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Patent-Eligible Processes: An Audience Perspective

Timothy R. Holbrook*
Mark D. Janis**

ABSTRACT

Many of the problems with modern patent-eligibility analysis can be traced back to a fundamental philosophical divide between judges who treat eligibility as the primary tool for effectuating patent policy and those who take patent-eligibility as nothing more than a coarse filter to be invoked in rare cases. After several years in which the coarse filter approach seemed to have the upper hand, the eligibility-as-king approach now is firmly in ascendancy. This Article, resists that trend, exploring more centrist approaches to patent-eligibility, particularly in the context of process inventions. This Article first examines the practice of undertaking an eligibility analysis with no antecedent claim construction; then concludes that this practice is problematic, drawing on the authors' prior work concerning the design of patent law rules in view of the audience for those rules. This Article also assesses the unfortunate renaissance of the "inventive concept" inquiry, arguing that the Court's new embrace of that inquiry is a mistake that permits judges to privilege eligibility to the virtual exclusion of all other patentability doctrines.

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I. INTRODUCTION

In 2010, the US Supreme Court rediscovered patent eligibility.¹ Nearly three decades of silent acquiescence² gave way to five years of

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

2. Punctuated three times, in unusual ways. In 1999, when the Court denied a petition for certiorari in *Excel Communications v. AT&T Corp.*, Justice Stevens took the unusual step of writing a “[s]tatement . . . respecting the denial of the petition,” stating that “[t]he importance of the question presented in this certiorari petition makes it appropriate to reiterate the fact that the denial of the petition does not constitute a ruling on the merits.” *Excel Commc’ns, Inc. v. AT&T Corp.*, 528 U.S. 946, 946 (1999). In the case below, the Federal Circuit had found eligible a method for adding data to a message record for long distance phone calls. *See AT&T Corp. v. Excel Commc’ns, Inc.*, 172 F.3d 1352, 1361 (Fed. Cir. 1999).

Shortly thereafter, the Supreme Court considered 35 U.S.C. § 101 in *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, holding that patents directed to various plants and seeds were eligible for utility patent protection even if they were eligible for protection under the Plant Patent Act and the Plant Variety Protection Act. *See J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc.*, 534 U.S. 124, 127 (2001). *J.E.M.*, however, was more concerned with policing the line between co-equal forms of federal intellectual property protection than subject matter eligibility under Section 101. *See id.* at 143–44.

A few years later, Justice Breyer, joined by Justices Stevens and Souter, wrote an opinion dissenting from the dismissal of certiorari. *See Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 125 (2006) (Breyer, J., dissenting). The case was peculiar because the certiorari petition did not squarely raise any eligibility issue, and certainly did not cite Section 101. It did pose the vague question: “Whether a method patent setting forth an indefinite, undescribed, and non-enabling step directing a party simply to ‘correlat[e]’ test results can validly claim a monopoly over a basic scientific relationship used in medical treatment such that any doctor necessarily infringes the patent merely by thinking about the relationship after looking at a test result.” Petition for a Writ of Certiorari, *Lab. Corp.*, 548 U.S. 124 (No. 04-607), 2004 WL 2505526, at *i. *Sua sponte*, the Supreme Court transformed the case into an eligibility case even though the issue had not been litigated below. The Court asked the Solicitor General to express the views of the United States on whether “the patent [is] invalid because one cannot patent ‘laws of nature, natural phenomena, and abstract ideas[.]’” *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 543 U.S. 1185, 1185 (2005). Although the Solicitor General argued that the Court should deny the petition on the grounds that eligibility had not been raised in the courts below, Brief of United States as Amicus Curiae, *Lab. Corp.*, 548 U.S. 124 (No. 04-607), 2005 WL 2072283, at *15, the Court granted the petition anyway, *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 546 U.S. 999 (2005), and held oral argument, only later to dismiss certiorari as improvidently granted. *See Lab. Corp.*, 548 U.S. at 125. Dissenting from the

patent eligibility hysterics. From 2010 through 2014, the Court heard four patent eligibility cases.³ Each was a portentous affair. The Solicitor General routinely appeared, dozens of amicus briefs were filed,⁴ and the Court set out certiorari questions that sometimes verged on the cosmic.⁵ Commentators by the scores predicted that each case augured the patent system's salvation⁶—or its ruination.⁷

That debate has only intensified in the wake of the Court's *Alice Corp. v. CLS Bank International* decision and the scores of lower court rulings applying *Alice* to strike down patent claims, frequently via dismissals on the pleadings.⁸ However, while the Court's new

dismissal, Justice Breyer not only would have reached the merits, but he also would have found the claims to fail the Section 101 requirement for eligible subject matter. *See id.* at 125 (Breyer, J., dissenting). *See generally* Timothy R. Holbrook, *Explaining the Supreme Court's Interest in Patent Law*, 3 IP THEORY 62, 64 (2013) (noting the Supreme Court's significant involvement in substantive patent law issues since the time of the *Lab. Corp.* dismissal).

3. In addition to *Bilski*, the Court decided *Mayo*, *Myriad*, and *Alice*. *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014); *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012); *Bilski v. Kappos*, 561 U.S. 593 (2010).

4. Forty-two in *Alice* alone. *See Alice Corporation Pty. Ltd. v. CLS Bank International*, SCOTUSBLOG, <http://www.scotusblog.com/case-files/cases/alice-corporation-pty-ltd-v-clb-bank-international/> (last visited Jan. 19, 2015).

5. In *Myriad*, the question presented, as accepted by the Court's grant of certiorari, was "[a]re human genes patentable," even though the case did not present that question. *See* Brief for Petitioners, *Myriad*, 133 S. Ct. 2107 (No. 12-398), 2013 WL 353961, at *1 ("The question presented is: Are human genes patentable?"); *see also* Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 694, 695 (2012) (granting writ of certiorari "limited to Question 1 presented by the petition"); *cf. In re Roslin Inst.*, 750 F.3d 1333, 1336-37 (Fed. Cir. 2014) (pondering the nature of a "clone" for purposes of assessing Section 101 eligibility).

6. *See, e.g.*, Brief of Amici Curiae American Medical Association et al. in Support of Petitioners, *Myriad*, 133 S. Ct. 2107 (No. 12-398), 2013 WL 390998, at *4 ("Patents on human genes impede the provision of health care, thwart public health objectives, shackle innovation, and violate ethical tenets. Patents are not needed to create an incentive for the discovery of human genes, and patent law does not exist to reward such scientific and medical discoveries.").

7. *See, e.g.*, Brief for Amicus Curiae the Biotechnology Industry Organization in Support of Respondents, *Myriad*, 133 S. Ct. 2107 (No. 12-398), 2013 WL 1209142, at *3 ("This is particularly true where, as here, Congress has already declined to create the exception that Ostrer seeks, and where such a change would make the United States the only developed country to take such a restrictive view of patent eligibility—a result with potentially grave consequences for America's global economic and scientific leadership in biotechnology."); Pete Meldrum, *Myriad Genetics, the Supreme Court, Gene Patents, and Saving Lives*, MYRIAD (Apr. 11, 2013), <http://www.myriad.com/myriad-genetics-the-supreme-court-gene-patents-and/> ("Without the patents, our work would not have been possible. We would not have been able to raise the funds necessary to decode the genes, design and deliver the tests, interpret the results, and help patients.").

8. *See, e.g.*, *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, No. 2013-1588, 2014 WL 7272219, at *7 (Fed. Cir. Dec. 23, 2014) (affirming grant of motion to dismiss based on Section 101 eligibility); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 712 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1352-53 (Fed. Cir. 2014); *see also* *McRO, Inc. v. Atlus U.S.A.*, No. SACV 13-1870-GW(FFMx), 2014 WL 4772196, at *12 (C.D. Cal. Sept. 22, 2014) (granting motion to dismiss under FED. R. CIV. P. 12 (c)).

eligibility jurisprudence has set loose substantial doctrinal chaos and has generated intensive scholarly discussions,⁹ it is doubtful whether this frenetic outpouring of law has advanced the goals of the patent system. It is particularly doubtful that the Court has enriched our understanding of the goals and mechanisms of the eligibility analysis. Some decades from now, or perhaps even sooner, scholars may well look back on the Court's eligibility junket as a grand fiasco.

Many of the problems with modern patent-eligibility analysis can be traced back to a fundamental philosophical divide that has crystallized at the US Court of Appeals for the Federal Circuit, as that court has attempted to implement the Supreme Court's eligibility jurisprudence. One school of thought takes patent-eligibility as the uber-doctrine of patentability, the chief vessel through which transformative shifts in patent policy are effectuated.¹⁰ A competing school of thought rejects this patent-eligibility-as-king mantra, taking patent eligibility as nothing more than a coarse filter to be invoked in rare and extreme cases; other doctrines distinguish between inventions that should be patented and those that should not be.¹¹ Under this approach, an invention is ineligible for potential patent protection only if the evidence "exhibit[s] itself so manifestly as to override the broad statutory categories of eligible subject matter and the statutory context that directs primary attention on the patentability criteria of the rest of the Patent Act."¹² Taken to an

9. See, e.g., Symposium, *The Future of Patents: Bilski and Beyond*, 63 STAN. L. REV. 1245 (2011). The articles in this symposium issue barely scratch the surface.

10. For example, according to Judge Mayer, "Section 101 is the gateway to the Patent Act for good reason. It is the sentinel, charged with the duty of ensuring that our nation's patent laws encourage, rather than impede, scientific progress and technological innovation." *Ultramercial*, 772 F.3d at 718 (Mayer, J., concurring). "Subject matter eligibility challenges provide the most efficient and effective tool for clearing the patent thicket, weeding out those patents that stifle innovation and transgress the public domain." See *id.* at 719. Judge Mayer would even require courts to undertake the eligibility analysis at the outset of the litigation, analogizing eligibility to threshold issues of jurisdiction. See *id.* at 717; see also *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1264 (Fed. Cir. 2012) (Mayer, J., dissenting) ("The issue of whether a claimed method meets the subject matter eligibility requirements contained in 35 U.S.C. § 101 is an 'antecedent question' that must be addressed before this court can consider whether particular claims are invalid as obvious or anticipated."); *In re Comiskey*, 554 F.3d 967, 973–75 (Fed. Cir. 2009) (deciding eligibility when the US Patent and Trademark Office (PTO) had not considered it).

11. *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010); see also *Cal. Inst. of Tech. v. Hughes Commc'ns Inc.*, No. 2:13-CV-07245-MRP, 2014 WL 5661290, at *2 (C.D. Cal. Nov. 3, 2014) ("On occasion, the Federal Circuit has described § 101 as a 'coarse eligibility filter,' barring only 'manifestly abstract' inventions and leaving §§ 102, 103, and 112 as the finer sieves. But in its last few terms, the Supreme Court has indicated that patentability is a higher bar." (citations omitted)).

