

THE PROCEDURE OF PATENT ELIGIBILITY

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A decade ago, the patent-eligible subject matter requirement was defunct. Several recent Supreme Court decisions, however, have made eligibility the most important issue in many patent cases. To date, debates over the resurgent doctrine have focused mainly on its substance. Critics contend that the Supreme Court’s case law makes patents too easy to invalidate and discourages innovation. Supporters emphasize that the Court’s decisions help eradicate the overly broad patents often asserted by so-called patent trolls. One important consequence of eligibility’s revival, however, has been procedural. Because eligibility is a question of law, lower courts are—for the first time ever—invalidating patents on motions to dismiss, ending infringement cases before the costly discovery process begins. Yet the test for eligibility adopted by the Supreme Court compares the claimed invention to the technology that pre-dated the patent. That comparison, this article argues, often involves issues of fact, not law, which means that courts should be more cautious about deciding eligibility on the pleadings than they currently are.

The article’s broader objective is to develop a procedural framework for resolving eligibility that allows courts to quickly invalidate “bad” patents while reducing the danger they will erroneously invalidate “good” patents on thin records. Thus, in addition to examining the legal versus factual nature of the eligibility requirement, the article analyzes several other procedural questions to which the lower federal courts—including judges and panels of the Federal Circuit—have offered wildly divergent answers. Those questions range from the role of claim construction in the eligibility analysis, to the relevance of the statutory presumption of patent validity, to whether courts should decide eligibility when a case can be terminated on another ground. The article’s study of eligibility procedure also implicates larger questions about the institutional structure of the patent system. Specifically, it shows how the Federal Circuit has drawn problematic distinctions between matters of law and fact in numerous areas of patent doctrine, illustrating the potentially harmful consequences of centralizing patent appeals in a single court.

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INTRODUCTION

For most of the past forty years, the patent-eligible subject matter requirement was a dead letter.¹ In 1980, the Supreme Court suggested that “anything under

¹ Mark A. Lemley et. al., *Life After Bilski*, 63 STAN. L. REV. 1315, 1318 (2011).

the sun that is made by man” is eligible for patenting.² The Patent Office and the Federal Circuit took the Court up on its suggestion, issuing and upholding many thousands of patents on business methods and computer software.³ Because those patents tended to be broad and vague, they caused serious problems for businesses working with information technology.⁴ Most notoriously, they facilitated the emergence of “patent trolls”: entities that do not make products or provide services and that exist mainly to enforce patents.⁵ Though the very existence of trolls is sometimes portrayed as problematic, it is better to think of trolls as a byproduct of more fundamental flaws in the patent system, such as the poor notice provided by many patents and the high cost and uncertainty of patent litigation.⁶

In the past decade, the Supreme Court has responded to criticism of the patent system by making it harder for patentees to enforce patents and easier for accused infringers to invalidate them.⁷ The Court has eliminated the presumption that a patentee who proves infringement is entitled to an injunction,⁸ which reduces patentees’ bargaining power in settlement negotiations. The Court has made it easier for accused infringers to prove that a patent is invalid as obvious.⁹ Most controversially, the Court, in a string of four decisions, has reinvigorated the patent-eligible subject matter requirement, holding that inventions directed to laws of nature, natural phenomena, or abstract ideas are not eligible for patenting unless they also contain an “inventive concept.”¹⁰ Applying that test, the Court has struck down patents on financial risk management techniques,¹¹ computer

² *Diamond v. Chakrabarty*, 447 U.S. 303, 310 (1980) (internal quotation marks omitted) (quoting S. REP. NO. 1979, at 5 (1952); H.R. REP. NO. 1923, at 6 (1952)). For criticism of how the Court characterized the relevant legislative history, see *Bilski v. Kappos*, 561 U.S. 593, 642 (2010) (Stevens, J., concurring in the judgment).

³ JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* 150-51 (2008).

⁴ DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 27 (2009).

⁵ Paul R. Gugliuzza, *Patent Trolls and Preemption*, 101 VA. L. REV. 1579, 1581 (2015).

⁶ Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2172 (2013). Indeed, emerging research challenges the notion that patentees can be neatly categorized as *either* operating companies *or* non-practicing entities (NPEs). See Christopher A. Cotropia et al., *Heterogeneity Among Patent Plaintiffs: An Empirical Analysis of Patent Case Progression, Settlement, and Adjudication*, 15 J. EMPIRICAL LEGAL STUD. (forthcoming 2018) (manuscript at 5), <https://ssrn.com/abstract=3049678>.

⁷ For empirical confirmation of the “anti-patent” trend of recent Supreme Court decisions, see Gregory N. Mandel, *Institutional Fracture in Intellectual Property Law: The Supreme Court Versus Congress*, 102 MINN. L. REV. (forthcoming 2018) (manuscript at 8), <https://ssrn.com/abstract=2926110>.

⁸ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 393-94 (2006).

⁹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 420-22 (2007).

¹⁰ *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014).

¹¹ *Bilski v. Kappos*, 561 U.S. 593, 609 (2010).

software designed to carry out business strategies,¹² naturally occurring DNA sequences,¹³ and methods of medical diagnosis and treatment.¹⁴

The Supreme Court's decisions on eligibility have transformed patent litigation. Eligibility was rarely litigated less than a decade ago, but it is now the central concern in many cases.¹⁵ This change has been bad for patentees. In the past three years, they have lost over sixty percent of eligibility decisions in the federal district courts.¹⁶ As Mark Lemley and I showed in a recent study, patentees' loss-rate grows to over ninety percent on appeal to the Federal Circuit.¹⁷

The invigoration of the eligibility requirement has sparked tremendous controversy. Critics deride the Supreme Court's case law as confusing and lower courts' decisions as unpredictable.¹⁸ They assert that restricting patent eligibility improperly weakens innovation incentives.¹⁹ And they contend that the eligibility requirement, which stems from the Supreme Court's interpretation of § 101 of the Patent Act,²⁰ is legally redundant because other sections of the statute already require patents to be inventive²¹ and not too broadly or abstractly described.²²

¹² *Alice*, 134 S. Ct. at 2357.

¹³ *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2117 (2013).

¹⁴ *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79-80 (2012).

¹⁵ See ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, *PATENT LAW AND POLICY: CASES AND MATERIALS* 101-02 (7th ed. 2017) (providing statistics on the growing number of cases raising eligibility issues).

¹⁶ See Jeffrey A. Lefstin et al., *Final Report of the Berkeley Center for Law & Technology Section 101 Workshop: Addressing Patent Eligibility Challenges*, 32 BERKELEY TECH. L.J. (forthcoming 2018) (manuscript at 22), <https://ssrn.com/abstract=3050093>. By comparison, patentees lose only about forty percent of validity challenges overall (that is, taking into account all possible grounds on which a patent's validity might be challenged, including eligibility). See John R. Allison et al., *Understanding the Realities of Modern Patent Litigation*, 92 TEX. L. REV. 1769, 1787 (2014).

¹⁷ See Paul R. Gugliuzza & Mark A. Lemley, *Can a Court Change the Law By Saying Nothing?*, 71 VAND. L. REV. (forthcoming 2018) (manuscript at 28), <https://ssrn.com/abstract=3015459>.

¹⁸ See, e.g., David O. Taylor, *Confusing Patent Eligibility*, 84 TENN. L. REV. 157, 158-59 (2016).

¹⁹ See, e.g., Kevin Madigan & Adam Mossoff, *Turning Gold Into Lead: How Patent Eligibility Doctrine Is Undermining U.S. Leadership in Innovation*, 24 GEO. MASON L. REV. 939, 941 (2017).

