a basis for Congress to consider legislation to correct the law of patent eligibility. In this Part, I submit four basic guiding principles that should guide any legislation to correct this law: broad eligibility, clarity, constraint on judicial intervention, and flexibility.

A. Broad Eligibility

The Constitution identifies the goal of the patent system: promotion of the progress of the useful arts.[200] The Constitution likewise specifies

---

198 *Id.* at 534-35.

199 *See* Taylor, *supra* note 15, at 189-91.

200 U.S. CONST. art. I, § 8, cl. 8 (authorizing Congress to pass laws "To promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the

the way to achieve that result, by securing for limited times to inventors the exclusive right to their discoveries.[201] The basic proposition is that granting inventors a temporary right to exclude others from using their discoveries will encourage inventors and their supporters to invest in research and development that, often enough at least, produces discoveries that will better the state of mankind. The patent system, in the words of Abraham Lincoln, "added the fuel of interest to the fire of genius."[202] That "interest" is an economic one; the patent system is based on a utilitarian theory, not a natural rights theory.[203] And, while the question of whether patent law is necessary or efficient in general to achieve its goal is unproven and perhaps unprovable,[204] it is the theory that Congress has adopted and put into practice through the patent statute.[205]

exclusive Right to their . . . Discoveries").

[201] *See id.*

[202] ABRAHAM LINCOLN, *Lecture on Discoveries and Inventions*, *in* ABRAHAM LINCOLN: SPEECHES AND WRITINGS, 1859–1865, at 10-11 (Don E. Fehrenbacher ed., 1989); *see also* MICHAEL NOVAK, THE FIRE OF INVENTION, THE FUEL OF INTEREST: ON INTELLECTUAL PROPERTY 1 (1996).

[203] *See* Mazer v. Stein, 347 U.S. 201, 219 (1954) ("The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in 'Science and useful Arts.' Sacrificial days devoted to such creative activities deserve rewards commensurate with the services rendered."); Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL STUD. 247, 247 (1994) ("In short, the patent system prevents others from reaping where they have not sown and thereby promotes research and development (R & D) investment in innovation. The patent law achieves this laudable end by creating property rights in inventions.").

[204] *See, e.g.*, SUBCOMM. ON PATENTS, TRADEMARKS, & COPYRIGHTS OF THE COMM. ON THE JUDICIARY, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM (Comm. Print 1958) ("If we did not have a patent system, it would be irresponsible, on the basis of our present knowledge of its economic consequences, to recommend instituting one. But since we have had a patent system for a long time, it would be irresponsible, on the basis of our present knowledge, to recommend abolishing it.").

[205] The question of whether patent law is *not* necessary or *in*efficient in general to achieve its goal is similarly unproven and perhaps unprovable. *See id.* Likewise, some may argue that the Supreme Court's current approach actually substantially increases incentives to invest in research and development because there is less fear of claims of patent infringement. This argument, however, to a large extent contradicts the very basis for the patent system. There is no data proving this position, and the burden of proving the patent system is unnecessary falls on opponents of the patent system, who have been unable to substantiate this claim. *See* Taylor, *supra* note 15, at 163 n.21. In a very real sense, these opponents of the patent system favor faith in the lack of a need for the patent system over the historical evidence pointing to its success.

For the theory of the patent system to be successful, inventors and their supporters must anticipate legal protection at the outset, at the time they decide to invest in research and development. Also, with declining significance, they must anticipate legal protection all the way along the path toward discovery, lest they abandon their pursuits. Broad eligibility is, thus, consistent with the theory. Inventors and their supporters must expect the fruits of their labors to be eligible for patenting. Exceptions, then, should be targeted statutorily only when there is some justification for excluding fields of technology. For example, patent protection may not be necessary when the government already sufficiently invests in the relevant research and development or when there are other sufficient incentives, such as respect in the relevant field or monetary prizes, that stimulate investment in research and development.[206]

None of this denies that there are significant concerns with overpatenting. But the basis to deal with the problem of overpatenting should be the statutory doctrines Congress actually put in place to limit the ability to obtain patents. Those statutory doctrines are the utility and subject matter requirements of § 101, the novelty requirement and statutory bars of § 102, the non-obviousness requirement of § 103, and the written description, enablement, definiteness, and functional claiming requirements of § 112.[207] Collectively, those are what I refer to here as the patentability and specification requirements. As the statute is currently constructed, however, the exceptions from *eligibility* include only the utility and subject matter requirements of § 101. And those requirements, respectively, ask whether an invention is a practical application of a natural law, phenomenon, or idea, and whether the invention is the result of human effort.[208] If an inventor has created something that does not exist in nature, and applied that thing to a practical end, that is all *eligibility* requires. Eligible subject matter must, of course, meet all of the patentability and specification requirements before a patent will issue.

---

[206] *See generally* Lisa Larrimore Ouellette, *Patentable Subject Matter and Nonpatent Innovation Incentives*, 5 UC IRVINE L. REV. 1115 (2015).

[207] *See* 35 U.S.C. §§ 101 (2012) (subject matter), 102 (novelty and statutory bars), 103 (non-obviousness), 112(a) (written description and enablement), 112(b) (definiteness), 112(f) (functional claiming).

[208] *See* Taylor, *supra* note 15, at 207, 211-12, 217.

B. Clarity

Beyond broad eligibility, a guiding principle for any statutory reform should include clarity. Blurry lines do not induce inventors and their supporters to invest in research and development; blurry lines create risk, which suppresses investment. Nor, by the way, does change — or even the prospect of change — of the governing rules of conduct support investment in research and development.[209]

This interest in clarity certainly should be applied to the law governing eligibility and, more broadly, the law governing the patentability and specification requirements. But the interest in clarity also should be applied to the claims of patents. In a very real way, the claims of patents represent the law in the sense that they define the legal right to exclude. Thus, the claims of patents may themselves be analogized to statutes.[210] Because their interpretation and application to future conduct shapes the decisions that future actors make concerning how they will invest their time and money, and in particular whether they will invest time and money in developing technology, both patent law *and patent claims* should be clear.

With respect to both the law and claims, however, consider how the interest in clarity engages with a competing interest. While it is important, for example, that claims clearly define the scope of the patent right — to identify safe harbors for those seeking to avoid infringement and also to eliminate disputes over infringement — it is also important to protect inventors from unscrupulous copyists who may change some *minor* aspect of the invention to avoid compensating the patent owner. Patent law itself seeks to balance this interest in clarity with the competing interest in rewarding inventors. It does so, however, through the doctrine of equivalents, a common law doctrine that permits patent owners to prove infringement even in the presence of minor variations from the literal terms of patent claims.[211] Thus,

---

[209] *See* John M. Golden, *The Supreme Court as "Prime Percolator": A Prescription for Appellate Review of Questions in Patent Law*, 56 UCLA L. REV. 657, 687 (2009) (describing the impact of uncertainty caused by lack of clarity and change itself on "private planning and commerce").