12. *Ultramercial, LLC v. Hulu, LLC*, 657 F.3d 1323, 1327 (Fed. Cir. 2011) (quoting *Research Corp.*, 627 F.3d at 868), *vacated sub nom. WildTangent, Inc. v. Ultramercial, LLC*, 132

extreme, the “coarse filter” approach might reduce the eligibility criterion to a veritable dead letter, critics have warned.¹³

Some may regard the eligibility-as-omnipotent-king and eligibility-as-dead-letter philosophies as primitive caricatures, at least as depicted here. Regardless, they act as emblems of the extreme polarization that characterizes the modern eligibility debate, a debate that seems to have reached impasse even as the courts have shifted to an eligibility-as-king model in the immediate wake of *Alice*. These models—or caricatures, as they may be—also provide a jumping-off point for this Article’s articulation of a more nuanced, centrist approach to patent-eligibility. This Article focuses on a centrist approach to implementing the abstract ideas exception to eligibility, most often invoked in relation to process inventions.

This Article proceeds as follows. Part II reassesses the eligibility impasse by considering the perspective of the ultimate audience—the community of innovators—on which eligibility rules are supposed to act. Part II begins by examining how the courts got to impasse, focusing on the checkered history of the abstract ideas exception; then it revisits the audience perspective on patent rulemaking and the corresponding proximity-complexity matrix that the authors elaborated in prior work. The Article reexamines the eligibility analysis from this audience perspective, identifying some indicia that eligibility jurisprudence suffers from an unaddressed proximity problem.

Parts III and IV offer particular illustrations showing why this characteristic of eligibility analysis is a concern and explores how courts might focus their efforts in addressing the concern. Part III discusses the controversial relationship between the eligibility inquiry and the claim construction process, and argues that decoupling

S.Ct. 2431 (2012). The subsequent *Ultramercial* panel opinion addressed the abstractness exception to eligibility. See *Ultramercial*, 657 F.3d at 1327.

13. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1303 (2012) (warning of this possibility). Some scholars addressing the Federal Circuit’s *State Street Bank* decision had opined that the Federal Circuit had indeed turned eligibility into a dead letter, at least as to software-implemented inventions and business methods. See, e.g., John R. Thomas, *The Patenting of the Liberal Professions*, 40 B.C. L. REV. 1139, 1160 (1999) (“[S]ection 101 seemingly bars few, if any, applications for patent. After *State Street*, it is hardly an exaggeration to say that if you can name it, you can claim it.”); cf. Michael Risch, *Everything Is Patentable*, 75 TENN. L. REV. 591, 609–10 (2008) (arguing business method patents should be patentable if they satisfy other patentability criteria). In *State Street Bank*, the Federal Circuit addressed the patentability of a system that implemented a “hub and spoke” arrangement for financial services. *State St. Bank & Trust Co. v. Signature Fin. Grp., Inc.*, 149 F.3d 1368, 1370 (Fed. Cir. 1998). The court held that the claimed invention satisfied the eligibility requirement “because it produce[d] a useful, concrete, and tangible result—a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” *Id.* at 1373.

eligibility from claim construction is likely to exacerbate the proximity problem. Part IV takes up the interaction between eligibility and prior art doctrines, focusing primarily on the unfortunate renaissance of the “inventive concept” inquiry in *Mayo Collaborative Services v. Prometheus Labs, Inc.* and *Alice*. Informed by concerns over proximity, the Article argues that the Court’s embrace of the inventive concept inquiry is a mistake. The Court adopted a better approach decades ago in *Diamond v. Diehr*, when it all but discarded the inventive step inquiry. The Article concludes that the audience perspective offers some new ideas that may help courts develop a centrist approach to the abstract ideas exception to patent eligibility.

II. REASSESSING THE ELIGIBILITY IMPASSE FOR PROCESS INVENTIONS

A. *Twice Reaching Impasse: Benson-to-Diehr and Its Echo in Modern Eligibility Jurisprudence*

In her opinion dissenting-in-part and concurring-in-part in the *en banc* decision in *CLS Bank International v. Alice Corp.*, Judge Newman lamented the condition of Section 101 eligibility jurisprudence. In a section of her opinion labeled “Today’s Impasse,” she noted that “the *en banc* court undertook to remedy distortions flowing from inconsistent precedent on section 101,” and concluded, flatly, that “[t]his remedial effort has failed.”¹⁴

It is worth considering how the Federal Circuit—and, indeed, the Supreme Court—arrived at this point. Process inventions have long troubled the courts, especially when those claims have been challenged for compliance with the requirement for Section 101 subject matter eligibility. In the older cases, many process inventions fell into either of two categories. The first category included processes that were intended for machine implementation. Courts generally held these claims to define eligible subject matter if they indicated some effort to specify machine components, and if they did not, courts might strike the claims down, probably based on concerns about impermissible abstractness.¹⁵ The second category included chemical processes. These claims were upheld as satisfying the eligibility criterion if they reflected actions taken on physical

14. *CLS Bank Int’l v. Alice Corp. Pty.*, 717 F.3d 1269, 1321 (Fed. Cir. 2013) (per curiam) (Newman, J., concurring in part, dissenting in part).

15. See *Wyeth v. Stone*, 30 F. Cas. 723, 727 (C.C.D. Mass. 1840).

substances—loosely speaking, a transformation, even if no chemical reaction was involved.¹⁶

This traditional approach—the machine or transformation safe harbors against impermissible abstractness—proved challenging to apply to software-implemented processes. Presented with the issue for the first time, the Supreme Court in *Gottschalk v. Benson*¹⁷ declined to lash itself exclusively to the machine or transformation safe harbors: “It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a ‘different state or thing.’ We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.”¹⁸ Instead, the Court endorsed an inquiry that permitted nearly untrammelled discretionary judgments into whether the patent at issue “would wholly pre-empt [a] mathematical formula and in practical effect [be] a patent on the algorithm itself.”¹⁹

The *Benson* Court’s apparent preference for an open-ended preemption standard over more concrete machine-or-transformation rules held true in its next software eligibility case, *Parker v. Flook*,²⁰ but then dissipated three years later in *Diehr*.²¹ The *Flook* majority fought against a “narrow reading of *Benson*” and used the full measure of discretion afforded under *Benson*’s amorphous preemption analysis to interject the proposition that the discovery of a phenomenon of nature or mathematical formula could not support patent-eligibility “unless there is some other inventive concept” in the application of that phenomenon or formula.²² But the signs of a potential impasse were evident. Three justices dissented, finding that the claimed process in *Flook* “clearly” met the Section 101 eligibility standard and that *Benson* stood for “no more than [the] long-established principle” that “laws of nature, physical phenomena, and abstract ideas” are ineligible subject matter.²³ Then, in *Diehr*, this view of *Benson* garnered a majority of votes. Justice Rehnquist’s opinion for the majority recited the laws of nature, natural

16. See *Cochrane v. Deener*, 94 U.S. 780, 787–88 (1876) (upholding claim to a process for removing impurities from flour by use of air blasts); *Corning v. Burden*, 56 U.S. (15 How.) 252, 271 (1853) (upholding claim for improvement in cast-iron manufacturing).

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

18. *Id.* at 71.

19. *Id.* at 72.

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

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

22. See *Flook*, 437 U.S. at 593–94.

23. *Id.* at 598–99 (Stewart, J., dissenting). The dissenters also lambasted the majority for striking “an equally damaging blow at basic principles of patent law by importing into its inquiry under 35 U.S.C. § 101 the criteria of novelty and inventiveness.” *Id.* at 600 (Stewart, J., dissenting). See *infra* Part IV for our discussion of this problem from an audience perspective.

phenomena, and abstract idea exclusions, and averred that “[o]ur recent holdings in [*Benson* and *Flook*] stand for no more than these long-established principles.”²⁴ Four dissenting justices took the majority to task, asserting that the majority’s analysis contained “major flaws,”²⁵ among them the failure to apply *Flook* correctly.²⁶ And this was the last word from the Supreme Court on the eligibility of methods for nearly three decades.²⁷

Whether *Diehr* brought the law to uneasy détente or utter impasse may be debated. But it is difficult to imagine any persuasive argument that the patent system would be well-served by replaying the *Benson-to-Flook-to-Diehr* tug-of-war between rules and standards. Nonetheless, that is precisely what has emerged in the Court’s modern patent eligibility jurisprudence.²⁸ *Bilski v. Kappos*,²⁹ which was predicted to be a watershed, turned out to be a reincarnation of *Benson*.³⁰ In particular, the Court’s opinion in *Bilski* downplayed the

24. *Diehr*, 450 U.S. at 185.

25. *Id.* at 194 (Stevens, J., dissenting).

26. *See id.* at 211 (Stevens, J., dissenting). The majority and dissent also carried forward the debate about whether there was any place for an inventive concept inquiry in eligibility analysis. *See infra* Part IV.

27. The Supreme Court decided another patentable subject matter case between *Flook* and *Diehr*, holding five-to-four that a genetically modified bacterium was patentable subject matter. *See Diamond v. Chakrabarty*, 447 U.S. 303, 310 (1980). *Chakrabarty* dealt with whether the bacterium was a composition of matter or an article of manufacture, not a process. For our purposes, *Chakrabarty* is significant as the source of the trope that “anything under the sun that is made by man” is patent eligible. *Id.* at 309 (quoting S. REP. NO. 82-1979, at 5 (1952); H.R. REP. NO. 82-1923, at 6 (1952)) (internal quotation marks omitted). *But see In re Bilski*, 545 F.3d 943, 976 (Fed. Cir. 2008) (en banc) (Dyk, J., concurring) (completing the quotation to include the phrase “but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled” and asserting that “[a]lthough this passage has been used by our court in past cases to justify a broad interpretation of patentable subject matter, . . . when read in context, the statement undercuts the notion that Congress intended to expand the scope of § 101”).

28. This is not to ignore the development of Section 101 doctrine at the Federal Circuit. The court’s expansive view of patent-eligible subject matter was at its apex in *State Street Bank*, where the Federal Circuit adopted an eligibility test that inquired whether the invention had a “useful, concrete, and tangible result.” *See State St. Bank & Trust Co. v. Signature Fin. Grp., Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998) (quoting *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994)) (internal quotation marks omitted). The Federal Circuit also rejected a per se rule excluding business methods from eligibility. *See id.* at 1375 (“We take this opportunity to lay this ill-conceived exception to rest.”). Within a decade, the Federal Circuit began a gradual retreat from its *State Street Bank* eligibility test, reading the tea leaves from Justice Breyer’s dissent from the dismissal of certiorari in *Lab. Corp.* *See supra* note 2. The Federal Circuit’s shift on eligibility was most evident in a trio of cases: *In re Comiskey*, 499 F.3d 1365 (Fed. Cir. 2007), revised and superseded by 554 F.3d 967 (Fed. Cir. 2009), *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007), and *Bilski*, 545 F.3d at 954.

29. *See Bilski v. Kappos*, 561 U.S. 593, 604 (2010).