²⁰ Section 101 reads, in full: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101; see also *Bilski v. Kappos*, 561 U.S. 593, 601-02 (2010) ("The Court's precedents provide three specific exceptions to § 101's broad patent-eligibility principles: 'laws of nature, physical phenomena, and abstract ideas.' While these exceptions are not required by the statutory text, they

All that said, the notice failures and overclaiming mentioned above are real problems in the patent system, and they have been exploited by some patentees, particularly those often derided as trolls.²³ The eligibility requirement, in spite of its potential shortcomings, provides a means to invalidate “bad patents” quickly and cheaply because, when district courts strike down patents on eligibility grounds, they frequently do so on a pre-discovery motion to dismiss.²⁴ Resolving eligibility on the pleadings is proper, these courts reason, because it presents a question of law that is devoid of any factual considerations.²⁵ As I have pointed out in prior work, this cost-saving procedural shortcut of pleading-stage dismissal is simply not available for other, more fact-intensive validity doctrines, such as novelty and nonobviousness.²⁶

Yet there are several reasons to pause before praising the trend toward quick invalidations as an unalloyed good. First, under the terms of the federal patent statute, all patents are presumed valid.²⁷ Pleading-stage eligibility decisions, however, often ignore that presumption on the ground that, because eligibility is a pure question of law, evidentiary presumptions do not apply.²⁸ Second, the patents invalidated as ineligible frequently cover complex technology such as

are consistent with the notion that a patentable process must be “new and useful.” (citation omitted).

²¹ Specifically, the novelty requirement of § 102 mandates that a patent be “new” as compared to preexisting technology (the “prior art,” in the parlance of patent lawyers), and the nonobviousness requirement of § 103 forbids patents on inventions that “would have been obvious . . . to a person having ordinary skill in the art to which the claimed invention pertains.”

²² In particular, § 112(a) requires a patent to “contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same.” And § 112(b) contains a definiteness requirement, which ensures that patents “inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). For a discussion of the eligibility requirement’s potential superfluity in light of other requirements of the Patent Act, see John M. Golden, *Redundancy: When Law Repeats Itself*, 94 TEX. L. REV. 629, 701-03 (2016) (defending “the Supreme Court’s move to revive subject-matter eligibility doctrine and to do so in a way that involves doctrinal overlaps,” but citing critical commentary).

²³ See Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2013 WIS. L. REV. 905, 932-36 (chronicling the social costs of overclaiming in the information technology industry).

²⁴ See *infra* Part I.C.

²⁵ See *infra* Part II.B.1.

²⁶ Paul R. Gugliuzza, *Quick Decisions in Patent Cases*, 106 GEO. L.J. (forthcoming 2018) (manuscript at 34-35), <https://ssrn.com/abstract=2987289>.

²⁷ 35 U.S.C. § 282(a) (“A patent shall be presumed valid. . . . The burden of establishing invalidity of a patent . . . shall rest on the party asserting such invalidity.”).

²⁸ See, e.g., *Berkheimer v. Hewlett-Packard Co.*, 224 F. Supp. 3d 635, 641 (N.D. Ill. 2016).

tests for genetic mutations,²⁹ computer systems for processing financial transactions,³⁰ and blood assays for particular diseases.³¹ That technology can be difficult for courts to understand based on the pleadings alone and without any sort of evidentiary hearing. Finally, the test for eligibility adopted by the Supreme Court asks, as noted, whether the patent contains an “inventive concept” as compared to previously existing technology.³² That comparison of the patent to the state of the art can be difficult for a court to perform without looking beyond the pleadings.

The Supreme Court’s resurgent interest in patent eligibility has spawned a voluminous scholarly literature,³³ but lower courts’ procedural innovations in implementing the Court’s decisions have mostly eluded analysis. Similarly, although the Federal Circuit has decided over one hundred patent-eligible subject matter cases in the past three years alone,³⁴ the court has said little about process. When the court *has* addressed issues of procedure, its answers have been noticeably inconsistent, as I demonstrate throughout this article.³⁵ The Federal Circuit’s prevailing attitude toward the procedure of patent eligibility is well-captured in its recent—and remarkably unhelpful—statement that “[c]ourts may . . . dispose of patent-infringement claims” on eligibility grounds “whenever procedurally appropriate.”³⁶ The Federal Circuit’s lack of guidance has caused deep disagreements among district courts on procedural issues in eligibility disputes—another theme that frequently recurs in this article.³⁷ The Federal Circuit’s tolerance of this confusion is a remarkable dereliction of duty by a court created for the specific purpose of ensuring uniformity in patent law.³⁸

²⁹ *E.g.*, *Genetic Techs. Ltd. v. Bristol-Myers Squibb Co.*, 72 F. Supp. 3d 521, 527 (D. Del. 2014), *aff’d sub nom.*, *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369 (Fed. Cir. 2016).

³⁰ *E.g.*, *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, No. 14C08053, 2015 WL 4184486, at *1 (N.D. Ill. July 10, 2015), *aff’d*, 873 F.3d 1364 (Fed. Cir. 2017).

³¹ *E.g.*, *Cleveland Clinic Found. v. True Health Diagnostics, LLC*, No. 1:15CV2331, 2016 WL 705244, at *7 (N.D. Ohio Feb. 23, 2016), *aff’d*, 859 F.3d 1352 (Fed. Cir. 2017).

³² *See, e.g.*, *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2357 (2014) (noting that a patent lacks “the necessary inventive concept” if it can be “carried out in existing computers long in use” (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972))).

³³ For a collection of recent articles, *see* Gugliuzza & Lemley, *supra* note 17, at 32 n.97.

³⁴ *See id.* at 28.

³⁵ *See, e.g., infra* Part II.A.1 (discussing conflicting Federal Circuit opinions on whether courts must address patent eligibility “at the threshold,” that is, before considering other requirements of patentability or issues of infringement).

³⁶ *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1347 (Fed. Cir. 2016).

³⁷ *See infra* Part II.

³⁸ *See generally* Paul R. Gugliuzza, *Rethinking Federal Circuit Jurisdiction*, 100 GEO. L.J. 1437, 1453-64 (2012) (summarizing the Federal Circuit’s history and purpose); *see also* Raymond

Despite what the Federal Circuit’s precedent—or lack thereof—might suggest, procedural considerations are key to evaluating the consequences of eligibility doctrine’s resurgence. If courts are deciding eligibility too early in litigation and without sufficient factual development, they may be erroneously invalidating patents that actually do satisfy the requirements of the Patent Act. In the long run, a pattern of erroneous invalidations will dampen the innovation incentives patents are supposed to provide.³⁹ But if courts wait too long to invalidate patents, accused infringers must bear the costs of unjustified litigation. That could lead potential infringers to simply ignore the existence of patents because they know they will be sued anyway,⁴⁰ or, worse, to stop engaging in the innovative activity that embroiled them in litigation.⁴¹

This article is the first to analyze in detail the evolving procedures through which courts decide the crucial question of patent eligibility. Along the way, it makes both descriptive and prescriptive contributions to the emergent literature on the procedural design of the patent system.⁴² Descriptively, the article identifies numerous difficult procedural questions courts have confronted (or, sometimes, ignored) in the wake of the Supreme Court’s revival of the eligibility requirement, and it chronicles the conflicting answers courts have provided. Those questions include: Is patent eligibility a “threshold” question that a court *must* resolve before deciding other issues, or can the court ignore eligibility and decide the case on other grounds, such as anticipation, obviousness, or noninfringement?⁴³ Is patent eligibility a pure question of law, or does it have factual aspects?⁴⁴ Can a court determine eligibility without conducting a *Markman* hearing in which the

A. Mercado, *Resolving Patent Eligibility and Indefiniteness in Proper Context: Applying Alice and Aristocrat*, 20 VA. J.L. & TECH. 240, 326 (2016) (noting the “need [for] guidance from the Federal Circuit” on the “procedures leading up to . . . an eligibility determination”).

³⁹ See generally Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307, 380 (1994) (“When adjudication both creates incentives for ex ante behavior and affects future conduct, accuracy tends to be more valuable.”).

⁴⁰ Ignoring patents already seems to occur in the information technology sector, where NPE activity is most prevalent. See Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 21 (2008).