[210] *See* Teva Pharms. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 847 (2015) (Thomas, J., dissenting) ("Because they are governmental dispositions and provide rules that bind the public at large, patent claims resemble statutes.").

[211] *See* Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 731-32 (2002) ("If patents were always interpreted by their literal terms, their value would be greatly diminished. Unimportant and insubstantial substitutes for certain elements could defeat the patent, and its value to inventors could be destroyed by simple acts of copying. For this reason, the clearest rule of patent interpretation, literalism, may conserve judicial resources but is not necessarily the most efficient rule. The scope of

patent law has developed a particular doctrine to address the countervailing interest in protecting inventors, and it remains true that the law governing the patentability and specification requirements — including the eligibility requirement — should be clear.

C. Constraint on Judicial Intervention

The next principle that should guide any attempt to correct the law governing patent eligibility is the need to put constraints on judicial intervention in this area. The Supreme Court has not been shy about interpreting § 101 without regard for its explicit text, but instead based on the Court's own view of the governing policies, to create exceptions to patent eligibility. The Court itself calls the group of exceptions an "implicit exception."[212] In truth, the exceptions are common law exceptions resulting from policymaking divorced from the text of the statute. The Court does not attempt to tie the exceptions to the statutory text. Even the conservative Supreme Court Justices — who elsewhere tout the supreme importance of textual interpretation[213] — in the context of patent eligibility resort to, or at least comply with, bald policymaking at worst, and loose interpretations of the statutory text at best.[214]

The Supreme Court's approach to eligibility and its decision to require a search for an inventive concept is policymaking; this became clear recently when one of the few judicial proponents (outside of the Supreme Court) of *Mayo* and *Alice* highlighted problems with the Supreme Court's approach and offered a solution based on his own view of the best policy. As discussed above, Judge Dyk has expressed his opposition to the idea — indeed the Supreme Court's original view[215] — that *practical* applications of natural laws and physical

a patent is not limited to its literal terms but instead embraces all equivalents to the claims described." (citing Winans v. Denmead, 56 U.S. 330, 347 (1854))).

212 *See* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1293 (2012) ("The Court has long held that [35 U.S.C. § 101] contains an important implicit exception. '[L]aws of nature, natural phenomena, and abstract ideas' are not patentable." (quoting Diamond v. Diehr, 450 U.S. 175, 185 (1981))).

213 *See, e.g.*, ANTONIN SCALIA & BRYAN A. GARNER, READING LAW (2012).

214 Both *Mayo* and *Alice* were unanimously decided, and Justice Thomas wrote the opinion in *Alice*. *See* Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347, 2351 (2014); *Mayo Collaborative*, 132 S. Ct. at 1293.

215 *See* Le Roy v. Tatham, 63 U.S. 132, 135-36 (1859) ("A patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is, by the specification, applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained." (quotation marks omitted) (quoting

phenomena should be eligible for consideration of their patentability pursuant to the statutory patentability and specification requirements expressed in §§ 102, 103, and 112.[216] He likewise highlighted his opposition to the idea — the Supreme Court's new view — that only *inventive* applications of natural laws and physical phenomena should be eligible for consideration of their patentability.[217] In an attempt to split the baby, Judge Dyk proposed that inventors be entitled to pursue claims to practical applications of natural laws and physical phenomena, *but only when those practical applications have been actually reduced to practice*, in other words built and tested as necessary to confirm that they work.[218] He would not allow inventors to pursue claims to practical applications of natural laws and physical phenomena even when those inventors have disclosed how to make and use those applications in a patent application.[219] What statutory basis does Judge Dyk have for this creative solution? None. It is his own view of how to reconcile the divergent policies underlying patent eligibility. It would require rewriting the patent statute.

Similarly, the Supreme Court has not been shy about using § 101 as its "plaything" — its statutory basis to invoke considerations of policy to prohibit patents from issuing to disfavored inventions. As I have discussed, the Court repeatedly grants petitions to hear cases on eligibility rather than the other statutory patentability and

Household Co. v. Neilson, Webster's Patent Cases, 683)); *see also id.* at 137 ("However brilliant the discovery of the new principle may be, to make it useful it must be applied to some practical purpose. Short of this, no patent can be granted.").

216 *See* Ariosa Diagnostics, Inc. v. Sequenom, Inc., 809 F.3d 1282, 1291 (Fed. Cir. 2015) (Dyk, J., concurring in the denial of en banc rehearing) ("Even when a patent applicant has demonstrated some particular utility for a newly discovered law of nature and reduced it to practice, the claim should be invalid unless narrowly tailored to the particular application of the law that has been developed.").

217 *See id.* at 1289 ("[A]s I see it, there is a problem with *Mayo* insofar as it concludes that inventive concept cannot come from discovering something new in nature — *e.g.,* identification of a previously unknown natural relationship or property. In my view, *Mayo* did not fully take into account the fact that an inventive concept can come not just from creative, unconventional application of a natural law, but also from the creativity and novelty of the discovery of the law itself.").

218 *See id.* at 1291 ("[I]f the breadth of the claim is sufficiently limited to a specific application of the new law of nature discovered by the patent applicant and reduced to practice, I think that the novelty of the discovery should be enough to supply the necessary inventive concept. My proposed approach would require that the claimed application be both narrow in scope and actually reduced to practice, not merely 'constructively' reduced to practice by filing of a patent application replete with prophetic examples.").

219 *See id.*

specification requirements found in §§ 102, 103, and 112.[220] The Court, it seems, cannot keep its hands off of eligibility; the doctrine of eligibility is too useful to eliminate patents and reject patent applications the Court disfavors on policy grounds. Prior to 1952, the Supreme Court used the "invention" requirement to do so;[221] now it uses the "inventive concept" requirement to do so. Despite the elimination of the "invention" requirement in the Patent Act of 1952,[222] the Court has resurrected the same requirement in the form of a requirement of an "inventive concept."

The fact that the Supreme Court has done so is ironic given its own repeated recognition that it is not the right government institution to weigh these policies and to place these restrictions on eligibility.[223] Congress, the Court admits, is the entity of the federal government that has the power to consider the relevant policies and put in place a workable scheme for deciding which patent applications merit patent protection. It is hard to disagree with the Court's own recognition that Congress has better institutional competency in this regard.[224]

---

[220] *See supra* Part I.A.

[221] Giles S. Rich, *Principles of Patentability*, 28 GEO. WASH. L. REV. 393, 404 (1960), *reprinted in* 14 FED. CIR. B.J. 135, 144 (2004) ("The requirement for 'invention' was the plaything of the judges who, as they became initiated into its mysteries, delighted to devise and expound their own ideas of what it meant, some very lovely prose resulting.") [hereinafter *Principles*].