30. Some commentators criticized the Court for failing to give sufficient guidance. *See, e.g.,* Richard H. Stern, *Bilski: A “Flipped” Vote and Then a Damp Squib*, 33 EUR. INTEL. PROP. REV. 115, 117–18 (criticizing *Bilski* majority opinion because it “does not remotely guide the

machine-or-transformation test; characterizing it as “an important and useful clue” for subject matter eligibility,³¹ but inadequate to serve as “the sole criterion for determining the [subject matter eligibility] of inventions in the Information Age.”³² As it had done in *Benson*, the Court in *Bilski* endorsed a discretionary, open-ended standard, expressly rejecting the use of categorical rules.³³ Indeed, the Court went to great lengths to avoid formulating rules that might dictate decisions in future cases:

The patent application here can be rejected under our precedents on the unpatentability of abstract ideas. The Court, therefore, need not define further what constitutes a patentable “process,” beyond pointing to the definition of that term provided in § 100(b) and looking to the guideposts in *Benson*, *Flook*, and *Diehr*.³⁴

The Court invited the Federal Circuit to explore the parameters of this discretionary inquiry—at least in the direction of limiting the scope of eligibility—without specifying what those parameters were.³⁵

In *Mayo*, the Court took full advantage of this generous measure of discretion to reprise the “inventive concept” analysis from *Flook*.³⁶ The Supreme Court then doubled-down in *Alice*³⁷ in embracing the “inventive concept” analysis of *Flook* and *Mayo*. The Court held that its two-step methodology in *Mayo* is the methodology to be applied in all Section 101 contexts and for all exclusions,³⁸ including assessing whether the “inventive concept” is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.”³⁹ The Court rejected any

Federal Circuit and other lower courts on how to determine whether the subject-matter of a claim is too abstract”).

31. *Bilski*, 561 U.S. at 603.

32. *Id.* at 605.

33. *See id.* at 609 (“Rather than adopting categorical rules that might have wide-ranging and unforeseen impacts, the Court resolves this case narrowly on the basis of this Court’s decisions in *Benson*, *Flook*, and *Diehr*, which show that petitioners’ claims are not patentable processes because they are attempts to patent abstract ideas.”). Justice Stevens, joined by three other justices, would have adopted a categorical rule excluding “business methods” from eligibility. *See id.* at 657 (Stevens, J., concurring in judgment). It is widely believed that Justice Stevens’ opinion had originally attracted a majority of votes and would have been the Court’s opinion. *See Stern, supra* note 30, at 117.

34. *Bilski*, 561 U.S. at 612.

35. *See id.* at 612–13 (“In disapproving an exclusive machine-or-transformation test, we by no means foreclose the Federal Circuit’s development of other limiting criteria that further the purposes of the Patent Act and are not inconsistent with its text.”).

36. *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012). *See infra* Part IV for a fuller discussion and critique.

37. *See Alice Corp. Pty. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014).

38. *See id.* at 2355 (“In [*Mayo*], we set 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.”).

39. *Id.* (quoting *Mayo*, 132 S. Ct. at 1294) (internal quotation marks omitted).

effort to distinguish the claims based on their formats—method, system, or computer-readable medium.⁴⁰ Finally, the Court explained that “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”⁴¹

In the great wave of lower court decisions applying *Alice*, most courts have concluded that the patent claims at issue before them did not define eligible subject matter under the two-part *Alice* test. Yet, this near unanimity in outcomes masks some fundamental tensions, and some evidence of these tensions is already appearing, even in the short time since *Alice* was decided. First, the nominal two-part *Alice* test already shows some signs of collapsing into a one-part test that centers on the inventive concept inquiry or some related quasi-novelty inquiry.⁴² Second, the *Alice* test has emboldened at least one Federal Circuit judge to adopt a categorical exclusion for any subject matter perceived to lie outside the “technological arts,” notwithstanding the fact that the Supreme Court seemed to have rejected categorical approaches to eligibility in *Bilski*.⁴³

The larger question is this: what should the Court do to break its eligibility jurisprudence out of these seemingly endless iterations—between open standards and categorical rules, between eligibility-as-king and eligibility-as-dead-letter? The following Section suggests that the Court redirect its energies towards considering more closely how eligibility rules are communicated to the community of innovators—that is, the Court should reconsider eligibility from an audience perspective.

B. The Eligibility Impasse as a Proximity Problem

The Supreme Court’s decisions have been criticized as impenetrable, offering little guidance to the US Patent and

40. See *id.* at 2360 (“[T]he system claims are no different from the method claims in substance. The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea.”).

41. *Id.* at 2358.

42. See *infra* notes 156–62 and accompanying text (noting and critiquing this collapse).

43. See *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 717 (Fed. Cir. 2014) (Mayer, J., concurring) (relying on a “technological arts” exclusion under which claims directed to an “entrepreneurial objective” as opposed to a technological one are excluded from eligibility); see also *DDR Holdings, LLC v. Hotels.com, L.P.*, No. 2013-1505, 2014 WL 6845152, at *17 (Fed. Cir. Dec. 5, 2014) (Mayer, J., dissenting) (relying again on a “technological arts” exclusion). In *Ultramercial*, Judge Mayer attempted to demonstrate that a categorical technological arts exclusion would comport with *Bilski* and *Alice* in light of the invitation in *Alice* to the Federal Circuit to craft a test that was “narrower” than a categorical exclusion of all business methods. See *Ultramercial*, 772 F.3d at 721–22 (Mayer, J., concurring). To suggest that the technological arts exclusion is an example of a narrower test is quite a feat of sophistry.

Trademark Office (PTO), courts, lawyers, and scientists.⁴⁴ The focus has been on the language and structure of the legal tests, or lack thereof, that the Supreme Court has provided.

But such a focus on complexity may in fact be misplaced. Discerning what technologies should be eligible for patent protection necessarily involves some difficult factual considerations. Thus, the debate and impasse over patentable subject matter may not be entirely a complexity problem. Instead, the issue may be one of proximity.

1. The Proximity Problem in General

Why has it been so difficult for patent law to modulate its rules vs. standards conflicts? The answer lies partly in matters of institutional design. Studies that examine the dialogue between the Supreme Court and the Federal Circuit,⁴⁵ the administrative interface between the Federal Circuit and the PTO,⁴⁶ and even the courts and Congress⁴⁷ will surely help explain the difficulties and contribute potential responses.

Another route may also be productive: reexamining the nature of patent law pronouncements themselves. This was our focus in *Patent Law's Audience*.⁴⁸ There, we argued that, while patent law pronouncements, whether in the form of rules or standards, are

44. See, e.g., *Cal. Inst. of Tech. v. Hughes Commc'ns Inc.*, No. 2:13-CV-07245-MRP, 2014 WL 5661290, at *6 (C.D. Cal. Nov. 3, 2014) ("Yet *Alice* did not answer the bigger questions, only incrementally clarifying § 101. . . . *Alice* failed to answer this: when, if ever, do computer patents survive § 101?"); Timothy R. Holbrook, *Is the Supreme Court About to Rule That Software Is Ineligible for Patent Protection?*, FORBES (Mar. 16, 2014), <http://www.forbes.com/sites/realspin/2014/03/16/is-the-supreme-court-about-to-rule-that-software-is-ineligible-for-patent-protection/> ("[I]n the area of patentable subject matter, the Supreme Court's decisions have been a disaster. The Court has created mass confusion, making it almost impossible to discern whether certain innovations, particularly as to software, are patentable.").

45. See, e.g., Rochelle Cooper Dreyfuss, *What the Federal Circuit Can Learn from the Supreme Court—And Vice Versa*, 59 AM. U. L. REV. 787, 793–94 (2010); Paul R. Gugliuzza, *Rethinking Federal Circuit Jurisdiction*, 100 GEO. L.J. 1437, 1440–42 (2012).

46. See, e.g., Sara Tran, *Administrative Law, Patents, and Distorted Rules*, 80 GEO. WASH. L. REV. 831, 840–41 (2012); Melissa F. Wasserman, *The Changing Guard of Patent Law: Chevron Deference for the PTO*, 54 WM. & MARY L. REV. 1959, 1966–67 (2013). With regards to eligibility specifically, see John M. Golden, *Patentable Subject Matter and Institutional Choice*, 89 TEX. L. REV. 1041, 1042–44 (2011).

47. See generally J. Jonas Anderson, *Patent Dialogue*, 92 N.C. L. REV. 1049 (2014) (examining the relationship between the Supreme Court and Congress concerning patent law).

48. Timothy R. Holbrook & Mark D. Janis, *Patent Law's Audience*, 97 MINN. L. REV. 72 (2012).

frequently criticized for their befuddling complexity,⁴⁹ the existence of complexity by itself is not necessarily problematic. Rather, complexity becomes problematic when coupled with unfavorable “proximity.”⁵⁰

Proximity, as defined in *Patent Law’s Audience*, is a measure of the virtual distance between the source of a legal pronouncement and its ultimate intended audience.⁵¹ In more practical terms, unfavorable proximity exists where the message embedded in a legal pronouncement is likely to be transmitted and retransmitted among multiple parties as it travels from source to audience,⁵² posing the risk that the message will be altered substantively along the way as parties translate and recode it.⁵³ Problems of proximity may derive from the nature of the law’s intended audience, e.g., where the audience is heterogeneous, diffuse, or lacking sophistication. They may also reflect the efficacy of intermediaries that reside in the space between the source of law and the audience.⁵⁴

The proximity-complexity matrix provides a new platform for understanding patent law rules, and potentially for redesigning them. *Patent Law’s Audience* identified a deficiency common to many areas of problematic patent law jurisprudence: courts pronouncing on patent law often reflexively seek solutions to the law’s complexity without adequately addressing proximity.⁵⁵ This insight might be useful instrumentally, in that courts might redirect their energies towards improving proximity by refining, or redesigning, the network of intermediaries through which patent law passes.⁵⁶

These ideas ought to be applied to modern patent-eligibility jurisprudence, as discussed in the next Section.

49. See *id.* at 80–82. The authors have a capacious view of complexity, encompassing patent law pronouncements that are facially complex, usually by including technical concepts in their express language, or facially simple but complex in application.

50. See *id.* at 77–80 (explaining proximity); *id.* at 82–84 (describing the proximity-complexity tradeoff).

51. *Id.* at 77–80.

52. See *id.* at 78. *Patent Law’s Audience* observed that patent law developments might well be transmitted through a convoluted, informal network of venture capitalists, patent professionals, journalists, academics, technical managers, and others before reaching a given innovator. See *id.* at 86–89.

53. See *id.* Recoding is a risk that has social welfare consequences if one is to indulge the standard assumption that patent law aspires to provide ex ante incentives that shape innovators’ investments in innovative activity. Recoding patent law’s message might therefore redirect investment in ways that the patent law rule as originally expressed did not necessarily contemplate. Of course, that is not to say that recoding is invariably counterproductive. For example, perhaps the recoding done in this Article will actually add some increment of value to the otherwise raw mass of patent jurisprudence. Any patent law professional hoping to be paid for his or her services surely takes a similar view.

54. See *id.* at 78.

55. See *id.* at 90–93.

56. See *infra* Part IV.

2. Indicia of a Proximity Problem in Eligibility Jurisprudence

Two related aspects of the eligibility inquiry for process inventions fuel the suspicion that current jurisprudence suffers from a proximity problem and that addressing that problem might help moderate excessive oscillations between eligibility-as-king and eligibility-as-dead-letter philosophies.

First, while most patent rules attempt to account for both ex ante incentives to innovators and ex post consequences for downstream innovation,⁵⁷ the preemption inquiry that dominates the Supreme Court's eligibility jurisprudence for process inventions tilts heavily towards the latter.⁵⁸ By its very terms, it is predominantly concerned with patent grants that might block downstream innovators from access to fundamental building blocks needed for subsequent innovation.⁵⁹

The preemption analysis presents an odd dynamic. The focus of the inquiry is the impact the patent will have on downstream inventions and innovations. Yet, as a threshold issue, subject matter eligibility needs to be readily assessable by innovators, or their proxies, in deciding what research may result in patent-eligible inventions. This threshold, ex ante consideration, is determined by downstream, ex post consequences that may not be readily discernable at the time of invention or when the inventor files an application.