⁴¹ See generally Keith N. Hylton, *When Should a Case Be Dismissed? The Economics of Pleading and Summary Judgment Standards*, 16 SUP. CT. ECON. REV. 39, 47 (2008) (“[B]y permitting substantial litigation costs to be imposed on . . . defendants [who did not act unlawfully], failures to dismiss low merit claims weaken incentives to comply with the law and to take socially desirable actions.”).

⁴² For an introduction to that literature, see, in addition to the works cited throughout this article, the sources cited in Ryan Vacca, *The Federal Circuit as an Institution*, in RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW (Peter S. Menell et al., eds., forthcoming 2018) (manuscript at 50-54), <https://ssrn.com/abstract=2706849>.

⁴³ See *infra* Part II.A.

⁴⁴ See *infra* Part II.B.

court construes the patent's claims?⁴⁵ And does the statutory presumption of validity apply when a court analyzes patent eligibility?⁴⁶

In the course of answering those questions, the article makes several prescriptive recommendations that would allow courts to better balance speed and accuracy in the adjudication of patent eligibility. To start, the article critiques the Federal Circuit's periodic efforts to characterize eligibility as a jurisdiction-like issue that *must* be resolved at the outset of the case,⁴⁷ arguing instead that courts should retain their well-established discretion over when, exactly, to decide potentially dispositive issues such as patent eligibility.⁴⁸ Turning to the legal-versus-factual nature of the eligibility question itself, the article argues that courts—particularly the Federal Circuit—should make clear that eligibility can involve factual inquiries even though, like all other requirements of patentability, it is ultimately a question of law.⁴⁹ Acknowledging the potential relevance of facts would clarify the procedure of patent eligibility in several ways: It would ensure that courts resolve eligibility on the pleadings only when the reasons for invalidation are found in the patent itself or are matters about which the court may take judicial notice. It would ensure that courts deciding eligibility at the pleading stage resolve factual doubts in favor of the patentee, rather than simply rendering a yes-or-no decision on validity, as they sometimes seem to do. And it would allow courts to apply the statutory presumption of validity, reconciling the eligibility analysis with the plain language of the Patent Act, which unequivocally states that patents “shall be presumed valid.”⁵⁰

The article's analysis of eligibility procedure also has broader implications for the processes and institutional design of the patent system. For instance, the article shows how district courts resolving eligibility disputes frequently (though

⁴⁵ See *infra* Part II.D; see also *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996) (holding that the judge, not a jury, must determine the meaning of a patent's claims). The claim construction ruling is the most important ruling in many patent cases because it is often dispositive of infringement and is important to determining validity. See generally *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 989 (Fed. Cir. 1995) (en banc) (Mayer, J., concurring in the judgment) (“[T]o decide what the claims mean is nearly always to decide the case.”), *aff'd*, 517 U.S. 370.

⁴⁶ See *infra* Part II.E.

⁴⁷ See, e.g., *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1330 n.3 (Fed. Cir. 2012).

⁴⁸ See *infra* Part II.A.2.

⁴⁹ The Supreme Court has repeatedly recognized that the legal issue of patent validity can turn on underlying questions of fact. See, e.g., *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 96-97 (2011) (“While the ultimate question of patent validity is one of law, the same factual questions underlying the PTO's original examination of a patent application will also bear on an invalidity defense in an infringement action.” (citations omitted) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)).

⁵⁰ 35 U.S.C. § 282(a).

implicitly) treat the question of claim construction as factual,⁵¹ casting doubt on the Federal Circuit’s insistence that claim construction is usually a pure question of law subject to de novo appellate review.⁵² If the Federal Circuit were to recognize the inherently factual nature of claim construction, the court would be forced to defer more frequently to district courts’ rulings about the scope of patent claims, decreasing the cost and increasing the predictability of patent litigation more generally. Also, by showing how judges—not juries—often resolve what appear to be factual disputes underlying the eligibility requirement, the article contributes to a growing literature criticizing the assumption that the Seventh Amendment provides patentees with the right to a jury trial on patent validity.⁵³ Finally, the article shows how the Federal Circuit’s difficulties in distinguishing between law and fact in the eligibility analysis mirror questionable doctrines the court has often embraced—and the Supreme Court has often overturned—on other transsubstantive issues in patent cases, such as matters of jurisdiction and procedure.⁵⁴ The court’s missteps in eligibility procedure provide some reason to think that the Federal Circuit “experiment” in judicial specialization is failing.⁵⁵

The remainder of the article consists of three parts. Part I provides background on the doctrine of patent-eligible subject matter and explains how recent changes to the substance of that doctrine have translated into procedural reform. Part II, the heart of the article, thoroughly examines the procedures courts have used to resolve the newly important question of patent eligibility, and it makes a detailed case for the law-reform recommendations described above. Finally, Part III explores the broader implications of the article’s analysis of eligibility procedure for matters such as the right to a jury trial on patent validity and the centralization of appeals in the Federal Circuit.

⁵¹ See *infra* Part II.C-D.

⁵² See *infra* note 254.

⁵³ See, e.g., Mark A. Lemley, *Why Do Juries Decide If Patents Are Valid?*, 99 VA. L. REV. 1673, 1676 (2013); see also John F. Duffy, *Jury Review of Administrative Action*, 22 WM. & MARY BILL OF RIGHTS J. 281, 299 (2013) (noting that the modern process of reviewing patent validity “is quite distant from the traditional role of a jury as a de novo fact-finding body” and that, accordingly, “jury review of patent validity . . . might . . . soon be replaced by judicial review of patent validity”).

⁵⁴ See Paul R. Gugliuzza & Megan M. La Belle, *The Patently Unexceptional Venue Statute*, 66 AM. U. L. REV. 1027, 1028-29 (2017) (collecting case examples).

⁵⁵ See generally Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 3 (1989) (characterizing the Federal Circuit as “a sustained experiment in specialization”); Craig Allen Nard & John F. Duffy, *Rethinking Patent Law’s Uniformity Principle*, 101 NW. U. L. REV. 1619, 1620 (2007) (“[C]ommentators have increasingly turned to evaluating the Federal Circuit’s precedents on the merits. . . . The answers thus far have not been encouraging.”).

I. THE LAW, POLICY, AND PRACTICE OF PATENT ELIGIBILITY

In less than a decade, the eligibility requirement has revolutionized the practice of patent litigation in the United States. This part of the article begins by discussing how the Supreme Court reinvigorated eligibility doctrine and by synthesizing the Federal Circuit’s subsequent decisions into rough guidelines about the boundaries of patent eligibility. It concludes by highlighting how the recent changes to the substance of eligibility doctrine have dramatically altered the procedures through which courts resolve infringement disputes.

A. The Supreme Court’s Revival of the Eligibility Requirement

Section 101 of the Patent Act permits patents on “any new and useful process, machine, manufacture, or composition of matter.”⁵⁶ Despite that broad language, courts have held that § 101 contains an “implicit exception” that prohibits patenting laws of nature, natural phenomena, and abstract ideas.⁵⁷ All inventions, the thinking goes, involve those basic principles, so the eligibility requirement limits patent protection to specific *applications* of those principles, ensuring that patents do not encompass the “building blocks of human ingenuity.”⁵⁸ Thus, in its twentieth-century cases sketching out the eligibility requirement, the Supreme Court struck down patents on a composition of naturally occurring bacteria⁵⁹ and a mathematical formula for converting decimal numerals into binary numbers.⁶⁰ Conversely, the Court upheld patents on a genetically modified bacterium because it did not occur in nature⁶¹ and on a process for molding rubber that merely *used* a mathematical formula.⁶²

By many accounts, in the 1990s and early 2000s, the Federal Circuit and the Patent Office significantly relaxed the eligibility requirement. They regularly approved patents on computer software⁶³ and methods of doing business⁶⁴ despite the frequently abstract nature of those inventions. They also approved patents on isolated DNA sequences even though those sequences appear in nature.⁶⁵

⁵⁶ 35 U.S.C. § 101.