[222] *See id.* at 145 ("*The Patent Act of 1952 expresses this prerequisite to patentability without any reference to 'invention' as a legal requirement*. Nowhere in the entire act is there any reference to a requirement of 'invention' and the drafters did this deliberately in an effort to free the law and lawyers from bondage to that old and meaningless term. The word 'invention' is used in the statute only to refer to the thing invented. That is why the requirement of 'invention' should be referred to, if at all, only with respect due to that which is dead.").

[223] *See supra* notes 89–93 and accompanying text.

[224] Given their lack of a textual basis and how clearly they represent policymaking, it is difficult to explain why the conservative justices have joined in the *Mayo* and *Alice* opinions. Perhaps they have done so because of the perception that the common law has long embraced the exceptions for natural laws, physical phenomena, and abstract ideas. In this sense, Justices Alito, Roberts, Scalia, and Thomas may be understood to have agreed with these opinions out of respect for *stare decisis*. The problem with this understanding, however, is that the search for an "inventive concept" did not become the focus of eligibility law until 2012. *See* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1294 (2012) ("[A] process that focuses upon the use of a natural law [must] also contain other elements or a combination of elements, sometimes referred to as an 'inventive concept,' sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself."). Even if there are some older cases supporting this test, *see* Parker v. Flook, 437 U.S. 584, 594 (1978) ("Even though a phenomenon of nature or mathematical formula may be well known, an inventive application of the

The Court's propensity to use § 101 to prohibit patentability for all kinds of policy reasons, despite its admitted inferior institutional competency to do so, should be recognized and steps taken to prevent the Court's intervention. In other words, Congress should make it clear that the time for judicially created, common law development of non-statutory exceptions to eligibility has past; in place of the Supreme Court's common law should stand the statutory patentability and specification requirements put in place by Congress and the President.[225]

In particular, rather than a test dependent on the subjective views of judges or patent examiners, Congress should consider including

principle may be patented. Conversely, the discovery of such a phenomenon cannot support a patent unless there is some other inventive concept in its application."); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132 (1948) ("The application of this newly-discovered natural principle to the problem of packaging of inoculants may well have been an important commercial advance. But once nature's secret of the non-inhibitive quality of certain strains of the species of Rhizobium was discovered, the state of the art made the production of a mixed inoculant a simple step. Even though it may have been the product of skill, it certainly was not the product of invention."), the Court later clearly rejected it, *see* Diamond v. Diehr, 450 U.S. 175, 187-88 (1981) ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection. . . . Arrhenius' equation is not patentable in isolation, but when a process for curing rubber is devised which incorporates in it a more efficient solution of the equation, that process is at the very least not barred at the threshold by § 101."); *id.* at 188-89 ("The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter."); *id.* at 192 ("[W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (*e. g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101."). Indeed, some of the hallmark reasons to respect precedent with respect to the search for an "inventive concept" do not exist. Nevertheless, it seems likely, particularly after *Alice* and given other considerations, that the Court would apply *stare decisis*. *See Mayo*, 132 S. Ct. at 1294.

225 One way to ensure that *courts* do not use eligibility law when it should be using other sections of the patent statute, is to clarify in the patent statute that § 101 is not a defense in litigation. *See* Ultramercial, Inc. v. Hulu, LLC, 722 F.3d 1335, 1341 (Fed. Cir. 2013), *vacated sub nom.* WildTangent, Inc. v. Ultramercial, LLC, 134 S. Ct. 2870 (2014) (noting that "the patentee did not argue that § 101 is not a defense to infringement"). Indeed, that may have been the original intent by the drafters of the patent statute. Section 282 conspicuously omits identification of § 101 as a defense in litigation. *See* 35 U.SC. § 282(b) (2012). If § 101 is not a defense in litigation, however, the requirements of § 101 would still be enforceable by the USPTO and ultimately by courts in appeals from rejections by the USPTO. *See generally, e.g.*, Bilski v. Kappos, 561 U.S. 593 (2010) (representing an appeal from an examiner's rejection during prosecution).

objective guidelines constraining the analysis. Like the codification of the non-obviousness requirement in § 103, it might be helpful to identify in any statutory amendment the relevant perspective of one of ordinary skill in the art. Congress might also specify the relevant time period for the analysis — not a post hoc, backward looking reevaluation of the relevant inquiry subject to hindsight bias, but instead one focused on the perspective of one at the time of the filing of the patent application in question. In other words, constrain the ability to summarily make decisions based on subjective whims rather than evidence from the perspective of one of ordinary skill in the art at the time of the filing of the patent application in question. For example, the appropriate, constrained inquiry might ask whether a person of ordinary skill, at the time of the filing of the patent application in question, given their own skill combined with the disclosure of the specification, would have recognized that the claimed invention was the result of human effort and had practical utility.[226]

D. Flexibility

While seemingly in tension with the last guiding principle, flexibility is an important consideration that should be taken into account when considering how to amend the patent statute. Flexibility, in the sense I use it, does not refer to malleability, but instead the ability of the law to be applied meaningfully to new, unforeseen, and even unimagined human activities. That is one of the very purposes of the patent system — to create economic incentives to encourage investment in research and development on the forefront of scientific and engineering thought; to expand the possibilities of the human race; to make the future safer, healthier, happier — in a word better — through new and improved technology.[227] To do that, the law of eligibility must be applicable to new and different — even unimagined — technologies. Those technologies should be subject to the relevant constraints.

---

[226] On the other hand, inquiries into human effort and practical utility may be more akin to the inquiry into novelty pursuant to § 102, which does not invoke the perspective of one of ordinary skill in the art in the same way as the inquiry into non-obviousness. *Compare* 35 U.S.C. § 102 (2012) (omitting any reference to the perspective of one of ordinary skill in the art), *with id.* § 103 (referencing the perspective of "a person having ordinary skill in the art to which the claimed invention pertains").

[227] *See generally* Rich, *Principles*, *supra* note 221.

IV. PATHS FORWARD

Given the need to correct the law of eligibility and the appropriateness of the task, what substantive approaches should Congress consider? And how do those approaches compare to the guiding principles of broad eligibility, clarity, constraint on judicial intervention, and flexibility? In this Part, I consider some possibilities.

A. The Laundry List Approach

One approach is what I call the "laundry list" approach. This approach would amend the patent statute to identify subject matter that is eligible or ineligible for patenting. In this way, Congress would decide now what subject matter is eligible and ineligible, rather than provide a rule or standard for the USPTO or courts to apply in the future to make this determination. As I have highlighted, this approach could take two forms. Either Congress could identify specifically what subject matter is *eligible*, or Congress could identify specifically what subject matter is *ineligible*.