Viewed from an audience perspective, the preemption inquiry presents exceptional problems of proximity. The inquiry seeks to keep the way clear for a group of yet-unknown future innovators, carrying out a research agenda that we cannot yet imagine, operating in a future economy whose innovation-related institutions may not even have formed. The preemption inquiry is a hubristic exercise in ruminations about the fundamental essence of both the existing world (e.g., in identifying what constitutes an "abstract idea" and the "inventive concept") and the future world (e.g., in deciding whether a given claim of rights would block access to that abstract idea). It is little wonder that the Court has floundered in its attempts to create

57. Cf. Timothy R. Holbrook, *Equivalency and Patent Law's Possession Paradox*, 23 HARV. J.L. & TECH. 1, 39–45 (2009) (discussing ex ante and ex post incentives created by doctrine of equivalents).

58. See, e.g., Mark A. Lemley et. al., *Life After Bilski*, 63 STAN. L. REV. 1315, 1329 (2011) (suggesting that eligibility doctrine "is about encouraging cumulative innovation and furthering societal norms regarding access to knowledge").

59. See, e.g., *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014) ("We have described the concern that drives this exclusionary principle as one of pre-emption."); *Bilski v. Kappos*, 561 U.S. 593, 611–12 (2010) ("Allowing petitioners to patent risk hedging would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.").

an eligibility regime that sends clear signals that actually promote efficient investment decisions in innovation, or even influence those decisions at all.

Moreover, the methodology embedded in the Supreme Court's eligibility analysis is exceptional in that it lacks the constraints that discipline virtually all other patentability rules.⁶⁰ Other patentability inquiries share a standard comparison methodology: they turn on comparisons between the claims at issue and discrete pieces of evidence, often textual evidence. This is true of the novelty and nonobviousness inquiries, in which the comparison is to qualifying prior art. It is also true of the Section 112(a) doctrines of enablement and written description, which call for a comparison between the claimed invention and the written description portion of the patent document.⁶¹

Yet no analogous comparison exercise constrains the eligibility requirement.⁶² For example, the Supreme Court has made it clear that the use of merely conventional steps is not sufficient to create a patent-eligible inventive concept.⁶³ The Supreme Court does not discuss how it makes the assessment of what is "conventional" and the evidence that may be used in making this determination.⁶⁴ In an exercise that is already excessively ambitious in its aspirations to shape the future, there is virtually nothing to guide and focus the judicial imagination.⁶⁵ This dynamic becomes particularly salient when considering the procedural posture of some of these cases—motions to dismiss under Rule 12(b)(6) or 12(c), suggesting

60. This comparison between eligibility and patentability rules is valuable whether one believes that eligibility is a type of patentability rule or not.

61. The inquiry into definiteness under Section 112(b) is slightly different. *See* *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120, 2129 (2014). While definiteness is a corollary to claim construction, involving reference to the specification and prosecution history, the ultimate inquiry—whether the claim term "inform[s] those skilled in the art about the scope of the invention with reasonable certainty"—is likely to involve some speculation about the general cognitive capacities of the person of ordinary skill in the art. *See id.*

62. This is true even when the eligibility is preceded by a claim construction. Part III examines the potential for proximity problems where there is no claim construction antecedent to the eligibility inquiry.

63. *See Alice*, 134 S. Ct. at 2359; *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1298 (2012) ("Thus, this step tells doctors to engage in well-understood, routine, conventional activity previously engaged in by scientists who work in the field. Purely 'conventional or obvious' [pre]-solution activity' is normally not sufficient to transform an unpatentable law of nature into a patent-eligible application of such a law." (quoting *Parker v. Flook*, 437 U.S. 584, 590 (1978))).

64. *See infra* note 162 and accompanying text (critiquing the inventive step inquiry).

65. Presumably, those who endorse either an eligibility-as-king or an eligibility-as-dead-letter philosophy might regard this extraordinary range of judicial discretion as a compelling feature of modern eligibility jurisprudence. But the authors regard it as a bug, one that thwarts efficiency and allows too much room for extreme oscillations in the eligibility jurisprudence.

that no such facts as to the conventional are required in making this assessment.

A second indicator of an ongoing proximity problem with the Supreme Court's modern eligibility inquiry is that despite the fact that eligibility rules purport to speak to a remote, future audience, they are not anchored in any of the bridging heuristics that form the most common strategy for dealing with a proximity problem.⁶⁶ In particular, patent law's most common trope, the hypothetical person having ordinary skill in the art, has been accorded no place in the Supreme Court's modern eligibility cases. Nor have the courts relied upon any other constructs, such as the reasonable competitor⁶⁷ or the reasonable patent attorney.⁶⁸ As such, the preemption analysis is devoid of any reference points or perspectives, effectively reducing the inquiry to an exercise in judicial discretion. And, as detailed in Parts III and IV, the Court's jurisprudence further subjugates the ordinary artisan heuristic as that jurisprudence engages with, and in some instances displaces, other inquiries where the ordinary artisan has had greater influence.

III. TYING CLAIM CONSTRUCTION TO THE ELIGIBILITY INQUIRY

Perhaps as a consequence of the narrowing tendencies of certiorari jurisdiction, the Court's pronouncements on patent eligibility often seem to treat the inquiry in isolation. In real litigation, however, the eligibility analysis is embedded with other issues and may interact with those issues. One of the paramount issues—and one for which interaction with eligibility is likely to be especially important—is claim construction.

66. The analysis is further complicated by the fact that although the preemption analysis purports to shield a future audience of downstream innovators, courts seem committed to the proposition that eligibility analysis is to presume conditions as they existed as of the application filing date. Otherwise, subject matter that was eligible when the application was filed could be rendered ineligible merely by changes in the technological environment over the passage of time. See *CLS Bank Int'l v. Alice Corp. Pty.*, 717 F.3d 1269, 1273, 1315 (Fed. Cir. 2013) (per curiam) (Moore, J., dissenting) (“Moreover, my colleagues’ analysis imbues the § 101 inquiry with a time-dependency that is more appropriately the province of §§ 102 and 103. . . . But § 101 is not a moving target—claims should not become abstract simply through the passage of time. Under my colleagues’ approach, however, a system claim that passes § 101 when the patent issues could later magically transform into an abstract idea simply because certain computer hardware elements no longer seem inventive.”).

67. See *Holbrook & Janis*, *supra* note 48, at 101–04 (discussing “reasonable competitor” construct).

68. Cf. John M. Golden, *Construing Patent Claims According to Their “Interpretive Community”: A Call for an Attorney-Plus-Artisan Perspective*, 21 *HARV. J.L. & TECH.* 321, 385 (2008); see also Jeanne C. Fromer & Mark A. Lemley, *The Audience in Intellectual Property Infringement*, 112 *MICH. L. REV.* 1251, 1254–55 (2014) (discussing audiences and heuristics for intellectual property infringement).

However, the Court's recent eligibility jurisprudence offers no guidance on the relationship between eligibility analysis and claim construction. In particular, the issues are: (1) whether claim construction should precede eligibility analysis as a matter of process; and, relatedly, (2) whether claim construction should inform the substance of eligibility analysis.

These are nettlesome issues. A flat rule requiring claim construction as a predicate for any eligibility inquiry might dictate that any litigation over the eligibility issue be postponed until after the conclusion of a full-fledged *Markman* process.⁶⁹ This is no mere procedural quibble. A patentee could invoke the need for a claim construction process in order to delay the day of reckoning on eligibility, thus impairing the patent challenger's use of eligibility as a vehicle for summarily resolving the suit via a Rule 12(b)(6) dismissal on the pleadings, for example. Now that the Supreme Court has concluded that there are factual aspects to claim construction,⁷⁰ the patentee may have a stronger argument for a *Markman* hearing because of the need for factually-based evidence. So situated, the eligibility requirement may not be able to function effectively as a quick-strike strategy against dubious patents—a serious problem for those who view the eligibility requirement as one of the patent system's paramount policy vehicles.⁷¹

69. At the least, it might suggest a truncated *Markman* process focusing on those claim terms agreed to be pertinent to the eligibility question.

70. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 835 (2015).

71. Somewhat different considerations apply when the claim construction question arises in *ex parte* prosecution involving the eligibility issue. The PTO claim construction process undertaken in *ex parte* proceedings is likely to be quite limited compared to that undertaken in litigation, resting on the claim language itself and the written description portion of the patent application, all analyzed under the PTO's "broadest reasonable interpretation" standard. The PTO also purports to apply this approach in *inter partes* proceedings. See generally Dawn-Marie Bey & Christopher A. Cotropia, *The Unreasonableness of the Patent Office's "Broadest Reasonable Interpretation" Standard*, 37 AIPLA Q.J. 285 (2009) (criticizing the "broadest reasonable construction" standard and suggesting that it generates different meanings of the invention).

The PTO's guidance to examiners on the role of claim construction in eligibility has been inconsistent. The interim guidelines implementing the *Myriad* decision seemed to endorse a flat rule requiring its examiners to engage in claim construction prior to analyzing eligibility. See Memorandum from Andrew H. Hirshfeld, Deputy Commissioner for Patent Examination Policy, U.S. Patent & Trademark Office, to Patent Examining Corps (Mar. 4, 2014), available at http://www.uspto.gov/patents/law/exam/myriad-mayo_guidance.pdf.

However, the subsequent iteration of the PTO's interim guidelines on post-*Alice* eligibility skirt the issue. The guidelines do not call upon examiners to undertake a claim construction as a threshold step prior to conducting the eligibility analysis. Instead, they instruct examiners to begin the eligibility analysis by determining what the claim is "directed to." See 2014 Interim Guidance on Patent Subject Matter Eligibility, 79 Fed. Reg. 74618, 74622 (Dec. 16, 2014), available at <http://www.gpo.gov/fdsys/pkg/FR-2014-12-16/pdf/2014-29414.pdf>. The extent to which this involves claim interpretation is left unclear. The Guidelines remark that "[t]o

On the other hand, a rule that permits patent challengers routinely to evade *Markman* processes and proceed directly to an eligibility analysis presents its own problems. The claims provide the reference point for both invalidity and infringement analyses; this principle is central to the notice function that claims are supposed to play. A patent-eligibility analysis that is not informed by any antecedent claim construction might be considered a patent law *non sequitur*. It might, at the very least, force an ill-considered claim construction on the fly, under the dubious guise of applying eligibility rules.

Faced with these unpalatable choices, the Federal Circuit has thus far refused to commit to either course, instead attempting to mediate this tension with a rule that appears to permit the court to do whatever it wishes in any given case. The court's current approach traces to its original opinion in *Ultramercial v. Hulu*.⁷² There, the Federal Circuit reversed a lower court determination of ineligibility of a method claim relating to online transactions.⁷³ The district court had not undertaken a formal claim construction, but this was not fatal, according to the Federal Circuit. The Federal Circuit had "never set forth a bright line rule requiring district courts to construe claims before determining subject matter eligibility."⁷⁴ As former Chief Judge Rader's opinion explained it, because eligibility is a mere "coarse eligibility filter," claim construction "may not always be necessary for a § 101 analysis."⁷⁵ This might be read to suggest a one-way rule: that claim construction is not necessary en route to a finding that a claim does define eligible subject matter. But in support of this proposition, the court cited *Bilski*, noting that the *Bilski* Court had found that the claimed subject matter failed the eligibility test, but there had been no antecedent claim construction.