⁵⁷ *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

⁵⁸ *Id.*

⁵⁹ *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 131 (1948).

⁶⁰ *Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972).

⁶¹ *Diamond v. Chakrabarty*, 447 U.S. 303, 310 (1980).

⁶² *Diamond v. Diehr*, 450 U.S. 175, 187 (1981).

⁶³ See Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CAL. L. REV. 1, 12 (2001) (providing examples).

⁶⁴ *State Street Bank v. Signature Fin. Grp.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998).

⁶⁵ See *Ass’n for Molecular Pathology v. U.S. Pat. & Trademark Off.*, 689 F.3d 1303, 1343-44 (Fed. Cir. 2012) (Moore, J., concurring) (summarizing the history of patents on human genes),

Commentators blamed generous standards of patentability for many emerging problems in the patent system. Broad and overlapping patents in the information technology industry created patent thickets⁶⁶ and contributed to the emergence of patent assertion entitles (PAEs, or, more controversially, patent trolls).⁶⁷ Concerns also began to surface that disaggregated ownership of DNA patents, and the difficulty of inventing around them, was inhibiting development of useful gene therapies.⁶⁸

In 2006, the Supreme Court flirted with the patent-eligible subject matter requirement in a case it ultimately dismissed as improvidently granted.⁶⁹ A year later, the Federal Circuit—apparently taking the hint—returned some bite to the eligibility requirement in two opinions issued on the same day. The first rejected a patent on a transitory signal because it did not fall within the four categories of patent-eligible subject matter listed in § 101 (“process, machine, manufacture, or composition of matter”).⁷⁰ The second held ineligible a patent on a method of requiring and conducting arbitration because it impermissibly claimed “mental processes.”⁷¹

Eligibility’s renaissance began in earnest in 2010, when the Supreme Court, in *Bilski v. Kappos*, held ineligible a patent on a method of hedging financial risk because it claimed an abstract idea.⁷² Though the Court was unwilling to say that business methods could *never* be patented, it made clear that one could no longer obtain a patent by merely performing a longstanding business practice on a computer or over the Internet.⁷³

aff’d in part, rev’d in part sub nom., Ass’n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107 (2013).

⁶⁶ U.S. FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 7 (2003), <https://www.ftc.gov/sites/default/files/documents/reports/promote-innovation-proper-balance-competition-and-patent-law-and-policy/innovationrpt.pdf>.

⁶⁷ EXEC. OFF. OF THE PRESIDENT, PATENT ASSERTION AND U.S. INNOVATION 8 (2013), https://obamawhitehouse.archives.gov/sites/default/files/docs/patent_report.pdf.

⁶⁸ Rochelle C. Dreyfuss & James P. Evans, *From Bilski Back to Benson: Preemption, Inventing Around, and the Case of Genetic Diagnostics*, 63 STAN. L. REV. 1349, 1370 (2011); Dan L. Burk & Mark A. Lemley, *Biotechnology’s Uncertainty Principle*, 54 CASE W. RES. L. REV. 691, 730 (2004).

⁶⁹ *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 125 (2006).

⁷⁰ *In re Nuijten*, 500 F.3d 1346, 1357 (Fed. Cir. 2007).

⁷¹ *In re Comiskey*, 499 F.3d 1365, 1379 (Fed. Cir. 2007). The court later revised its original opinion but reached the same result. *See In re Comiskey*, 554 F.3d 967, 981 (Fed. Cir. 2009).

⁷² 561 U.S. 593, 609 (2010).

⁷³ *See id.* at 611.

Two years later, the Supreme Court considered a patent-eligible subject matter dispute in the field of medical diagnostics, *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*⁷⁴ The patent-in-suit claimed a method of administering a particular drug to a patient, measuring the drug's metabolite levels in the body, and comparing those levels to ranges disclosed in the patent to determine whether dosage should be increased or decreased.⁷⁵ The Supreme Court held that the patent did not satisfy the eligibility requirement because it recited the correlation between metabolite levels and drug safety and efficacy—a “law of nature,” in the Court’s view—and it contained no other “inventive concept.”⁷⁶ Rather, in telling doctors to administer the drug and determine its metabolite levels, the patent simply recited “well-understood, routine, conventional activity” that doctors already engaged in.⁷⁷

After a 2013 decision holding that isolated DNA segments are not patent eligible because they are “product[s] of nature,”⁷⁸ the Court in 2014 decided its most recent eligibility case, *Alice v. CLS Bank International*.⁷⁹ *Alice* involved patents on a computer program that used an intermediary to mitigate the risk that only one party to a financial transaction would perform its obligation.⁸⁰ In its opinion invalidating the patents, the Court drew on *Mayo* to articulate a two-step test that serves as the foundation for eligibility analysis under current law. According to the Court, the first step is to determine whether the patent claim is directed to a “patent-ineligible concept[,]” namely, a law of nature, product of nature, natural phenomenon, or abstract idea.⁸¹ If so, the court then asks whether there are “additional elements” that “transform” the claim into a patent-eligible *application* of the underlying concept.⁸² Quoting *Mayo*, the Court in *Alice* explained that this second step is “a search for an ‘inventive concept’—i.e., an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’”⁸³

⁷⁴ 566 U.S. 66 (2012).

⁷⁵ *Id.* at 74-75.

⁷⁶ *Id.* at 72-73.

⁷⁷ *Id.* at 79-80.

⁷⁸ *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2117 (2013). In the same decision, the Court upheld patents on synthetically created DNA on the rationale that synthetic DNA does not occur in nature. *Id.* at 2119.

⁷⁹ 134 S. Ct. 2347, 2357 (2014).

⁸⁰ *Id.* at 2351-52.

⁸¹ *Id.* at 2355.

⁸² *Id.*

⁸³ *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72-73 (2012)).

Applying that test to the facts of the case, the Court first determined that using intermediaries to mitigate risk was an abstract idea, in part because, like risk hedging in *Bilski*, intermediated settlement “is a ‘fundamental economic practice long prevalent in our system of commerce.’”⁸⁴ On the second step, the Court concluded that merely performing that abstract idea on a general purpose computer, as the patent instructed, did not represent the “inventive concept” required for eligibility.⁸⁵ In terms of what *would* constitute an inventive concept, the Court observed that the patents-in-suit “[did] not, for example, purport to improve the functioning of the computer itself,” nor did they “effect an improvement in any other technology or technical field.”⁸⁶

B. Patent Eligibility at the Federal Circuit

Since the Supreme Court issued its *Alice* opinion in June 2014, the Federal Circuit has decided over one hundred cases involving the patent-eligible subject matter requirement. Like the Supreme Court’s recent rulings, the vast majority of those decisions—over ninety percent of them⁸⁷—have found the claimed invention not to be patent eligible. But the Federal Circuit has upheld several patents against eligibility challenges. Practically all eligibility disputes involve inventions in one of two categories, information technology and biotechnology, and it is easiest to consider the emerging doctrine separately for each category.

In the field of information technology, the Federal Circuit has built on *Bilski* and *Alice* to strike down patents that claim advances in what are sometimes called “non-technological disciplines,” such as business and law.⁸⁸ The court has held ineligible for patenting inventions on methods of optimizing prices,⁸⁹ guaranteeing performance of a transaction,⁹⁰ and managing a bingo game,⁹¹ even though those inventions were implemented on computers. Conversely, the court has upheld patents on inventions that, as the Supreme Court suggested in *Alice*, improved the functioning of a computer, such as a patent on a “self-referential table for a computer database,”⁹² or solved a problem unique to computers or the

⁸⁴ *Id.* at 2356 (quoting *Bilski v. Kappos*, 561 U.S. 593, 611 (2010)).

⁸⁵ *Id.*

⁸⁶ *Id.* at 2359 (citing *Diamond v. Diehr*, 450 U.S. 175, 177-78 (1981), which upheld a patent on a process for molding rubber even though the process included a previously known mathematical equation).