One way of formulating such a list is to study U.S. law to develop a list codifying appropriate USPTO and judicial decisions on point. Moreover, the laundry list approach might borrow the basic framework of the European Patent Convention. It sets forth a list of ineligible subject matter in EPC Article 52, paragraph (2):

> The following in particular shall not be regarded as inventions within the meaning of paragraph 1:
>
> (a) discoveries, scientific theories and mathematical methods;
>
> (b) aesthetic creations;
>
> (c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
>
> (d) presentations of information.[228]

In this manner, the European Patent Convention identifies particular categories of alleged inventions that are not eligible for patenting, regardless of whether they are "new, involve an inventive step and are susceptible of industrial application," the other statutory European patentability requirements listed in EPC Article 52,

[228] Convention on the Grant of European Patents art. 52(2), Oct. 5, 1973, 1065 U.N.T.S. 254 (European Patent Convention), art. 52(2) [hereinafter European Patent Convention].

paragraph (1).[229] But what about the argument that all inventions to one degree or another are based upon "scientific theories" or even "mathematical methods," two of the listed exceptions?[230] In EPC Article 52, paragraph (3), the European Patent Convention limits the applicability of each exception listed in paragraph (2) to situations where the exception is claimed "as such":

> Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.[231]

In other words, claims directed only to scientific theories are ineligible. Claims directed to *anything* more than scientific theories are eligible. Thus, claims to practical applications of scientific theories would be eligible.

In certain respects, the European Patent Convention's list renders ineligible certain categories of subject matter that the existing U.S. patent statute likely also categorically renders ineligible as a matter of utility patent law, such as "aesthetic creations,"[232] "scientific theories,"[233] and "methods for performing mental acts."[234] In other respects, however, it likely renders ineligible certain categories of subject matter that the existing U.S. patent statute likely does not render categorically ineligible, such as "schemes, rules and methods

---

[229] *Id.* art. 52(1).

[230] *See* Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1293 (2012) ("[A]ll inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.").

[231] European Patent Convention, *supra* note 228, art. 52(3).

[232] *Compare* European Patent Convention, *supra* note 228, art. 52(2) (listing "aesthetic creations" as ineligible), *with* 35 U.S.C. § 101 (2012) (describing inventions eligible for utility patents as "any new and useful process, machine, manufacture, or composition of matter").

[233] *Compare* European Patent Convention, *supra* note 228, art. 52(2) (listing "scientific theories" as ineligible), *with* 35 U.S.C. § 101 (2012) (describing inventions eligible for utility patents as "any new and useful process, machine, manufacture, or composition of matter").

[234] *See* Application of Yuan, 188 F.2d 377, 380 (C.C.P.A. 1951) ("This court has deemed it to have been thoroughly established by decisions of various courts that purely mental steps do not form a process which falls within the scope of patentability as defined by statute."). *Compare* European Patent Convention, *supra* note 228, art. 52(2) (listing "methods for performing mental acts" as ineligible), *with* 35 U.S.C. § 101 (2012) (limiting eligible inventions to processes, machines, manufactures, or compositions of matter).

for . . . doing business"[235] and "programs for computers."[236] What I consider here is not the possibility that Congress adopt each exception listed in the European Patent Convention, but instead the idea that Congress consider listing explicit exceptions to eligibility, whatever they should be, based on its own assessment of the governing policies and unique concerns associated with each potential exception.

Such an approach, depending upon its implementation, might comport with the principles of broad eligibility, clarity, and constraint on judicial intervention. First, if Congress included few and narrow exceptions to eligibility, the principle of broad eligibility would be furthered.[237] Second, this approach would likely score high on the index of clarity, at least for existing technologies, because Congress would confront and resolve arguments about categories of technology that should be ineligible for patenting. The approach would provide certainty with respect to those categories it included and did not include. Congress would need only to express its conclusions in clear terms. Third, Congress could constrain judicial intervention using this approach by including a similar qualification compared to EPC Article 52, paragraph (3). That is, rather than ask whether a claim includes "something more" or "significantly more" than a natural law,[238] for

[235] *Compare* European Patent Convention, *supra* note 228, art. 52(2) (listing "schemes, rules and methods for . . . doing business" as ineligible), *with* Bilski v. Kappos, 561 U.S. 593, 606-09 (2010) (refusing to interpret 35 U.S.C. § 101 to exclude business methods).

[236] *Compare* European Patent Convention, *supra* note 228, art. 52(2) (listing "programs for computers" as ineligible), *with* DDR Holdings, LLC v. Hotels.com, L.P., 773 F.3d 1245, 1259 (Fed. Cir. 2014) (finding claims to a computer-implemented invention running a computer program to be eligible for patenting).

[237] Whether this is reasonable to expect is uncertain. Where this approach may suffer is setting on the table the ability to exclude subject matter from patentability. Special interest groups would come out of the woodwork, seeking to have their pet technology excluded from patentability, without regard for the policies protecting new entrants and efforts to invent but instead based on self-serving interests in maintaining market share and, in fact, preventing new entrants into established technology fields. While special interest groups would no doubt seek to influence any statutory amendment of the patent laws related to eligibility, this particular approach might be the most vulnerable in this regard because it squarely raises the possibility of express exceptions to eligibility in particular areas of commerce rather than forward-looking standards governing all eligibility for all technologies.

[238] Alice Corp. v. CLS Bank Int'l, 134 S. Ct. 2347, 2354-55 (2014) ("[I]n applying the § 101 exception, we must distinguish between patents that claim the 'buildin[g] block[s]' of human ingenuity and those that integrate the building blocks into something more, thereby 'transform[ing]' them into a patent-eligible invention." (citations omitted) (quoting Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1303 (2012))).

example, Congress could expressly say that the exceptions to eligibility are limited to situations where the exception is claimed "as such," that is where there is nothing more than the exception claimed. In other words, *anything* added to a natural law, essentially claiming any practical application of a natural law, would be eligible for patenting. In addition to this limitation, however, to avoid further judicially created, non-statutory exceptions to eligibility, a provision would need to be included indicating that the only exceptions to eligibility are those listed expressly in the statute. This would also help increase certainty with respect to future technologies; rightly or wrongly from the perspective of policy, future technologies would be clearly eligible.

Where this laundry list approach does not fare well, however, is the principle of flexibility. By definition, this approach would not expressly contemplate specific *future* technologies; Congress would confront and resolve disputes over the eligibility of only *existing* technologies. If Congress were to draft the statute to list exceptions, then presumably all future technologies would be eligible because they would not be listed (as just discussed). If Congress were to draft the statute to list inclusions, then presumably all future technologies would not be eligible because they would not be listed. There would be a default rule. The goal of the patent system to encourage investment in the development of new technologies counsels in favor of listing an exclusive set of limited exceptions to eligibility, which would leave in place a default rule of inclusion. And, indeed, that is consistent with the European approach.[239] It would presumably (absent delegation) be the task of future Congresses, not the courts, to identify ineligible subject matter.[240] But it seems highly unlikely that Congress would confront and resolve arguments concerning the eligibility of every new technology.

[239] I am not the only one to advocate for study of foreign approaches to solving the mess of confusion in which U.S. law is currently mired. *See generally, e.g.*, Brendon Beheshti, *Getting Beyond Abstract Confusion: How the United Kingdom's Jurisprudence Can Aid in Developing an Analytic Framework for Patent-Eligibility in Light of* Alice v. CLS Bank, 10 WASH. J.L. TECH. & ARTS 137 (2014).