Nonetheless, the court hedged its rule in *Ultramercial*, noting that while no formal claim construction was necessary in order to dispose of the eligibility issue in the case, "[o]n many occasions, . . . a definition of the invention via claim construction can clarify the basic character of the subject matter of the invention. Thus, claim meaning may clarify the actual subject matter at stake in the invention and can

properly interpret the claim, it is important to understand what the applicant has invented and is seeking to patent." *Id.* But there is no other indication as to what this interpretation would entail.

72. *Ultramercial, LLC v. Hulu, LLC*, 657 F.3d 1323 (Fed. Cir. 2011), *vacated sub nom. WildTangent, Inc. v. Ultramercial, LLC*, 132 S. Ct. 2431 (2012).

73. *See id.* at 1324–25 (reproducing claim 1 of the patent-in-suit).

74. *Id.* at 1325.

75. *Id.* at 1325–26 (quoting *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859, 869 (2010)) (internal quotation marks omitted).

enlighten, or even answer, questions about subject matter abstractness.”⁷⁶ This passage likely captures the reality in many cases.

Although the Federal Circuit has continued to adhere to the rule that formal claim construction is not absolutely required prior to a Section 101 eligibility determination, it remains unclear whether an eligibility determination with no claim construction will be the exceptional case. For example, in *Bancorp Services v. Sun Life Assurance Co. of Canada*, the Federal Circuit expressly endorsed the *Ultramercial* rule regarding claim construction.⁷⁷ But the court noted that “it will ordinarily be desirable—and often necessary—to resolve claim construction disputes prior to a § 101 analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter.”⁷⁸ Indeed, the court found that claim construction was necessary and proceeded to adopt one, even though the lower court had not done so.⁷⁹ The Federal Circuit’s ambivalence about the need for claim construction antecedent to an eligibility analysis sets the stage for courts to decouple the claims altogether from the eligibility analysis. The court’s *en banc* decision in *CLS Bank*⁸⁰ illustrates the chaos that can ensue when judges exercise the freedom to wander from the claim language in adjudicating eligibility. The invention in *CLS Bank* involved “a computerized trading platform for exchanging obligations in which a trusted third party settles obligations between a first and second party so as to eliminate ‘settlement risk.’”⁸¹ The settlement risk arises because one party may not pay their obligation, perhaps because they no longer have the resources to satisfy the obligation. The third party acts as a “middle person” who holds the obligations of both parties prior to settlement, thus eliminating the risk.⁸² The patent has three types of claims: method claims, computer-readable media claims,⁸³ and system claims.⁸⁴

76. *Id.* at 1325.

77. *See Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1273 (Fed. Cir. 2012) (“Although *Ultramercial* has . . . been vacated by the Supreme Court, we perceive no flaw in the notion that claim construction is not an inviolable prerequisite to a validity determination under § 101.”).

78. *Id.* at 1273–74.

79. *See id.* at 1274–75.

80. *CLS Bank Int'l v. Alice Corp. Pty.*, 717 F.3d 1269 (Fed. Cir. 2013) (per curiam).

81. *CLS Bank Int'l v. Alice Corp. Pty.*, 685 F.3d 1341, 1343 (Fed. Cir. 2012), *vacated*, 484 Fed. App'x. 559 (Fed. Cir. 2012) (per curiam).

82. *Id.*

83. Claims drafted in this format had become known as *Beauregard* claims, an homage to *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995).

84. *CLS Bank*, 717 F.3d at 1273 (Fed. Cir. 2013) (noting three types of claims).

The *en banc* court could not muster a majority opinion as to any issue. On a seven-to-three vote, the court found the method claims and the computer-readable media claims invalid. The court was split five-to-five on the system claims, leaving the district court's invalidity determination in place.⁸⁵

While the court split sharply as to the substantive law of eligibility inquiry, underlying that disagreement was an equally troublesome divide over how to understand the claims.⁸⁶ The method claims did not explicitly recite computer hardware, yet they required steps that arguably could only be carried out on a computer as a practical matter.⁸⁷ The media claims, following standard drafting conventions, recited a "computer readable storage medium" in the preamble, but only program code for carrying out various process steps in the body of the claim.⁸⁸ The broadest system claims referenced a "data storage unit" and a "computer" configured to carry out specified functions,⁸⁹ while other system claims included more specific recitations of hardware components.⁹⁰

As with many claim sets, these claims potentially presented the court with a number of contested construction issues. However, presented with the patent challenger's, CLS Bank's, motion for summary judgment of ineligibility, the trial court had chosen to resolve the motion without any predicate claim construction proceeding, instead presuming to adopt a claim construction allegedly most favorable to the non-movant patentee, Alice, a construction to which CLS Bank apparently agreed for purposes of its motion. But this left the trial court and the Federal Circuit free to speculate about what the claim terms would have meant to a person having ordinary skill in the art, and how those terms would have been understood in view of the intrinsic record.⁹¹

85. *See id.*

86. That divide seems to have continued at the Supreme Court. *See Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2360 (2014) (Sotomayor, J., concurring) ("I adhere to the view that any 'claim that merely describes a method of doing business does not qualify as a process under § 101.'" (quoting *Bilski v. Kappos*, 561 U.S. 593, 614 (2010) (Stevens, J., concurring in judgment)) (internal quotation marks omitted)).

87. *CLS Bank*, 717 F.3d at 1285.

88. *Id.* at 1287–88.

89. *Id.* at 1289.

90. *Id.* at 1306 (Rader, J., concurring in part, dissenting in part) (examining claim 26).

91. As Judges Linn and O'Malley noted:

[N]o determination has ever been made regarding how one of skill in the art would understand the claims as of the date of issuance. And, no careful assessment of the intrinsic record or prosecution history has ever occurred; much of this was never even made a part of the trial record.

Id. at 1327 (Linn & O'Malley, JJ., dissenting).

For example, Judge Lourie's opinion prefaced its eligibility analysis with the observation that:

one cannot meaningfully evaluate whether a claim preempts an abstract idea until the idea supposedly at risk of preemption has been unambiguously identified. Although not required, conducting a claim construction analysis before addressing § 101 may be especially helpful in this regard by facilitating a full understanding of what each claim entails.⁹²

But, for Judge Lourie, obedience to this principle did not require resort to any formal claim construction process. Indeed, Judge Lourie proceeded to formulate his own claim construction on the fly en route to his eligibility determination. After opining that the analysis required deconstructing the claim language to identify the "inventive concept" or the "genuine human contribution to the claimed subject matter,"⁹³ he dismissed the media and method claims as being insufficiently specific in any explicit or implicit computer implementation,⁹⁴ and then applied the same understanding to the system claims. In particular, Judge Lourie simply concluded that the computer implementation was recited in the system claims at a "striking level of generality," in that the claims recited "a handful of computer components in generic, functional terms that would encompass any device capable of performing the same ubiquitous calculation, storage, and connectivity functions required by the method claims."⁹⁵ For Judge Lourie, although the system claims associated "certain computer components" with processing steps, the "recited hardware" did not offer any "meaningful limitation" beyond linking those processing steps to a particular technological environment.⁹⁶ Of course, he made this assessment without resort to the traditional tools of claim construction, such as consulting the specification and prosecution history to determine whether, when properly construed, those terms might have more significance. Instead, he relied upon his own *sui generis* claim deconstruction.

Judges Linn and O'Malley fundamentally disagreed with Judge Lourie's approach, and it is significant that the core of the disagreement is about claim construction:

Although Judge Lourie mentions the agreement between the parties and trial court regarding claim construction, he ignores the substance of the stipulations and assumptions upon which the proceedings below were predicated—i.e., that the method claims are narrowed by incorporation of all electronic aspects of the system claims. . . .

92. *Id.* at 1282 (Lourie, J., concurring).

93. *Id.* at 1283.

94. *See id.* at 1285–89.

95. *Id.* at 1290.

96. *See id.* at 1291.

He then takes it upon himself to construe the claims, giving the method claims their broadest possible interpretation in the process.⁹⁷

As Judges Linn and O'Malley saw it, Judge Lourie's opinion started with a "paraphrased abstraction of the claims" rather than with proper evidence of claim construction, an approach that "preordain[ed] the method claims ineligible,"⁹⁸ then Judge Lourie had read into the system claims "the same abstraction he felt damned the method claims."⁹⁹

Judges Linn and O'Malley left no doubt that they viewed this approach to eligibility as fundamentally flawed:

We do not believe a patent eligibility inquiry can be disembodied from the actual claims at issue, with their attendant limitations. The analytical process in which Judge Lourie engages is at odds with the most basic concepts that govern our patent system. . . . His methodology just cannot be right.¹⁰⁰

For Judges Linn and O'Malley, the correct solution was to view the method, media, and system claims based on the record that had been developed below, in which those claims all had been presumed to include "the same computer-based limitations."¹⁰¹ Necessarily, then, all of the claims rose or fell together under Judges Linn and O'Malley approach.¹⁰²

Former Chief Judge Rader's opinion likewise took issue with Judge Lourie's approach, insisting that Judge Lourie had failed to focus on the claim as a whole.¹⁰³ As Chief Judge Rader put it, "[a]ny claim can be stripped down, simplified, generalized, or paraphrased to remove all of its concrete limitations, until at its core, something that could be characterized as an abstract idea is revealed."¹⁰⁴ The limitations can become important when "claims tie the otherwise abstract idea to a *specific way* of doing something with a computer, or a *specific computer* for doing something; if so, they likely will be patent eligible, unlike claims directed to *nothing more than the idea* of doing that thing on a computer."¹⁰⁵ More specifically, "where the claim is tied to a computer in such a way that the computer plays a

97. *Id.* at 1330 (Linn & O'Malley, JJ., dissenting) (citations omitted).

98. *Id.* at 1331.

99. *Id.*

100. *Id.* (citations omitted).

101. *See id.*

102. *See id.* at 1331–32. This brought Judges Linn and O'Malley into conflict with Judges Rader and Moore, who had viewed the method and media claims as ineligible but the system claims as eligible. *See id.* at 1330.

103. *See id.* at 1298 (Rader, J., concurring in part, dissenting in part) ("A court must consider the asserted claim as a whole when assessing eligibility. . . . And, a court must consider the *actual* language of each claim.").

104. *Id.*

105. *Id.* at 1302 (emphasis in original).

meaningful role in the performance of the claimed invention, and the claim does not pre-empt virtually all uses of an underlying abstract idea, the claim is patent eligible.”¹⁰⁶ Thus, the claim language, and necessarily the interpretation of that language, should be of primary importance in assessing patentable subject matter.