⁸⁷ Gugliuzza & Lemley, *supra* note 17, at 28.

⁸⁸ *Ultramercial, Inc. v. Hulu, LLC (Ultramercial III)*, 772 F.3d 709, 721 (Fed. Cir. 2014) (Mayer, J., concurring).

⁸⁹ *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1360 (Fed. Cir. 2015).

⁹⁰ *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1351 (Fed. Cir. 2014).

⁹¹ *Planet Bingo, LLC v. VKGS LLC*, 576 F. App’x 1005, 1006 (Fed. Cir. 2014).

⁹² *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)

Internet, including a patent on blending together two different Internet web pages to create a new, integrated page.⁹³

In the realm of biotechnology, inventions are likely to survive eligibility challenges if the patent covers a new process or the making of a new thing, as opposed to the isolation or detection of a naturally occurring chemical. In *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, for example, the Federal Circuit invalidated a patent on methods of detecting fetal DNA that floats freely in the mother's body.⁹⁴ Though the discovery of fetal DNA in the mother's blood enabled safer and cheaper genetic testing,⁹⁵ the court invalidated the patent under *Mayo* because fetal DNA appears naturally in the mother's blood and the techniques used to detect and amplify it were well known.⁹⁶ By contrast, in *Rapid Litigation Management Ltd. v. CellzDirect, Inc.*, the Federal Circuit upheld the eligibility of a patent on a method of preserving hepatocytes, a type of liver cell.⁹⁷ Even though the patent turned on the discovery that hepatocytes could survive multiple freeze-thaw cycles—a natural trait of the cells—the Court emphasized that, unlike in *Ariosa*, the patent claimed a new, physical method of preservation, not merely observation.⁹⁸

C. Patent Eligibility as Procedural Reform

The Supreme Court's strengthening of patent eligibility doctrine has been criticized, not without some justification. The aspects of the eligibility inquiry that examine whether the patent improves on the prior art and whether it preempts use of basic research tools overlap with other patentability requirements, including novelty, nonobviousness, and the disclosure mandates of § 112 of the Patent Act.⁹⁹ Also, although the Federal Circuit's eligibility decisions can be synthesized into somewhat coherent rules (as I attempted to do in the preceding section), inconsistencies among those decisions can make it difficult to predict the outcomes of future cases. Most notably, the claims in some of the information technology patents the Federal Circuit has upheld as improving the function of a

⁹³ *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014).

⁹⁴ 788 F.3d 1371, 1376-77 (Fed. Cir. 2015).

⁹⁵ Rachel Rebouché, *Testing Sex*, 49 U. RICH. L. REV. 519, 527 (2015).

⁹⁶ *Id.* at 1376-77; accord *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1360-63 (Fed. Cir. 2017) (applying similar reasoning to invalidate patents on methods of testing for the presence of an enzyme associated with cardiovascular disease); *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1371 (Fed. Cir. 2016) (same, in a case involving methods of analyzing DNA sequences).

⁹⁷ 827 F.3d 1042, 1045 (Fed. Cir. 2016).

⁹⁸ *Id.* at 1050-52.

⁹⁹ See Jeffrey A. Lefstin & Peter S. Menell, *Restoring the Legislative Framework for Patenting Applications of Scientific Discoveries* 23 (Apr. 20, 2016), <https://ssrn.com/abstract=2767904>. For a summary of those requirements, see *supra* notes 21-22.

computer have been rather vague, consisting mostly of generically described computer parts and processes.¹⁰⁰ The court has saved those patents from invalidation by relying on details in the patent's specification (that is, the description of the invention that precedes the patent's claims).¹⁰¹ Those decisions relying on the specification to uphold validity are in tension with the court's occasional instruction that the eligibility analysis should focus on the patent's claims alone.¹⁰² Finally, cases such as *Ariosa*, which struck down a patent on a seemingly innovative method of detecting fetal abnormalities, illustrate the risk that the eligibility requirement may exclude some socially valuable inventions from patent protection.¹⁰³

Yet the newly invigorated eligibility requirement has redeeming qualities. Among other things, as I have discussed in detail in prior work, eligibility provides a useful “quick look” at patent validity that allows courts to dispose of patents that are *plainly* invalid before discovery begins.¹⁰⁴ Because courts treat eligibility as a question of law, they often invalidate patents on eligibility grounds at the pleading stage.¹⁰⁵ Such early, dispositive decisions are not possible on issues such as novelty, nonobviousness, or infringement because those issues usually turn on questions of fact that cannot be resolved until summary judgment or trial.¹⁰⁶ To be sure, earlier decisions on patentability may cause some meritorious patents to be invalidated—an increase in error costs, in the traditional

¹⁰⁰ See, for example, *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1257 (Fed. Cir. 2017), in which a panel of the court, in a split decision, upheld a patent that recited “[a] computer memory system connectable to a processor and having one or more programmable operational characteristics,” with the “system” comprising “a main memory” and “a cache,” and with the “programmable operational characteristic” “determin[ing] a type of data stored by [the] cache.” That claim, on my reading, seems to recite nothing more than a general purpose computer programed to perform some vaguely defined type of data analysis. *Accord id.* at 1263 (Hughes, J., dissenting).

¹⁰¹ See, e.g., *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300-01 (Fed. Cir. 2016) (relying on a passage from the specification to conclude that the claimed invention “entails an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases)”).

¹⁰² See *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F. 3d 1329, 1338 (Fed. Cir. 2017) (“The main problem that [the patentee] cannot overcome is that the *claim*—as opposed to something purportedly described in the specification—is missing an inventive concept.”).

¹⁰³ See Rebecca S. Eisenberg, *Diagnostics Need Not Apply*, 21 B.U. J. SCI. & TECH. L. 256, 286 (2015) (discussing the unclear policy implications of excluding diagnostic tests from patent eligibility).

¹⁰⁴ See Gugliuzza, *supra* note 26, at 39-40.

¹⁰⁵ See Lefstin et al., *supra* note 16, at 23 (reporting that, from June 2012 to February 2017, 69.4% of district court decisions on eligibility (249 of 359) were made on a motion to dismiss or for judgment on the pleadings and that 63.1% of those pleading-stage decisions (157 of 249) invalidated the patent).

¹⁰⁶ See Gugliuzza, *supra* note 26, at 38.

economic account of litigation. But any normative analysis of eligibility doctrine must also consider how *process* costs decrease by facilitating quicker and cheaper resolutions than were previously possible.¹⁰⁷

Although much of the criticism of the eligibility requirement attacks the substance of the courts' case law, that criticism can, in fact, be understood in procedural terms. For instance, critiques about eligibility's overlap with other patentability doctrines arguably reflect concern that courts are resolving questions of inventiveness and overbreadth *too early* in the case. Even if the eligibility requirement did not exist, courts would resolve those questions under other sections of the Patent Act. But that would typically occur later in the case and with a more developed factual record.¹⁰⁸

Arguments about excluding meritorious inventions from the patent system and about unpredictability can be understood in procedural terms, too. At summary judgment, when a patent's scope has been defined through claim construction and there is a factual record addressing the extent of the patent's improvement on pre-existing technology, it is less likely that a court will invalidate a patent that is narrowly tailored to cover a truly original invention. The better developed factual record and clearer definition of claim scope should also make it easier to predict the court's result.

Regardless of any critiques of eligibility doctrine, the reality is that pleading-stage decisions on eligibility will likely remain a common practice for the foreseeable future.¹⁰⁹ Not only are the problems with overly broad and unoriginal patents legitimate (even if the extent of those problems might reasonably be debated), the trend toward adjudicating patent validity on the pleadings is

¹⁰⁷ For a summary of the traditional law-and-economics theory of litigation, under which the normative aim is to minimize both error costs and process costs, see generally Richard A. Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399, 400 (1973).