[240] Alternatively, this authority to create exceptions to patent eligibility could be delegated to an administrative body such as the USPTO. What this proposal would require, however, would be determinations of eligibility exceptions using rulemaking rather than adjudication. The expertise and nimbleness of the agency would counsel in favor of delegation; concerns with agency capture would counsel against delegation.

B. Creating a Workable Eligibility Standard

Another approach is to create a workable standard with objective limitations on eligibility. This approach is most consistent with the current statute. Indeed, one way to think of this approach is to have Congress more clearly articulate in the patent statute the appropriate tests for eligibility. In this regard, consider the two primary eligibility constraints already existing in the present statute.

1. Anything Under the Sun Made by Man

First, consider what I call the subject matter requirement. It is the requirement that a claim describe one of the listed categories of eligible inventions: a process, machine, manufacture, or composition of matter. The primary function of the subject matter requirement is to eliminate from eligibility anything that is not the result of human effort.[241] In other words, for purposes of the subject matter requirement, eligibility extends to "anything under the sun that is made by man."[242] Natural phenomena and natural laws are not eligible because they are not the result of human effort.[243] Given the Supreme Court's confusion of this aspect of § 101 in *Mayo* and *Alice*, Congress could insert this original, appropriate understanding of the subject matter requirement into the patent statute.

The advantage of focusing on whether a claim describes something created by man can be demonstrated by using an old, celebrated case as an example of its application. In 1911, Judge Learned Hand decided that a claim to isolated and purified adrenaline describes eligible subject matter:

> [E]ven if it were merely an extracted product without change, there is no rule that such products are not patentable. [The named inventor] was the first to make it available for any use by removing it from the other gland-tissue in which it was found, and, while it is of course possible logically to call this a purification of the principle, it became for every practical purpose a new thing commercially and therapeutically. That was a good ground for a patent.[244]

---

[241] *See* Taylor, *supra* note 15, at 212.

[242] S. REP. NO. 82-1979 (1952), *as reprinted in* 1952 U.S.C.C.A.N. 2394, 2399.

[243] *See* Taylor, *supra* note 15, at 214-15.

[244] Parke-Davis & Co. v. H.K. Mulford Co., 189 F. 95, 103 (C.C.S.D.N.Y. 1911), *aff'd in part*, *rev'd in part sub nom.* Parke-Davis & Co v. H. K. Mulford & Co, 196 F. 496 (2d Cir. 1912).

Judge Hand explained that a natural product, extracted from tissue without change, is eligible because of the human effort required to make it available for use. Stated otherwise, the decision rested on the recognition that *isolated* and *purified* adrenaline does not exist, as such, in nature.[245] Isolated and purified adrenaline was the product of human effort; someone removed it from the gland-tissue in which it was found.

A test focusing on whether the claimed subject matter is the result of human effort may explain at least part of the Supreme Court's recent decision in *Association for Molecular Pathology v. Myriad Genetics, Inc*.[246] With respect to the first set of claims at issue in the case, those involving isolated DNA sequences, the Court concluded that they were not eligible. In explaining its ruling, the Court highlighted that Myriad's claims were not

> saved by the fact that isolating DNA from the human genome severs chemical bonds and thereby creates a nonnaturally occurring molecule. Myriad's claims are simply not expressed in terms of chemical composition, nor do they rely in any way on the chemical changes that result from the isolation of a particular section of DNA. Instead, the claims understandably focus on the genetic information encoded in the BRCA1 and BRCA2 genes.[247]

In other words, all Myriad claimed was the information stored in a particular DNA sequence; the information, as such, had already existed in nature. Had Myriad expressed its claims in terms of the chemical composition of the molecule that its inventors created — which included a severed chemical bond — the Court's decision might have changed. Indeed, with respect to the second set of claims, those involving modified DNA called cDNA — which includes naturally-occurring "exons" but not naturally-occurring "introns" — the court explained its holding of eligibility based on the fact that a person had created something that did not exist in nature:

> [T]he lab technician unquestionably creates something new when cDNA is made. cDNA retains the naturally occurring exons of DNA, but it is distinct from the DNA from which it was derived. As a result, cDNA is not a "product of nature"

---

[245] *See* Merck & Co. v. Olin Mathieson Chem. Corp., 253 F.2d 156, 163 (4th Cir. 1958). *But see Ex parte* Latimer, 1889 Dec. Comm'r Pat. 123.

[246] Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107 (2013).

[247] *Id.* at 2118.

> and is patent eligible under § 101, except insofar as very short series of DNA may have no intervening introns to remove when creating cDNA. In that situation, a short strand of cDNA may be indistinguishable from natural DNA.[248]

Here the Court explained that the second set of claims identified something "distinct from the DNA from which it was derived" and thus was something "new." It makes sense in this context that the Court focuses on human effort: "the *lab technician* . . . creates something new."[249] What the lab technician creates is not a "product of nature" but instead, so to speak, a product of that lab technician's effort. In other words, it is the result of human effort.

Where an analysis focusing on human effort differs from the Supreme Court's recent approach to eligibility in *Mayo* and *Alice* is that *any* human contribution to the natural law or phenomena would meet the subject matter requirement. The Supreme Court, after *Alice* at least, requires the claim to include an "inventive concept," which is something "significantly more" than the natural phenomena or natural law.[250] Rather than adopt Judge Hand's focus solely on the presence or absence of human effort, *Mayo* and *Alice* indicate that human effort alone is not enough. It is not enough, for example, if the human effort is "well-understood, routine, conventional activity previously engaged in by researchers in the field."[251]

In short, Congress might insert into the patent statute language more clearly articulating the fundamental idea behind the subject matter requirement that eligible subject matter must be the result of human effort. This language would set forth a standard for the USPTO and courts to apply, and this standard would be consistent with the principles of broad eligibility, clarity, constraint on judicial intervention, and flexibility. First, requiring human effort would not unduly constrain the breadth of eligibility. Any minimal human contribution to the claimed subject matter would render that subject matter eligible. Second, a requirement of human effort would provide a clear standard for the USPTO and courts to apply; either the claimed subject matter is the result of human effort or it is not. Third, to meet

---

248 *Id.* at 2119.

249 *Id.* (emphasis added).

250 Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1294 (2012).

251 *Id.* ("We find that the process claims at issue here do not satisfy these conditions. In particular, the steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field.").

the principle of restraint on judicial intervention, any amendment to articulate a standard focusing on human effort would need to include additional language explaining that the requirement is the only subject matter requirement. Fourth, this approach would create a flexible standard applicable to new and unforeseen technologies. Regardless of the field of technology, currently existing or yet unimagined, to be eligible the subject matter would have to be the result of human effort.