Judge Moore also wrote separately from the joint opinion, though joined by Chief Judge Rader and Judges Linn and O’Malley, to express her concern that “the current interpretation of § 101 . . . is causing a free fall in the patent system.”¹⁰⁷ She singled out Judge Lourie’s approach of lumping together the method, system, and media claims, asserting that it might cause “the death of hundreds of thousands of patents, including all business method, financial system, and software patents as well as many computer implemented and telecommunications patents.”¹⁰⁸ In her view, the system claims in this case were undeniably eligible because the “claims are to a system of tangible machine components with limited specialized functions programmed consistent with detailed algorithms disclosed in the patent.”¹⁰⁹

The resulting dispute over the nature of the claims is, in essence, a claim construction dispute. *Benson* itself illustrates much the same dilemma of an eligibility dispute that has swallowed up an underlying claim construction issue. Claims 8 and 13 were at issue—although the Supreme Court seemed to think so little of them that it dumped them into an appendix to the opinion.¹¹⁰ Claim 8 was directed to a “method of converting signals from binary coded decimal form into binary” and recited seven steps involving signal manipulation. Several of the steps referred to a “reentrant shift register.”¹¹¹ Claim 13, by contrast, recited a “data processing method for converting binary coded decimal number representations into binary number representations,” and included a series of steps in which the “digit representation[s]” were processed.¹¹²

Judge Rich’s opinion for the US Court of Customs and Patent Appeals (CCPA) is illuminating.¹¹³ Most importantly, Judge Rich framed his eligibility analysis by reference to claim construction principles. To get at the eligibility question, he first had to give the claim terms “the meaning they would have ‘to one of ordinary skill in

106. *Id.*

107. *Id.* at 1313 (Moore, J., dissenting in part).

108. *Id.*

109. *Id.* at 1314.

110. *See* *Gottschalk v. Benson*, 409 U.S. 63, 73 (1972).

111. *Id.* at 73–74.

112. *Id.* at 74.

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

the pertinent art when read in light of and consistently with the specification.”¹¹⁴ He then proceeded to ask whether a “reasonable interpretation of the claims” would result in a conclusion that the claims recited nothing more than a series of mental steps.

For Judge Rich, claim 8 presented an easy case in favor of subject matter eligibility following this analysis. The process as claimed in claim 8 was to be practiced “in part on particular apparatus,” namely the shift register.¹¹⁵ Judge Rich interpreted “shift register” by resort to a computer dictionary, which defined “shift register” as “a hardware element.”¹¹⁶ He noted that the claim referred to “signals,” and that a reasonable interpretation of that language in view of the specification supported the conclusion that the signals were “of the kind upon which the disclosed electronic computer operates.”¹¹⁷ All of this pointed to eligibility because the claim as construed was directed to “a machine-implemented process,” and “the apparatus for carrying it out has been disclosed.”¹¹⁸

Judge Rich analyzed claim 13 separately. He acknowledged that the process as defined in claim 13 could be carried out “by machine implementation as disclosed in the specification, by still another machine as disclosed during the prosecution, and even manually although in actual practice it seems improbable anyone would ever do that”¹¹⁹ The claim language did not call for particular hardware on its face, but Judge Rich placed significance in the fact that “the supporting disclosure against which the claim must be reasonably interpreted is the identical programmed digital computer system which supports claim 8.”¹²⁰ He also found it important that the process defined in claim 13 had “no practical use” other than rendering the internal operations of computers more effective. For Judge Rich, this connection to computers placed the claimed invention squarely within the domain of the “technological or useful arts.”¹²¹

One might quarrel with Judge Rich’s conclusions—indeed, the authors might part ways with him on claim 13. But that quarrel would fundamentally be about claim construction. And such a quarrel would be resolved primarily through the tools of claim construction,

114. *Id.* at 687 (quoting *In re Musgrave*, 431 F.2d 882, 895 (C.C.P.A. 1970) (Baldwin, J., concurring)).

115. *Id.*

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

117. *See id.*

118. *Id.*

119. *Id.* at 688.

120. *Id.* at 687.

121. *See id.*

which ordinarily would include some consideration of evidence on what a person of ordinary skill in the art would consider the relevant claim terms to mean.¹²²

The contrast between Judge Rich's methodology and that of the Supreme Court in *Benson* is even more striking than the fact that the Court reversed the CCPA. The Supreme Court treated claims 8 and 13 as if they were identical for eligibility purposes. Perhaps the Court was justified in doing so, particularly if one of ordinary skill in the art would have read "shift register" as importing no meaningful limitations to the claim sufficient to avoid preemption.¹²³ But that issue should have been played out in the record, not merely assumed away. Indeed, the PTO Solicitor admitted in oral argument before the CCPA that the presence of the shift register limitation in claim 8 was "embarrassing" to the PTO's argument of ineligibility.¹²⁴

Viewed through the lens of the proximity-complexity problem, the dilemmas over claim construction presented in both *Benson* and *Alice* are predictable. The predominant substantive eligibility inquiry—preemption—suffers from an extreme proximity problem because the rule purports to influence investment decisions to be undertaken by a remote, future audience.¹²⁵ Substantive eligibility law, as it is currently formulated, does nothing to address this problem—but claim construction law might.

In particular, claim construction law might serve as a platform for developing the sorts of bridging heuristics that can help address problems of unfavorable proximity. Anchoring eligibility analysis in a formal claim construction may mean that courts bring to eligibility analysis an added increment of discipline, or at least the appearance of added discipline, from filtering the key claim language through some apparently objectified source, even if it is a hypothetical one. This approach would discourage any eligibility inquiry that dealt with claim language, such as "shift register," without any attempt to consider evidence about how a hypothetical person in the pertinent community would have construed that language as of the application

122. Or, if not the person having ordinary skill in the art (PHOSITA), then some other relevant interpretive community. See Golden, *supra* note 68, at 322, 328; Holbrook & Janis, *supra* note 48, at 100. The Supreme Court has now made clear that the views of the PHOSITA, and other technical information extrinsic to the public record, is factual, and is subject to the clear error standard of review on appeal. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 835 (2015).

123. Indeed, this question is very similar to a question that divided the Federal Circuit in *CLS Bank*—namely, determining how a PHOSITA would have understood the recitations of "computer" and other apparent hardware recitations in the system claims.

124. See *In re Benson*, 441 F.2d at 687.

125. See *supra* notes 57–68 and accompanying text.

filing date.¹²⁶ This approach views a formal claim construction predicate to the eligibility analysis as presenting an opportunity for courts to situate the eligibility analysis closer to the prevailing understandings of the actual innovator community that the eligibility rules purport to guide.

Stated in the negative, it is problematic to formulate eligibility rules in a vacuum, without regard for the inevitable interaction between those rules and other inquiries, such as claim construction. An eligibility regime operating in that flawed way is effectively a strategy for subjugating objectified technical considerations that ought to surface in a proper claim construction process. It may well exacerbate the problem of proximity by building a legal analysis that operates under its own independent lexicon. At the very least, when an eligibility inquiry proceeds without a predicate claim construction, the court may be missing an opportunity to formulate eligibility rules that can be more predictably translated into practical guidance for the research community.

Unfortunately, by treating all of the three different types of claims in *Alice* as effectively the same, the Supreme Court left the lower courts with nearly untrammelled discretion to embrace or ignore claim language in formulating their eligibility analyses. For those who seek clear guidance from the courts, the early results have not been promising. In *buySAFE, Inc. v. Google, Inc.*, for example, Judge Taranto based his eligibility analysis on his perception of what the claims at issue were “squarely about.”¹²⁷ According to Judge Taranto, they were “squarely about creating a contractual relationship.”¹²⁸ That is quite an extraordinary generalization of a claim that read:

1. A method, comprising:

receiving, by at least one computer application program running on a computer of a safe transaction service provider, a request from a first party for obtaining a transaction performance guaranty service with respect to an online commercial transaction following closing of the online commercial transaction;

processing, by at least one computer application program running on the safe transaction service provider computer, the request by underwriting the first party in order to provide the transaction performance guaranty service to the first party,

126. This is not the only problem that may arise when eligibility analysis is uncoupled from claim construction principles. For example, *Mayo* departs from the conventional approach to claim construction in a different way: by paying mere lip service to the proposition that claims are to be considered as a whole. See, e.g., *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.”). Under the *Mayo* approach, claim dissection is a predicate for applying the inventive concept analysis, which is critiqued in Part IV.

127. See *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

128. *Id.*

wherein the computer of the safe transaction service provider offers, via a computer network, the transaction performance guaranty service that binds a transaction performance guaranty to the online commercial transaction involving the first party to guarantee the performance of the first party following closing of the online commercial transaction.¹²⁹

It is, of course, possible that Judge Taranto's characterization of the claim is correct. But whether it is or is not ought to be analyzed using the tools of claim construction, with, at least, the benefit of the appearance of rigor that those tools provide.

Nonetheless, in another post-*Alice* decision, *Content Extraction & Transmission v. Wells Fargo Bank, National Ass'n*, a Federal Circuit panel rejected the argument that a claim construction analysis should have preceded the eligibility analysis. According to Judge Chen's opinion for the panel, "[a]lthough the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter, claim construction is not an inviolable prerequisite to a validity determination under § 101."¹³⁰

In *Ultramercial*, on remand from the Supreme Court in light of *Alice*, Judge Lourie gave a nod to the primacy of the claims,¹³¹ but then deconstructed the claims at issue into eleven steps, "[w]ithout purporting to construe the claims."¹³² From that deconstruction, Judge Lourie concluded that "[t]his ordered combination of steps recites an abstraction," and then proceeded to generalize the claim even more.¹³³ There is little, if anything, in the Supreme Court's *Alice* decision that would constrain this mode of analyzing eligibility.

The colloquy between Judges Chen and Mayer in another post-*Alice* Federal Circuit decision, *DDR Holdings v. Hotels.com*, provides a striking example of the proposition that *sub silentio* tussles over claim construction underlie most eligibility analyses. In *DDR Holdings*, the court reviewed the eligibility of a set of system claims, including the following:

19. A system useful in an outsource provider serving web pages offering commercial opportunities, the system comprising:

129. *Id.* at 1351–52.

130. *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, No. 2013-1588, 2014 WL 7272219, at *5 (Fed. Cir. Dec. 23, 2014) (citing *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 713 (Fed. Cir. 2014); *Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1273–74 (Fed. Cir. 2012)). The Federal Circuit also pointed out that the trial court had construed the key language in a way most favorable to the patentee, as required in reviewing the patent challenger's motion to dismiss. *Id.*

131. See *Ultramercial*, 772 F.3d at 714 ("We first examine the claims because claims are the definition of what a patent is intended to cover.").

132. *Id.*

133. *Id.* at 715.