¹⁰⁸ Cf. PETER S. MENELL ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 301 (2017) ("How can a court know whether the implementation of an abstract idea is inventive (i.e., well-understood, conventional or routine) without collecting evidence on what is known in the art?").

¹⁰⁹ It is possible that eligibility motions will decrease in frequency once patents issued prior to the Supreme Court's recent decisions are no longer being asserted, though some evidence suggests that the Patent Office is still issuing software patents, which are the target of many eligibility challenges, at a rapid clip. See Maulin Shah, *Software Patents Are Resilient in the Wake of Alice Corp. v. CLS Bank*, PATENTVUE (Sept. 9, 2015), <http://patentvue.com/2015/09/09/software-patents-are-resilient-in-the-wake-of-alice-corp-vs-cls-bank> (also noting that the Patent Office continues to issue business method patents post-*Alice*, though in smaller numbers). In addition, eligibility motions could decrease if Congress passes legislation to weaken or eliminate the eligibility requirement, but legislation seems unlikely. See Dennis Crouch, *AIPLA On Board with Statutory Reform of 101*, PATENTLYO (May 16, 2017), <https://patentlyo.com/patent/2017/05/aip-la-statutory-reform.html> (summarizing recent proposals).

consistent with developments in American procedural law more generally. The “textbook” model of civil procedure, under which a case proceeds in an orderly fashion from the pleadings to discovery to summary judgment to trial and appeal, has, in many respects, disappeared, with judges increasingly resolving fact-intensive questions at preliminary stages on motions to dismiss, for class certification, or for summary judgment.¹¹⁰ Like eligibility’s resurgence in response to worries about “litigation abuse” by patent trolls,¹¹¹ those broader procedural changes have occurred in response to concerns (some valid, some not) about the high cost and low merit of particular types of litigation.¹¹² Because early eligibility motions are probably here to stay, the key objective for those interested in the procedural design of the patent system is to determine how courts can decide those motions in a way that maximizes decisional accuracy and minimizes litigation costs.¹¹³ The next part of this article takes a step in that direction.

II. THE PROCEDURE OF PATENT ELIGIBILITY

Courts’ newfound flexibility to resolve patent validity at the pleadings stage has raised many questions of process that they have answered in dramatically different ways or, in some circumstances, completely ignored. This part of the article breaks new ground in patent law scholarship by identifying the five most important unresolved questions about the procedure of patent eligibility. It also suggests answers to those questions that would help maximize the eligibility requirement’s cost-saving potential while minimizing the risk that courts invalidate meritorious patents.

A. Analyzing Eligibility at the “Threshold”

The procedural question relevant to patent eligibility that the Federal Circuit has discussed most thoroughly is whether a court must analyze eligibility “at the threshold”—that is, before resolving other issues of patentability and infringement—or whether a court may avoid deciding eligibility and resolve the case on other grounds if that would be more efficient. The extent to which the Federal Circuit has fixated on this issue is perplexing. Federal courts generally

¹¹⁰ See Alexandra D. Lahav, *Procedural Design* 42 (Aug. 7, 2017), <https://ssrn.com/abstract=3013961>.

¹¹¹ See Paul R. Gugliuzza, *Patent Trolls and Patent Litigation Reform*, in OXFORD HANDBOOKS ONLINE, at 15 (2017), <http://www.oxfordhandbooks.com>.

¹¹² Lahav, *supra* note 110, at 42.

¹¹³ Cf. Mark A. Lemley, *The Surprising Resilience of the Patent System*, 95 TEX. L. REV. 1, 56 (2016) (arguing that, because recent changes to patent law seem to have had little effect on patent acquisition and enforcement, reformers should instead “look out for opportunities to simplify patent litigation, making it quicker and cheaper” (emphasis added)).

have significant discretion over how they manage their dockets,¹¹⁴ and courts usually decide only the issues the parties contest.¹¹⁵ Yet a surprising amount of case law states that courts *must* decide patent eligibility before analyzing other issues, regardless of what the parties want or what the court thinks is most efficient. This puzzling insistence that patent eligibility is, like subject matter jurisdiction, a threshold issue, has spurred some judges and scholars to embrace another extreme: analogizing to principles of constitutional avoidance, they assert that courts should *never* address eligibility if a case can be resolved on other grounds. This section makes the case for why neither of those inflexible approaches is optimal.

1. Conflicting Case Law on the “Threshold” Question.—To start, a review of the relevant case law will help illuminate why the debate over when eligibility should be decided is so contentious. (As with many of the procedural topics explored in this article, the relevant precedent has, to my knowledge, never before been collected in one place.)

One of the earliest judicial references to eligibility being the first issue that must be addressed in the patentability analysis is in *Parker v. Flook*, a 1978 Supreme Court decision holding that a method of updating alarm limits during catalytic conversion was not eligible for a patent because its only inventive feature was a mathematical formula.¹¹⁶ In rejecting the argument that the Court’s approach to eligibility “improperly import[ed] into § 101” (the portion of the Patent Act that is the basis for the eligibility requirement) “the considerations of ‘inventiveness,’ that are the proper concerns of §§ 102 and 103” (the portions that require patents to be novel and nonobvious, respectively), the Court noted that the eligibility requirement “rests . . . on the more fundamental understanding that” certain inventions “are not the kind of ‘discoveries’ that the statute was enacted to protect.”¹¹⁷ Accordingly, the Court continued, “[t]he obligation to determine what type of discovery is sought to be patented *must precede* the determination of whether that discovery is, in fact, new or obvious.”¹¹⁸

A year later, the Court of Customs and Patent Appeals (one of the Federal Circuit’s predecessors) drew on that language from *Flook* in writing that “[t]he first door which must be opened on the difficult path to patentability is § 101.”¹¹⁹

¹¹⁴ See, e.g., *Landis v. N. Am. Co.*, 299 U.S. 248, 254 (1936) (Cardozo, J.) (recognizing the “power inherent in every court to control the disposition of the causes on its docket with economy of time and effort for itself, for counsel, and for litigants”).

¹¹⁵ But see *infra* notes 147-148 and accompanying text for a discussion of scholarship questioning that norm.

¹¹⁶ 437 U.S. 584, 594-95 (1978).

¹¹⁷ *Id.* at 593.

¹¹⁸ *Id.* (emphasis added).

¹¹⁹ *In re Bergy*, 596 F.2d 952, 960 (C.C.P.A. 1979) (Rich, J.) (citing *Flook*, 437 U.S. at 593).

The Supreme Court used the term “threshold” for the first time in a 1981 decision,¹²⁰ and the Federal Circuit repeated the notion that eligibility is the “first door” to be opened in its landmark 1998 decision in *State Street*, which held that business methods are, in fact, patent eligible.¹²¹

Courts’ characterization of eligibility as a threshold issue continued at the beginning of the requirement’s recent renaissance. In the Federal Circuit’s 2007 decision in *Comiskey*, which held that a method of compelling and conducting arbitration was not patent eligible, the court insisted that the eligibility inquiry “*must* precede the determination of whether [the] discovery is . . . new or obvious.”¹²² A year later, in its en banc opinion in *Bilski*, the Federal Circuit made a dubious effort to back away from that emphatic statement, writing that “[a]lthough our decision in *Comiskey* may be misread by some as requiring in every case that the examiner conduct a § 101 analysis before assessing any other issue of patentability, we did not so hold.”¹²³ The Supreme Court’s opinion in *Bilski* ultimately did not tackle this question of sequencing, but the Court did refer to § 101 as a “threshold test.”¹²⁴

Except for *State Street*, all of these cases characterizing § 101 as a threshold issue were appeals from examination proceedings at the Patent Office. Unlike a court, which typically resolves only the issues raised by the parties, the Patent Office must decide that an application complies with *every* patentability requirement before it grants a patent.¹²⁵ Because of the comprehensive nature of Patent Office examination, there is at least a plausible ground for suggesting that examination should start with § 101—the first patentability requirement presented in the patent statute.¹²⁶ But the notion that that eligibility must be addressed at the outset has increasingly appeared in Federal Circuit opinions in infringement litigation, too. The initial appearances were largely as boilerplate recitations of the law that introduced the eligibility analysis.¹²⁷ More recently, however, panels

¹²⁰ *Diamond v. Diehr*, 450 U.S. 175, 188 (1981) (holding that the claimed process for curing rubber was “not barred at the threshold by § 101”).