2. Practical Application or Embodiment

Second, consider the other aspect of the existing statutory eligibility constraint: the utility requirement. I have discussed that the function of the utility requirement is to eliminate from eligibility anything that is not a practical application of a natural law, physical phenomenon, or abstract idea.[252] Indeed, the Supreme Court's statement that "[g]roundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry"[253] is true only in the sense that the correct § 101 inquiry asks whether a claim describes a practical application of a discovery. What is not required is an "inventive concept" or "inventive application" of a discovery. Given the Supreme Court's confusion of this aspect of § 101 in *Mayo* and *Alice*, Congress could insert the correct understanding into the patent statute.

What is unique about this part of the question of eligibility is that the current patent statute already includes fairly clear language on point. In particular, § 101 already expresses a "usefulness" requirement.[254] The Supreme Court in *Brenner v. Manson* interpreted that requirement — now known as the utility requirement — as requiring the claimed subject matter to have a "specific" and "substantial" utility.[255] Courts have used "practical" and "substantial," in this context, to mean the same thing.[256] In particular, the modern utility requirement requires a practical utility, which means "that that claimed invention has a significant and presently available benefit to the public."[257] Thus, to express in the patent statute the relevant

252 *See* Taylor, *supra* note 15, at 207.

253 *Myriad*, 133 S. Ct. at 2117.

254 *See* 35 U.S.C. § 101 (2012).

255 *See* Brenner v. Manson, 383 U.S. 519, 534-35 (1966).

256 *See, e.g.*, *In re* Fisher, 421 F.3d 1365, 1371 (Fed. Cir. 2005) (discussing the requirement as the "practical utility" requirement); Fujikawa v. Wattanasin, 93 F.3d 1559, 1563 (Fed. Cir. 1996); *In re* Brana, 51 F.3d 1560, 1564 (Fed. Cir. 1995) (same); Cross v. Iizuka, 753 F.2d 1040, 1044 (Fed. Cir. 1985) (referring to "substantial or practical utility"); Application of Kirk, 376 F.2d 936, 948 (C.C.P.A. 1967).

257 *In re Fisher*, 421 F.3d at 1371.

governing standard, the Supreme Court's holding in *Brenner v. Manson* needs only to be codified; Congress, for example, might explain in the statute that the claimed subject matter must be a practical application of a natural law, physical phenomenon, or abstract idea.

Since current utility law already requires a practical utility, and thus patent claims already must cover a practical application of a natural law, physical phenomenon, or abstract idea, the more important aspect of codifying this law is eliminating the more strenuous requirement that the claims be directed to an "inventive concept" or an "inventive application" of a natural law, physical phenomenon, or abstract idea. Thus, negative statutory language might be appropriate to clarify that eligibility law no longer includes a search for an "inventive concept."

This approach — codifying courts' interpretation of the utility requirement and eliminating the search for an "inventive concept" — would comport with the principles of broad eligibility, clarity, constraint on judicial intervention, and flexibility. First, eliminating the search for an "inventive application" in favor of a requirement of a practical application would certainly broaden eligibility as compared to the current law. While the interpretation of the practical utility requirement to require a "substantial" or "significant" benefit to the public would not appear to extend eligibility to inventions having "any" benefit to the public — such that operability is not all that is required to show a practical utility — courts' application of this aspect of the utility requirement has not proven to be unduly stringent.[258] Second, the law governing the requirement of a practical application has not proven to be unworkable; it is likely sufficiently clear.[259] Third, again to meet the principle of restraint on judicial intervention, any amendment to articulate a standard focusing on practical utility would need to include additional language explaining that the requirement — the claimed subject matter be a practical, as opposed

[258] *See, e.g.*, *id.* ("Courts have used the labels 'practical utility' and 'real world' utility interchangeably in determining whether an invention offers a 'substantial' utility. Indeed, the Court of Customs and Patent Appeals stated that '"practical utility" is a shorthand way of attributing "real-world" value to claimed subject matter. In other words, one skilled in the art can use a claimed discovery in a manner which provides some *immediate benefit to the public*.' It thus is clear that an application must show that an invention is useful to the public as disclosed in its current form, not that it may prove useful at some future date after further research. Simply put, to satisfy the 'substantial' utility requirement, an asserted use must show that that claimed invention has a significant and presently available benefit to the public." (citation omitted)).

[259] *See id.*

to an inventive, application of a natural law, physical phenomena, or abstract idea — is the only eligibility requirement beyond the subject matter requirement. Fourth, a standard focusing on practical utility would provide a workable standard independent of technology areas and would, thus, be appropriate for application to new and unforeseen technologies.

C. Laying the Ghost of the Non-Statutory Exceptions

The third approach would be to "lay the ghost" of the non-statutory exceptions to eligibility.[260] In other words, Congress would expressly eliminate the non-statutory eligibility requirements. The relevant policy concerns would instead be addressed by the patentability and specification requirements actually expressed in the patent statute.[261] Michael Risch, for example, has advocated for "rigorous application" of the existing patentability and specification requirements in §§ 102, 103, and 112 rather than application of enforcement of "unclear and undefined subject matter rules based on unsupportable statutory interpretations" of § 101.[262]

---

[260] The concept of eliminating the non-statutory exceptions to eligibility — and the title of this subpart — resemble the effort by Judge Rich to eliminate the so-called "invention" requirement in the Patent Act of 1952. *See* Giles S. Rich & Paul R. Michel, *Laying the Ghost of the "Invention" Require*ment, 1 APLA Q.J. 26 (1972–1973), *reprinted in* 41 AIPLA Q.J. 1, 2-5 (2013).

[261] Even without a legislative amendment to eliminate the non-statutory exceptions, there is an argument that § 101 is not a "condition of patentability" and therefore failure to comply with it is not a proper defense in litigation, even if it is enforceable by the USPTO during the original examination of a patent. *See id.* at 14. This position has been advanced by at least one patent law professor. *See* David Hricik, *Why Section 101 Is Neither a "Condition of Patentability" nor an Invalidity Defense*, PATENTLYO BLOG (Sept. 16, 2013), http://patentlyo.com/hricik/2013/09/why-section-101-is-neither-a-condition-of-patentability-nor-an-invalidity-defense.html. To the extent this position is correct and yet the relevant underlying policy concerns should be considered not just in front of the USPTO but also during litigation, one solution is to focus on the relevant inquiries using the traditional inquiries under §§ 102, 103, and 112. Indeed, those other sections of the patent statute already address those policy concerns and provide administrable tests. *See* Taylor, *supra* note 15, at 212-21.