(a) a computer store containing data, for each of a plurality of first web pages, defining a plurality of visually perceptible elements, which visually perceptible elements correspond to the plurality of first web pages;

(i) wherein each of the first web pages belongs to one of a plurality of web page owners;

(ii) wherein each of the first web pages displays at least one active link associated with a commerce object associated with a buying opportunity of a selected one of a plurality of merchants; and

(iii) wherein the selected merchant, the out-source provider, and the owner of the first web page displaying the associated link are each third parties with respect to one other;

(b) a computer server at the outsource provider, which computer server is coupled to the computer store and programmed to:

(i) receive from the web browser of a computer user a signal indicating activation of one of the links displayed by one of the first web pages;

(ii) automatically identify as the source page the one of the first web pages on which the link has been activated;

(iii) in response to identification of the source page, automatically retrieve the stored data corresponding to the source page; and

(iv) using the data retrieved, automatically generate and transmit to the web browser a second web page that displays: (A) information associated with the commerce object associated with the link that has been activated, and (B) the plurality of visually perceptible elements visually corresponding to the source page.¹³⁴

Judge Chen's eligibility analysis was premised on particular recitations in the claim. For Judge Chen, it was significant that the claim "recites a system that, among other things, 1) stores 'visually perceptible elements' corresponding to numerous host websites in a database, with each of the host websites displaying at least one link associated with a product or service of a third-party merchant, 2) on activation of this link by a website visitor, automatically identifies the host, and 3) instructs an Internet web server of an 'out-source provider' to construct and serve to the visitor a new, hybrid web page that merges content associated with the products of the third-party merchant with the stored 'visually perceptible elements' from the identified host website."¹³⁵ According to Judge Chen, these limitations "specify how interactions with the Internet are manipulated to yield a desired result," namely by responding to the click of a hyperlink by generating and directing the user to a hybrid webpage having product information from a third party but visual look-and-feel elements from the original website.¹³⁶

134. DDR Holdings, LLC v. Hotels.com, L.P., No. 2013-1505, 2014 WL 6845152, at *2-3 (Fed. Cir. Dec. 5, 2014).

135. *Id.* at *10.

136. *Id.* at *12 (distinguishing the claims at issue from those in *Ultramercial*, which Judge Chen characterized as "broadly and generically claim[ing] 'use of the Internet' to perform an abstract business practice").

By contrast, Judge Mayer's eligibility analysis, in dissent, was premised on discarding those very limitations of the claims as "merely generic."¹³⁷ Judge Mayer viewed the claims as encompassing virtually any "store within a store" concept.¹³⁸ That is, notwithstanding the lengthy recitations in claim 19, for eligibility purposes, the claim could be understood as being directed to the concept "that an online merchant's sales can be increased if two web pages have the same 'look and feel.'"¹³⁹

The eligibility analysis would be better served by a requirement that it be preceded by a claim construction. It is doubtful that requiring that the colloquy in *DDR Holdings* be reframed explicitly as a claim construction exercise would have brought Judges Chen and Mayer to consensus on eligibility. Moreover, claim construction analysis is highly malleable, to put it politely. However, requiring a predicate claim construction might at least provide some common frame for the debate. *DDR Holdings* is a striking illustration in this regard as well. Both judges made at least some attempt to justify their respective positions by referring to claim language and some aspects of the specification, but nothing in *Alice* required them to do even that much.

These emerging approaches demonstrate that, even in a post-*Alice* world, claim construction underlies many of the disputes in this area. To be sure, interjecting the troubled exercise of claim construction into the even more troubled jurisprudence of patent-eligibility and calling that progress, might seem unduly optimistic. Indeed, claim construction rules have tended to suffer from proximity problems of their own, as we have pointed out in prior work.¹⁴⁰ The Federal Circuit has tended to give the person of ordinary skill in the art a relatively limited role in guiding claim construction determinations, except where those determinations are said to turn on the "customary and ordinary meaning" of claim terms.¹⁴¹ Nor is it clear that the person of ordinary skill in the art is the most promising of potential bridging heuristics.¹⁴² At least the Supreme Court finally resolved the crucial issue of the standard of review for claim

137. See *id.* at *17 (Mayer, J., dissenting).

138. See *id.* at *18.

139. *Id.* at *17.

140. See Holbrook & Janis, *supra* note 48, at 93–100 (arguing that the debate over claim construction canons has focused too much on complexity and not enough on proximity).

141. See Timothy R. Holbrook, *Patents, Presumptions, and Public Notice*, 86 IND. L.J. 779, 788–92 (2011) (discussing removal of PHOSTA from claim construction).

142. Holbrook & Janis, *supra* note 48, at 100.

construction.¹⁴³ But given the choice between: (1) yet another cycle of futility in eligibility jurisprudence concerning process inventions, and (2) a fresh focus on claim construction with the promise of some potential improvement in the quality of substantive eligibility rules—option (2) is the better choice.

IV. ELIGIBILITY CREEP: THE “INVENTIVE CONCEPT” AS A COMPONENT OF THE ELIGIBILITY INQUIRY

The preceding Parts have suggested that eligibility analysis could be improved by viewing it as a proximity-complexity problem and developing ways to reduce unfavorable proximity. This Part argues that the Court’s current eligibility jurisprudence for process inventions presents a more troubling trend. If eligibility analysis essentially supplants a traditional novelty and nonobviousness analysis through a newly aggressive application of the “inventive concept” approach to eligibility, the patentability analysis, as a whole, will become less tethered to audience considerations. Eligibility creep—or, more precisely, the extension of the methodology embodied in current eligibility analysis, perhaps under the banner of “eligibility-as-king”—is likely to be counterproductive for the patentability analysis more generally.

Justice Breyer’s opinion for the Court in *Mayo*¹⁴⁴ evinces the fullest embrace of the eligibility-as-king philosophy in the Court’s

143. See *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 835 (2015). Prior to *Teva*, the tension over the standard of review was also evident in the Federal Circuit’s eligibility cases, especially *CLS Bank*. As Judges Linn and O’Malley viewed it:

We assume our colleagues feel free to ignore the record—or, more appropriately, the lack thereof—in this case because claim construction is a question of law which this court reviews de novo. Whether review is de novo or not, however, it still must be a “review”—it must be premised on a record below in which all relevant claim construction issues were vetted and in which the parties had an opportunity to proffer intrinsic and extrinsic evidence which would inform the claim construction process. None of that occurred in this case. Instead, Alice’s evidence and arguments were proffered and accepted by all as established fact. We are not persons of skill in the art and cannot open the record for proceedings that did not occur below. We are a reviewing court whose review must be predicated upon the record presented.

CLS Bank Int’l v. Alice Corp. Pty., 717 F.3d 1269, 1331–32 (Linn & O’Malley, JJ., dissenting) (citing *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc)). Relatedly, one may wonder about the designation of the eligibility inquiry as a question of law. *Compare Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1273 (Fed. Cir. 2012) (analyzing eligibility inquiry as a question of law), *with Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1339 (Fed. Cir. 2013) (asserting that Section 101, “while ultimately a legal determination, is rife with underlying factual issues”). Now that it is clear that aspects of claim construction are factual, the courts might be better off recognizing that eligibility determinations, as well may turn on matters that are best deemed to be underlying technical facts.

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

modern jurisprudence. The Court declared that certain claims that were directed to a method of calibrating the dosage of a drug provided to a patient failed to define eligible subject matter.¹⁴⁵ Specifically, claim 1 required the steps of administering a thiopurine drug to a patient having an immune-mediated gastrointestinal disorder and determining the level of 6-thioguanine in the patient's blood, where a level below a specified threshold indicated a need to increase the amount of drug subsequently administered to the patient, and a level above a specified threshold indicated a need to decrease the dosage.¹⁴⁶ The Court determined that the correlation recited in the claims between the drug dosage and the physiological response was a law of nature, and that the additional recitations in the claims did not add enough to the law of nature to transform the claim into a patent-eligible application of that law.¹⁴⁷

In making this critical determination as to whether the claim recitations added sufficiently to the recited natural correlation, the Court endorsed a search for the "inventive concept" embodied in the claim. That is, process claims that "focus[e] upon the use of a natural law" must also recite "'an inventive concept,' sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself."¹⁴⁸ Applying this test, the Court determined, first, that claim 1 did recite a law of nature—specifically, "relationships between concentrations of certain metabolites in the blood and the likelihood that a dosage of a thiopurine drug will prove ineffective or cause harm."¹⁴⁹ Next, the Court decided that the claim did not add sufficient recitations to that natural correlation to transform it into a patent-eligible method. According to the Court, the claims merely informed doctors about the correlation; the additional recitations consisted of "well-understood, routine, conventional activity already engaged in by the scientific community."¹⁵⁰ When

145. See *id.* at 1294.

146. *Id.* at 1295. The Court took claim 1 as representative. See *id.*

147. See *id.* at 1298; see also *id.* at 1297 ("To put the matter more precisely, do the patent claims add enough to their statements of the correlations to allow the processes they describe to qualify as patent-eligible processes that apply natural laws?"); *id.* at 1294 ("[A]s the Court has also made clear, to transform an unpatentable law of nature into a patent-eligible *application* of such a law, one must do more than simply state the law of nature while adding the words 'apply it.'").

148. *Id.* at 1294.

149. *Id.* at 1296. The Court explained that although it took "human action," namely, the administration of the drug, to "trigger a manifestation of this relation in a particular person, the relation itself exists in principle apart from any human action" because it was simply a "consequence of the ways in which thiopurine compounds are metabolized by the body." *Id.* at 1297. Hence, the relation was an "entirely natural process[]." *Id.*

150. *Id.* at 1298.

viewed as a whole, those recitations added “nothing significant beyond the sum of their parts taken separately.”¹⁵¹

The Supreme Court reiterated this approach in *Alice*, specifically requiring “additional features” in the claim that is more than a “drafting effort” designed to claim the abstract idea.¹⁵² Although the system claims in *Alice* required a computer, “[t]he introduction of a computer into the claims does not alter the analysis at *Mayo* step two.”¹⁵³ In fact, “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”¹⁵⁴ Moreover, “[t]aking the claim elements separately, the function performed by the computer at each step of the process is [p]urely conventional.”¹⁵⁵

It seems apparent from the passages in *Mayo* and *Alice* that the “inventive concept” inquiry permits courts to undertake a quasi-Section 102 and 103 analysis for patentability over the prior art,¹⁵⁶ without the need to qualify any single piece of evidence as prior art or consult the immense jurisprudence of Sections 102 or 103. But the Court expressly rejected the argument that it was problematic to commingle the Section 101 eligibility analysis with the Section 102 and 103 novelty and nonobviousness analysis in this fashion. Indeed, the Court acknowledged that in evaluating “the significance of additional steps” beyond the natural law, “the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap.”¹⁵⁷ Nevertheless, according to the Court, its approach to Section 101 eligibility analysis was justified on the basis of (1) precedent; and (2) the need to bring certainty to eligibility analysis.

Neither justification holds water. The Court’s resort to precedent—specifically its *Flook* and *Diehr* decisions—was brazenly revisionist. *Flook* involved a claim that recited a mathematical formula, and the Court seemed to call for an eligibility analysis that entailed segregating the mathematical formula from the other recitations of the claim and then asking whether those other recitations reflected some inventive concept going beyond the

151. *Id.*

152. *See Alice Corp. Pty. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2357 (2014) (quoting *Mayo*, 132 S. Ct. at 1294, 1298).

153. *Id.*

154. *Id.* at 2358.

155. *Id.* at 2359 (quoting *Mayo*, 132 S. Ct. at 1298).

156. 35 U.S.C. §§ 102–103 (2012).