¹²¹ *State St. Bank & Trust Co. v. Signature Fin. Grp., Inc.*, 149 F.3d 1368, 1372 n.2 (Fed. Cir. 1998) (quoting *Bergy*, 596 F.2d at 960).

¹²² *In re Comiskey*, 499 F.3d 1365, 1371 (Fed. Cir. 2007).

¹²³ *In re Bilski*, 545 F.3d 943, 950 n.1 (Fed. Cir. 2008) (en banc).

¹²⁴ *Bilski v. Kappos*, 561 U.S. 593, 602 (2010); *accord id.* at 621 (Stevens, J., concurring in the judgment) (“Section 101 imposes a threshold condition.”).

¹²⁵ See MANUAL OF PATENT EXAMINING PROCEDURE § 2103 (9th ed. 2015) (“[E]ach claim should be reviewed for compliance with every statutory requirement for patentability . . .”).

¹²⁶ See 35 U.S.C. pt. II (“Patentability of Inventions and Grant of Patents”).

¹²⁷ See, e.g., *Ultramercial, LLC v. Hulu, LLC (Ultramercial I)*, 657 F.3d 1323, 1326 (Fed. Cir. 2011) (“[A]s § 101 itself expresses, subject matter eligibility is merely a threshold check; claim patentability ultimately depends on ‘the conditions and requirements of this title,’ such as novelty, nonobviousness, and adequate disclosure.”), *cert. granted, judgment vacated sub nom.*,

and judges of the Federal Circuit have become deeply divided over the question of when, exactly, a court must address the issue of eligibility in infringement cases.

Three distinct camps have formed. First, as the discussion thus far suggests, there remains significant support in both Federal Circuit and Supreme Court case law for the view that eligibility must be addressed at the outset in all analyses of patentability, whether being conducted by an examiner at the Patent Office or by a court in litigation.¹²⁸ Second, the Federal Circuit has sometimes stated precisely the opposite view: that courts should *avoid* analyzing eligibility if a case can be resolved on other grounds. This notion of what I will call “eligibility avoidance” first appeared in a 2012 case, *Dealertrack, Inc. v. Huber*, in which a district court had before it several different summary judgment motions.¹²⁹ The district court granted a motion to invalidate the patent for not reciting eligible subject matter, and the Federal Circuit affirmed.¹³⁰ But Judge Plager dissented, arguing that the court “should exercise its inherent power to control the processes of litigation and insist that litigants, and trial courts, initially address” novelty, nonobviousness, and the disclosure doctrines of § 112, “and not foray into the jurisprudential morass of § 101 unless absolutely necessary.”¹³¹ The majority (Judge Linn, joined by Judge Dyk) responded by referencing the case law discussed above and noting, simply (and accurately), that “the Supreme Court characterizes patent eligibility under § 101 as a ‘threshold test.’”¹³²

Undeterred, Judge Plager worked his eligibility avoidance view into a majority opinion less than two months later. In *MySpace, Inc. v. GraphOn Corp.*, the district court granted summary judgment of invalidity on the grounds of anticipation (that is, lack of novelty) and obviousness, and the Federal Circuit affirmed.¹³³ Judge Mayer dissented, insisting that “§ 101 is an ‘antecedent question’ that must be addressed before this court can consider whether particular claims are invalid as obvious or anticipated.”¹³⁴ In response, Judge Plager, this time the author of the majority opinion (joined by Judge Newman), expanded on

WildTangent, Inc. v. Ultramercial, LLC, 132 S. Ct. 2431 (2012); *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057, 1063 (Fed. Cir. 2011) (section of opinion titled “The § 101 Threshold”).

¹²⁸ In addition to the cases discussed above, see the cases and opinions cited *infra* notes 132, 138-139.

¹²⁹ 674 F.3d 1315, 1318 (Fed. Cir. 2012).

¹³⁰ *Id.* at 1334.

¹³¹ *Id.* at 1335 (Plager, J., concurring in part and dissenting in part) (citation omitted).

¹³² *Id.* at 1330 n.3 (majority opinion) (quoting *Bilski v. Kappos*, 561 U.S. 593, 602 (2010)).

¹³³ 672 F.3d 1250, 1258 (Fed. Cir. 2012).

¹³⁴ *Id.* at 1264 (Mayer, J., dissenting) (quoting *In re Comiskey*, 554 F.3d 967, 975 n.7 (Fed. Cir. 2009)).

his dissent from *Dealertrack*, writing that courts should avoid the “swamp of verbiage that is § 101” and insist that litigants first address all of the Patent Act’s other patentability requirements.¹³⁵ Avoiding § 101, according to Judge Plager’s opinion for the court, “would make patent litigation more efficient, conserve judicial resources, and bring a degree of certainty to the interests of both patentees and their competitors in the marketplace.”¹³⁶ Judge Plager’s opinion drew parallels to the principle of constitutional avoidance, noting that § 101 “can be thought of as the patent law analogy to the Bill of Rights” and that, accordingly, the court should “put aside the § 101 defense” unless it is “clear and convincing beyond peradventure” that the claim is ineligible.¹³⁷

With Judge Plager’s opinion in *MySpace* still on the books today, two irreconcilable lines of Federal Circuit authority exist. First, the avoidance view, enshrined in the *MySpace* opinion and supported by policy concerns about the difficulty of applying the Supreme Court’s test for patent eligibility. And, second, the threshold view, supported by the long line of case law discussed above and perhaps most staunchly by Judge Mayer, as evidenced by his dissent in *MySpace* and several other opinions in subsequent cases.¹³⁸ The basic policy justification for the threshold view is that it can help end litigation quickly and inexpensively. As Judge Mayer has written, eligibility “can often be resolved without lengthy claim construction, and an early determination [of ineligibility] can spare both litigants and courts years of needless litigation.”¹³⁹

In contrast to the two extremes of the threshold and avoidance approaches, a third approach embraces the compromise position that courts should have discretion about when, exactly, to address the issue of eligibility. As noted above, the Federal Circuit’s *Bilski* opinion suggested that a patent examiner might have flexibility to address alternative grounds for rejection before eligibility. Judge Lourie’s concurrence in the Federal Circuit’s deeply divided en banc decision in *Alice* suggested that a more flexible approach would be permissible in litigation,

¹³⁵ *Id.* at 1260 (majority opinion).

¹³⁶ *Id.*

¹³⁷ *Id.* at 1260-61.

¹³⁸ See, e.g., *Alexsam, Inc. v. IDT Corp.*, 715 F.3d 1336, 1348 (Fed. Cir. 2013) (Mayer, J., dissenting) (“Whether claims are directed to statutory subject matter is a ‘threshold’ question, which must be addressed before this court can consider subordinate issues related to obviousness and infringement.”) (citation omitted); *accord Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1324 (Fed. Cir. 2016) (Mayer, J., concurring). Also see the cases cited *infra* note 139.