[262] Michael Risch, *Everything is Patentable*, 75 TENN. L. REV. 591, 606-07 (2008) ("Attention to rigorous application of the patentability standards would replace unclear and undefined subject matter rules based on unsupportable statutory interpretations of the Patent Act."). *But see* Lemley et al., *supra* note 189, at 1327 ("One of us has gone so far as to argue that the best solution is to abandon all exceptions, including the historical ones. Whether or not this approach is correct, it is unlikely to gain judicial support in light of *Bilski*. Therefore, we take the common law abstract ideas exception as a given, and seek to articulate a reason to preclude

If Congress eliminated the non-statutory exceptions, and in particular the misguided search for an "inventive application," it would be similar to the approach taken in the Patent Act of 1952, when Congress eliminated the separate "invention" requirement in favor of the non-obviousness requirement.[263] The drafters of the Patent Act of 1952 deliberately omitted any reference to the "invention" requirement to "free the law and lawyers from bondage to that old and meaningless term."[264] In its place, they created the non-obviousness requirement of § 103. As a result, "[a]n examination of the presence or absence of 'invention' or of precedents on that muddy issue is not called for"[265] The reason the drafters eliminated the

patentability for abstract ideas and a corresponding way to recognize when patent claims are too abstract."). The Supreme Court relied upon "Risch's change of mind," reflected in a comparison of the views expressed in his articles *Everything is Patentable* and *Life after Bilski*, to support its view that the written description and enablement requirements of § 112 will not meet "the risk that a patent on [a law of nature] would significantly impede future innovation." Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1304 (2012). I have explained elsewhere why I believe the Supreme Court and Risch are wrong on the issue of whether the written description and enablement requirements work to eliminate the risk of patent claims impeding future innovation. *See* Taylor, *supra* note 15, at 199-203.

263 As explained in the Senate and House Reports associated with the Patent Act of 1952:

> Section 103, for the first time in our statute, provides a condition which exists in the law and has existed for more than 100 years, but only by reason of decisions of the court. An invention which has been made, and which is new in the sense that the same thing has not been made before, may still not be patentable if the difference between the new thing and what was known before is not considered sufficiently great to warrant a patent. That has been expressed in a large variety of ways in decisions of the courts and in writing. Section 103 states this requirement in the title. It refers to the difference between the subject matter sought to be patented and the prior art, meaning what was known before as described in section 102. If this difference is such that the subject matter as a whole would have been obvious at the time to a person skilled in the art, then the subject matter cannot be patented. That provision paraphrases language which has often been used in decisions of the courts, and the section is added to the statute for uniformity and definiteness. This section should have a stabilizing effect and minimize great departures which have appeared in some cases.

S. REP. NO. 82-1979 (1952), *as reprinted in* 1952 U.S.C.C.A.N. 2394, 2399-400. Because the Senate Report duplicates the relevant text from the House Report, I will cite only to the former.

264 Rich, *Principles*, *supra* note 221, at 145.

265 Giles S. Rich, *The Vague Concept of "Invention" as Replaced by § 103 of the 1952 Patent Act*, 46 J. PAT. OFF. SOC'Y 855, 866 (1964), *reprinted in* 14 FED. CIR. B.J. 147, 158 (2004).

common law "invention" requirement in favor of the statutory non-obviousness requirement was to put in place an administrable test, one with objectively-determinable components to the analysis.[266]

Likewise, to correct the problems with the modern eligibility requirement, Congress might eliminate any eligibility requirement in § 101 in favor of the patentability and specification requirements included in the remainder of the patent statute. And, at the same time, Congress might draft more clear language in the remainder of the patent statute to address any policy concerns not already addressed by the remaining patentability and specification requirements.[267]

This approach would ensure consideration of whether the patentability and specification requirements in §§ 102, 103, and 112 do all of the work necessary to eliminate the patenting of unworthy claims. These patentability and specification requirements do already address many of the relevant policy concerns upon which the Supreme Court has focused in its cases on eligibility.[268] The elimination of the "implicit exceptions" would therefore eliminate unnecessary overlap. Moreover, it would increase the administrability of the patent statute; it would eliminate a non-statutory, purely subjective evaluation of patentability in favor of statutory approaches with objective constraints. Consider, however, whether the statutory subject matter and utility requirements need to be retained to prevent patents from issuing on unworthy applicants.

---

[266] *See* Rich, *Principles*, *supra* note 221, at 146 ("There is a vast difference between basing a decision on exercise of the inventive or creative faculty, or genius, ingenuity, patentable novelty, flashes, surprises and excitement, on the one hand, and basing it on unobviousness to one of ordinary skill in the art on the other. It is possible to determine what art is involved, what type of skill is possessed by ordinary workers in it, and come to some conclusion as to what 'ordinary skill' would be at a given time.").

[267] *See supra* Part II.B. This approach, in particular, would require advocates on both sides of the debate over eligible subject matter to consider whether the existing patentability and specification requirements outside of § 101 appropriately deal with subject matter that might be most problematic, such as a method of shooting a free throw or a method of singing an opera. All approaches, however, ought to be analyzed to consider whether they appropriately treat the most problematic types of claims. If the conclusion is that the approach does not appropriately treat these types of claims, the next step is to consider the addition of an appropriate, narrowly-tailored patentability requirement, such as a limitation on patents to "technological arts" or "technological fields of invention." The adoption of any additional patentability requirement would be similar to the adoption of the non-obviousness requirement in 1952 — the adoption of a new patentability requirement appropriately tailored to address a specific policy-based problem with the existing statute.

[268] *See* Taylor, *supra* note 15, at 212-21.

Arguably there is no need for the separate utility requirement in § 101. Courts have already interpreted the enablement requirement of § 112 as requiring that the specification disclose how to use the claimed subject matter.[269] If claimed subject matter is, in fact, useless, a specification cannot teach how to use it.[270] This aspect of the enablement requirement, however, has been an *implicit* requirement of § 112;[271] utility could be more clearly explained in § 112. In particular, Congress could amend 35 U.S.C. § 112(a) to explicitly state that "[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it *for at least one practical use*, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same."

If the enablement requirement does not require *claims* to *describe* the practical uses disclosed in the specification, however, there arguably is a need to retain the subject matter requirement; it alone in the patent statute would ensure that the *claimed* subject matter is the result of human effort. To show the importance of the subject matter requirement, consider the first discovery of a waterfall, something that at the time of the first discovery, let us assume, was unknown and non-obvious given existing knowledge. Imagine that the discoverer of the waterfall applied for a patent with a claim directed to the waterfall itself, where the specification disclosed a practical use of the waterfall, for example to turn a watermill's turbine to drive gears and, ultimately, to grind grain. Certainly the waterfall is proven to be useful by the disclosure in the specification of its use to grind grain. If the enablement requirement does not require that the claim include that use, however, then the claim may cover only the naturally-occurring phenomena itself, the waterfall in this example. This simple example

269 The Federal Circuit has held that utility is an *express* requirement of 35 U.S.C. § 101 ("Whoever invents . . . any new and useful . . . composition of matter . . . may obtain a patent therefor . . . .") and an *implicit* aspect of the separate enablement requirement found in 35 U.S.C. § 112 ("The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . . ."). *See In re* Brana, 51 F.3d 1560, 1564 (Fed. Cir. 1995). According to the court, "if a claimed invention does not have utility, the specification cannot enable one to use it." *Id.*; *see also In re* Jolles, 628 F.2d 1322, 1326 n.10 (C.C.P.A. 1980).