157. *Mayo*, 132 S.Ct. at 1304.

mathematical formula¹⁵⁸—in other words, an analysis much like that in *Mayo*.¹⁵⁹

However, three years after *Flook*,¹⁶⁰ the Court in *Diehr*¹⁶¹ discarded this very approach in unmistakable language:

In determining the eligibility of respondents' claimed process for patent protection under § 101, their claims must be considered as a whole. It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made. 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.¹⁶²

The Court in *Mayo* does not deal with this language; indeed, the *Mayo* approach is much closer to that of Justice Stevens' dissenting opinion in *Diehr*. The Court seems quite reticent to revisit its case law—in any patent context for that matter—to evaluate whether its doctrine is consistent. Instead of grappling with the inconsistencies in its own decisions, the Court simply recites facts and holdings from its earlier jurisprudence in the hopes that one can discern consistencies. One cannot, and the Section 101 jurisprudence suffers as a result.¹⁶³

Nor did the *Mayo* Court fare much better in its claim that its approach to eligibility places the analysis on the path to greater certainty. The *Mayo* opinion made the astonishing claim that relying predominantly on novelty and nonobviousness to distinguish

158. See *Parker v. Flook*, 437 U.S. 584, 591 (1978).

159. This analysis is also the sort that Congress created in the America Invents Act for the assessment of patents on tax strategies, although for purposes of assessing novelty and nonobviousness. See Leahy-Smith America Invents Act, Pub. L. 112-29, § 14(a), 125 Stat. 284, 327 (2011) ("For purposes of evaluating an invention under section 102 or 103 of title 35, United States Code, any strategy for reducing, avoiding, or deferring tax liability, whether known or unknown at the time of the invention or application for patent, shall be deemed insufficient to differentiate a claimed invention from the prior art."). That Congress situated this comparable analysis in the context of anticipation and obviousness, however, shows the error the Supreme Court has made—considerations of how "new" the invention is should not be part of the threshold issue of whether the subject matter is eligible for patent protection at all.

160. In *Mayo*, the Court discussed *Diehr* first, and then *Flook*, as if *Flook* modified *Diehr*. See *Mayo*, 132 S.Ct. at 1298–1300.

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

162. *Id.* at 188–89 (citing, *inter alia*, legislative history on the distinction between Sections 101 and 102).

163. For an attempt to reconcile the Court's pronouncements about the inventive step inquiry in *Flook*, *Diehr*, and *Mayo*, see Cal. Inst. of Tech. v. Hughes Commc'ns Inc., No. 2:13-CV-07245-MRP, 2014 WL 5661290, at *11 (C.D. Cal. Nov. 3, 2014). The court notes that *Diehr* rejected *Flook's* point-of-novelty approach, and while *Mayo* did require courts to ignore well understood, routine, conventional activity, "neither *Mayo* nor any other precedent defines conventional elements to include *everything* found in prior art. Rather than relying on *Flook*, courts must follow the guidance of *Diehr*, which discourages" dissection of the claim into old and new elements. *Id.*

patentable from unpatentable inventions “risks creating significantly greater legal uncertainty” than relying on Section 101 eligibility.¹⁶⁴ According to *Mayo*, Section 101 eligibility is “the better established inquiry.”¹⁶⁵ The Court went so far as to claim that its case law had endorsed “a bright-line prohibition against patenting laws of nature, mathematical formulas and the like, which serves as a somewhat more easily administered proxy” for the concern about preempting basic building blocks of nature than did other patent criteria.¹⁶⁶ But years of experience in attempting to apply the Court’s “bright-line” standard bely the claim of certainty. The law of patent eligibility was chaotic in the 1970s as courts grappled with the conflicting rhetoric in *Benson*, *Flook*, and *Diehr*,¹⁶⁷ and the progression from *Bilski* to *Mayo* and *Alice* in the current jurisprudence is eerily similar.

The Federal Circuit’s multiple opinions in *Alice* also reflect the eligibility creep. Much of the disagreement at the *en banc* Federal Circuit involved the role of the “inventive concept,” which Judge Lourie embraced and other judges readily rejected. The purpose of identifying the inventive concept, aside from jettisoning claim construction, is to assess whether the concept would preempt subsequent uses of the idea. Importantly though, the inventive concept “must represent more than a trivial appendix to the underlying abstract idea. . . . Limitations that represent a human contribution but are merely tangential, routine, well-understood, or conventional, or in practice fail to narrow the claim relative to the fundamental principle therein, cannot confer patent eligibility.”¹⁶⁸ The only way to make such an assessment is to compare the limitations to what is known in the art to assess their technical importance, which of course harkens to the same inquiry as obviousness under Section 103. Although many of the judges disagreed with Judge Lourie’s approach,¹⁶⁹ it nevertheless demonstrates how eligibility creep can take place.

The Federal Circuit’s opinions applying the Supreme Court’s two-part *Alice* test suggest that eligibility creep is continuing

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

165. *Id.*

166. *Id.* at 1303.

167. See generally Thomas, *supra* note 13, at 1153–63 (cataloguing struggle in Federal Circuit precedent post-*Diehr*, particularly the *Freeman-Walter-Abele* test and *Alappat*).

168. *CLS Bank Int’l v. Alice Corp. Pty.*, 717 F.3d 1269, 1283 (Fed. Cir. 2013) (Lourie, J., concurring).

169. See *id.* at 1302–03 (Rader, C.J., Linn, Moore, & O’Malley, JJ., concurring in part, dissenting in part).

unabated.¹⁷⁰ In theory, this is not inevitable: the Court's two-part test could be used to constrain the inventive concept inquiry by confining it to step two of the test, where it in fact resides. But the Federal Circuit's opinions tend to use inventive concept rhetoric in deciding the first step of the test, whether the claim is directed to an abstract concept, frequently leaving the court little more to do other than repeat itself in analyzing the second step.¹⁷¹ For example, in *buySAFE*, the court concluded that the claims at issue were deemed to fail the abstractness step because they encompassed a concept "that is beyond question of ancient lineage."¹⁷² In *Content Extraction*, the claims failed that step because they recited "well-known" concepts.¹⁷³

All of this is important for this Article's general argument about audience effects. By installing the "inventive concept" as a component of the eligibility analysis, and by frankly acknowledging that eligibility might supplant the novelty and nonobviousness analysis, the Court does more than merely exemplify an eligibility-as-king approach that would be wrongheaded. It does exactly what the audience perspective reveals as problematic: it entitles a court to kick the hypothetical person of ordinary skill in the art to the curb in favor of a discretionary analysis that need not be constrained by the need to establish qualifying prior art evidence, by the need to develop doctrinal checks against judicial hindsight, or by any of the other innovations that have been developed in over two

170. Judge Mayer appears to acknowledge and applaud this development. See, e.g., *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 722 n.2 ("Some charge that if patent eligibility turns on the disclosure of technology that is both 'new' and clearly delineated, section 101 will subsume the non-obviousness and adequate written description inquiries set out in subsequent sections of the Patent Act. The simple fact, however, is that this court's approach to sections 103 and 112 has proved woefully inadequate in preventing a deluge of very poor quality patents.").

171. Indeed, in one case, *Digitech*, the court did not clearly separate its analysis as between the first and second steps at all. See *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1348–49 (Fed. Cir. 2014). The court characterized the claim as reciting the process of taking two data sets and combining them into a single data set, which, it concluded, was directed to "an ineligible abstract process of gathering and combining data that does not require input from a physical device." *Id.* at 1351. The court then concluded that "[w]ithout additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *Id.*

172. See *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014). Its analysis of the second step of the *Alice* test seems a bit of an afterthought and largely redundant of the first step. See *id.* (critiquing the invocation of computer functionality in the claims as "generic" and merely "limited" in significance).

173. See *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, No. 2013-1588, 2014 WL 7272219, at *3 (Fed. Cir. Dec. 23, 2014) ("The concept of data collection, recognition, and storage is undisputedly well-known. Indeed, humans have always performed these functions. And banks have, for some time, reviewed checks, recognized relevant data such as the amount, account number, and identity of account holder, and stored that information in their records.").

hundred years of American jurisprudence on patentability over the prior art.

None of this answers the normative question as to whether such discretion could be a good thing. As an administrative matter, such discretion allows various bodies—courts and the PTO—to make determinations of subject matter eligibility on relatively thin records, without the need for consulting experts because of the absence of the perspective of the person having ordinary skill in the art. But this could also be viewed as a significant bug in the ointment of the patent system: uncabined discretion to reject claims does not facilitate an orderly and predictable patent regime with considerable costs to innovative companies. In making assessments of whether to seek patent protection, as opposed to other potential protection mechanisms such as trade secrecy, innovators will have far greater difficulty discerning whether their invention is deemed patentable by the PTO and then eventually by the courts. To the extent this generates uncertainty and that we believe patent disclosures are important to an innovation system,¹⁷⁴ then one should pause to consider whether the current eligibility doctrine will encourage greater trade secrecy on the margins. This Article agrees with the latter—that the absence of a bridging heuristic creates problems for the patent system that could be and should be resolved.

V. CONCLUSION

The Supreme Court's patentable subject matter jurisprudence, historically and presently, has offered only confusion and uncertainty. As one district court has characterized the two-step approach of *Mayo* and *Alice*, "the two-step test may be more like a one step test evocative of Justice Stewart's most famous phrase," that he knows it when he sees it.¹⁷⁵ The doctrine is wholly isolated from the ultimate audience—the inventing community—to a degree unmatched by other areas of patent law. This separation is a cause for concern for the impact it could have on patent law's incentives. Indeed, the doctrine governing patent-eligible subject matter is truly an odd duck, particularly when compared to other patentability requirements.

174. One of the authors has challenged the robustness of the quid pro quo view of the patent system. See Timothy R. Holbrook, *Possession in Patent Law*, 59 SMU L. Rev. 123, 132–46 (2006).

175. *McRO, Inc. v. Atlas U.S.A.*, No. SACV 13-1870-GW(FFMx), 2014 WL 4772196, at *5 (C.D. Cal. Sept. 22, 2014) ("I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description; and perhaps I could never succeed in intelligibly doing so. But I know it when I see it" (quoting *Jacobellis v. Ohio*, 378 U.S. 184, 197 (1964) (Stewart, J., concurring))).

Those other doctrines either provide a basis of comparison, such as the prior art or the patent disclosure, or are framed with reference to the constructed person having ordinary skill in the art. Patentable subject matter has neither.

The Supreme Court, therefore, missed the opportunity in *Alice* to correct its misstep in *Mayo*. In fact, the Court exacerbated that error by making the two-step analysis of *Mayo* “the” test for patent eligibility, somewhat in tension with its rejection of any definitive tests in *Bilski*. One may actually become wistful for the somewhat formalistic inquiry that the machine-or-transformation test provided, in light of the vague notions adopted by the Supreme Court.

Given the level of discretion provided by the Court, however, one hopes that the Federal Circuit and other lower courts will resist either of two temptations. First, this Article posits that courts should work to interpret the Supreme Court’s guidance in a way that preserves some aspect of eligibility, particularly for some software and other process claims, and thus should resist the “eligibility-as-king” and slayer approach. The Federal Circuit’s recent decision in *DDR Holdings* affords some optimism in that regard. Relatedly, one hopes that the lower courts will resist the temptation to simply adhere to the ad hoc rationalizations of the Supreme Court and instead will work to develop some sort of bridging heuristics to allow the “translators” of the law—patent and other attorneys—to communicate the law more readily to their clients. Whether this effort takes place by creating greater consideration of patent claims and their limitations—in effect, requiring something akin to claim construction—or requiring more robust evidentiary considerations of what constitutes “conventional” activity, hopefully the courts will work to create more predictable limits as to such considerations. Whether the person having ordinary skill in the art or some other heuristic is the most appropriate, this Article leaves for another day. But the Supreme Court has failed to consider the proximity dynamic in addressing the law of patentable subject matter, and the law is worse off for it.