270 *See* Application of Fouche, 439 F.2d 1237, 1243 (C.C.P.A. 1971) ("[I]f such compositions are in fact useless, appellant's specification cannot have taught how to use them.").

271 *In re Brana*, 51 F.3d at 1564.

indicates that, if the subject matter requirement in § 101 were deleted, there would still be a need to codify the underlying requirement of human effort. To do so, 35 U.S.C. § 112(b) might be amended to state that "[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention *and at least one practical use of that subject matter*."

Regardless of the exact implementation, this approach — eliminating at least the "implicit exceptions" and perhaps even the utility and subject matter requirements of § 101 in favor of addressing the relevant policy concerns in the statutory doctrines expressed in §§ 102, 103, and 112 — would, in effect, be a codification of the best form of the patentability and specification patent law doctrines necessary to ensure that only deserving patents issue. Depending upon its implementation, this approach would be consistent with the principles of broad eligibility, clarity, constraint on judicial intervention, and flexibility. First, the elimination of the "implicit exceptions" that have given rise to the question of whether the claimed invention includes an "inventive concept," would ensure broad eligibility. Elimination of the subject matter and utility requirements in § 101 in favor of the patentability and specification requirements in §§ 102, 103, and 112 would as well. In effect, there would be no constraints on eligibility; all constraints would be matters of statutory patentability and specification requirements. Second, the elimination of duplicative standards would, in and of itself, increase clarity with respect to the patent statute. Of course, any amendment to the existing patentability and specification requirements in §§ 102, 103, and 112 would need to be clear. Third, to ensure that the judiciary does not import into the analyses required by those remaining statutory sections its misguided common law regarding the displaced "implicit exceptions," it would probably be necessary to include clear statements in the legislation, or even in the amended statute, that the "implicit exceptions" have been eliminated in favor of statutory patentability and specification requirements in §§ 102, 103, and 112. Fourth, this approach would revolve around expressing generally applicable governing standards that would apply going forward to future technologies and, thus, satisfy the need for flexibility.

CONCLUSION

One of my favorite movies is the 1985 cult blockbuster *Back to the Future*. For readers unfamiliar with its storyline, suffice it to say that a

character named Marty McFly travels back in time to 1955 using a time machine, inadvertently interferes with history, and then spends the majority of the movie trying to undo what he has done and return safely to 1985.

Well, if you close your eyes and hum a few notes from your favorite 1950s tune, you may feel like you are back in the 1950s, and not just because you are humming "Mr. Sandman" or "The Ballad of Davy Crockett."[272] You might feel that way because, like in 1952, there is a crisis in patent law, and the time has come for the crisis to be resolved. In 1952, the crisis was uncertainty and reduced incentive to invent caused by the Supreme Court's misguided precedent regarding the so-called "invention" requirement.[273] Today, the crisis is uncertainty and reduced incentive to invent caused by the Supreme Court's misguided precedent regarding the eligibility requirement and, in particular, the non-statutory exceptions and the search for the so-called "inventive concept."[274]

Now, if we could only send Marty McFly's time machine to P.J. Federico and Giles Rich — the primary authors of the Patent Act of 1952 — and bring them back to the future. They drafted a statutory section, 35 U.S.C. § 103, that — no matter what the Supreme Court says[275] —

[272] Marty McFly heard both of these songs when he visited 1955. BACK TO THE FUTURE (Universal Studios 1985).

[273] *See generally* Rich & Michel, *supra* note 260.

[274] *See generally* Taylor, *supra* note 15.

[275] The Supreme Court has said that the Patent Act of 1952 merely codified the Supreme Court's law on the invention requirement, but the authors of the relevant section intended otherwise. *See* Rich & Michel, *supra* note 260, at 17 ("Hopefully, that clears up the 'codification' question. Whatever you call it, the purpose was to substitute § 103 for the requirement of 'invention' and for all prior case law, including the *A&P* [c]ase, even though *some* cases contained the same principles. It was to be statutory, not case law in the future."); *id.* ("On the point of § 103 being 'codification' it is interesting to consider the last sentence of the section[,] which says[,] 'Patentability shall not be negatived by the manner in which the invention was made.' The specific intent of that sentence, which courts universally accepted without question, was to overrule the *Cuno* case dictum that a 'flash of genius' was necessary. One cannot call that 'codification.'"); *id.* at 15 n.35 ("Section 103 was not a requirement 'for invention,' it was a substitute for it as the reports made clear in the discussion of § 103 on p. 7 of the House Report and on p. 6 of the Senate Report."). *Compare* Graham v. John Deere Co., 383 U.S. 1, 3-4 (1966) ("We have concluded that the 1952 Act was intended to codify judicial precedents embracing the principle long ago announced by this Court in *Hotchkiss v. Greenwood*, 11 How. 248, 13 L. Ed. 683 (1851), and that, while the clear language of § 103 places emphasis on an inquiry into obviousness, the general level of innovation necessary to sustain patentability remains the same."), *with* Rich & Michel, *supra* note 260, at 9 ("The gist of *Hotchkiss v. Greenwood* is that the Supreme Court, like Jefferson, sensed that Congress had not

overturned much of the Supreme Court's precedent regarding the "invention" requirement and put in place a statutory non-obviousness requirement that provided objective constraints on patentability that were notably lacking in the "invention" requirement. Given their success in 1952,[276] we could no doubt use their help crafting an appropriate and effective legislative response to the current crisis.

included in the statute a necessary limitation on the grant of patents and added that condition itself. This was judicial legislation. The Court added a condition but, as it turned out, it was not much of a standard, because it was too vague. The condition, as refined and sharpened in § 103, creates a statutory system under which all patents granted pursuant to statute do serve to promote the progress of useful arts because, being for unobvious subject matter, they necessarily add to the sum of useful knowledge. In any event, for the century following *Hotchkiss v. Greenwood* we had what was called the 'requirement for invention' which I emphasize, we have not had for the past twenty years. Instead we have § 103.").

[276] Federico and Rich's solution to the crisis in 1952, the amendment of the patent statute to include a non-obviousness requirement in 35 U.S.C. § 103, has withstood the test of time — and the Supreme Court. Ironically, the current crisis relates to another part of the patent statute drafted by Federico and Rich, 35 U.S.C. § 101, and the Supreme Court's unwillingness to apply the text of that provision without judicially-created non-statutory exceptions. Thus, in the words of Dr. Emmett Brown, the inventor of Marty McFly's time machine, if Federico and Rich showed up today we might say, "Oh [n]o, no, no, no, no. . . . [Y]ou and [the non-obviousness requirement both] turn out fine. It's [§ 101], [P.J. and Giles]. Something's gotta be done about [§ 101]!" *See* BACK TO THE FUTURE (Universal Studios 1985).