¹³⁹ *I/P Engine, Inc. v. AOL Inc.*, 576 F. App’x 982, 996 (Fed. Cir. 2014) (Mayer, J., concurring); *accord Ultramercial, Inc. v. Hulu, LLC (Ultramercial III)*, 772 F.3d 709, 718-20 (Fed. Cir. 2014) (Mayer, J., concurring) (noting that resolving eligibility at the outset “will conserve scarce judicial resources” because it can be resolved on a motion to dismiss without formal claim construction).

too.¹⁴⁰ He wrote: “[S]ome have argued that because § 101 is a ‘threshold test,’ district courts must always consider subject-matter eligibility first among all possible bases for finding invalidity. That is not correct.”¹⁴¹ District courts, Judge Lourie continued, “are rightly entrusted with great discretion to control their dockets and the conduct of proceedings before them, including the order of issues presented during litigation.”¹⁴² According to Judge Lourie, “district courts may exercise their discretion to begin elsewhere when they perceive that another section of the Patent Act might provide a clearer and more expeditious path to resolving a dispute.”¹⁴³

2. *The Optimal Timing of Eligibility Decisions.*—Of the three approaches to the timing of eligibility decisions, the flexible approach articulated by Judge Lourie in *Alice*—for which there is actually the *least* support in Federal Circuit case law—makes the most sense, and it probably best reflects the actual practice in the district courts.¹⁴⁴ The threshold approach—for which there is the *most* precedential authority—makes the least sense, particularly in litigation as compared to examination. For starters, it would be unusual in our adversarial system to force parties to litigate an issue they do not want to¹⁴⁵ or to force a judge to decide an issue the parties do not contest.¹⁴⁶ Some commentators have criticized courts’ tendency to give the parties control over issue selection, particularly when the parties’ presentation might lead the court to make an inaccurate pronouncement about the law.¹⁴⁷ But a fact-specific decision on patent

¹⁴⁰ CLS Bank Int’l v. Alice Corp., 717 F.3d 1269, 1284 (Fed. Cir. 2013) (Lourie, J., concurring), *aff’d*, 134 S. Ct. 2347 (2014). Judges Dyk, Prost, Reyna, and Wallach joined Judge Lourie’s opinion.

¹⁴¹ *Id.* (quoting *Bilski v. Kappos*, 561 U.S. 593, 602 (2010)).

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ *See, e.g.*, *CertusView Techs., LLC v. S&N Locating Servs., LLC*, 111 F. Supp. 3d 688, 731 (E.D. Va. 2015) (granting the defendants’ motion for judgment on the pleadings of ineligibility, denying as moot motions for summary judgment of anticipation, obviousness, and noninfringement), *aff’d*, No. 2016-2605, 2017 WL 3443246 (Fed. Cir. Aug. 11, 2017); *TNS Media Research, LLC v. TRA Glob., Inc.*, 984 F. Supp. 2d 205, 242 (S.D.N.Y. 2013) (granting the defendants’ motion for summary judgment of noninfringement, denying as moot a motion for summary judgment of invalidity on eligibility grounds (among others)), *aff’d in part, rev’d in part sub nom.*, *TNS Media Research, LLC v. TiVo Research & Analytics, Inc.*, 629 F. App’x 916 (Fed. Cir. 2015).

¹⁴⁵ *See* JACK H. FRIEDENTHAL ET AL., *CIVIL PROCEDURE* (4th ed. 2005) (discussing the principle that courts usually decide only issues raised by the parties).

¹⁴⁶ *See* Stephen A. Saltzburg, *Lawyers, Clients, and the Adversary System*, 37 MERCER L. REV. 647, 656 (1986) (discussing the theory that legal disputes are best resolved upon an adversarial presentation by the parties).

¹⁴⁷ *See* Amanda Frost, *The Limits of Advocacy*, 59 DUKE L.J. 447, 452-53 (2009); *see also* GARY LAWSON, *EVIDENCE OF THE LAW* ch.6 (2017) (exploring the circumstances in which the scope of adjudication is “entirely up to the parties” as well as the instances in which “the legal

validity—particularly at the district court level—has almost no precedential significance, meaning that courts can defer to the parties’ choice about whether to raise the issue without significantly distorting the law that will apply in future cases.¹⁴⁸

Another justification for the threshold approach, which Judge Mayer has adopted, is to characterize § 101 as a “jurisdictional” requirement that cannot be waived by the parties or avoided by the court.¹⁴⁹ But that argument is on shaky doctrinal ground. The Supreme Court in recent years has significantly narrowed the class of legal requirements considered to be “jurisdictional” and therefore mandatory for the court to resolve at the outset of a case.¹⁵⁰ Instead, the Court has enhanced lower courts’ flexibility to decide cases on the easiest ground available.¹⁵¹ Patentable subject matter, which defines the validity of a patent and is an essential element of a successful claim of infringement, would almost certainly fall on the merits, not jurisdictional, side of the divide.¹⁵² Despite these flaws in the threshold approach, district courts sometimes declare that eligibility *must* be resolved first because of the significant amount of Federal Circuit (and Supreme Court) precedent embracing that perspective.¹⁵³

At the other extreme, some commentators have praised the virtues of eligibility avoidance. Drawing on Judge Plager’s opinion in *MySpace*, they note

system [has] . . . the right, and even the obligation . . . , to tell the parties what they need to be arguing about”).

¹⁴⁸ Cf. Frost, *supra* note 147, at 511-12 (noting that, because “[d]istrict courts do not set precedent, . . . issue creation is less vital” at that level, but also observing that district courts are uniquely positioned to inject new issues into a case early—when fact development is still possible and the parties’ expectations are less settled).

¹⁴⁹ *Ultramercial, Inc. v. Hulu, LLC (Ultramercial III)*, 772 F.3d 709, 718 (Fed. Cir. 2014) (Mayer, J., concurring) (noting that as a “gateway to the Patent Act,” eligibility analysis “bears some of the hallmarks of a jurisdictional inquiry”).

¹⁵⁰ See Howard M. Wasserman, *The Demise of “Drive-By Jurisdictional Rulings,”* 105 NW. L. REV. 947, 947-48 (2011).

¹⁵¹ See, e.g., *Sinochem Int’l Co. v. Malaysia Int’l Shipping Corp.*, 549 U.S. 422, 425 (2007) (holding that a court may dismiss a case on forum non conveniens grounds without determining whether personal or subject matter jurisdiction exist).

¹⁵² See Wasserman, *supra*, note 150, at 948 (distinguishing “[a]djudicative-jurisdictional rules” from, among other things, “substantive-merits rules that . . . determin[e] the validity and success of a plaintiff’s claim”); see also Scott Dodson, *Jurisdiction and Its Effects*, 105 GEO. L.J. 619, 634, 636 (2017) (“Jurisdiction[] . . . determines forum in a multiforum system. . . . Any law that does not determine forum . . . cannot be called jurisdictional.”).

¹⁵³ See, e.g., *SmartGene, Inc. v. Advanced Biological Labs.*, 852 F. Supp. 2d 42, 51 (D.D.C. 2012) (stating that “a 35 U.S.C. § 101 subject matter patentability inquiry is the threshold analysis for determining patent validity”); *Affinity Labs of Tex., LLC v. Amazon.com, Inc.*, No. 6:15-CV-29, 2015 WL 3757497, at *4 (W.D. Tex. June 12, 2015) (noting that § 101 “must be satisfied before a court can proceed to consider subordinate validity issues” and that “[t]he Federal Circuit’s declaration on this point is rooted in sound policy”) (internal quotation marks omitted).

that avoiding eligibility can reduce “the total cost of deciding validity issues, given that § 101 is the most vague and contentious of all validity doctrines.”¹⁵⁴ Those scholars have buttressed their arguments with empirical evidence suggesting that most patent applications rejected by examiners as ineligible are also rejected on another ground, such as anticipation or obviousness, illustrating, in their view, that it is often unnecessary to consider the sometimes difficult question of eligibility.¹⁵⁵

The avoidance approach has possible appeal in examination. Eligibility is essentially a common law doctrine, requiring the decisionmaker to analogize and distinguish judicial precedent. That is a mode of analysis familiar to lawyers and federal judges but not to nonlawyer patent examiners.¹⁵⁶ Also, eligibility’s inquiry into whether an activity is “conventional” could demand more complex and costly factual investigations than it takes to resolve questions of novelty and nonobviousness, which require the examiner mainly to read technical documents.¹⁵⁷ That said, it is not beyond doubt that avoiding eligibility would result in greater efficiency, as a rejection on all applicable grounds at once can ultimately streamline the examination process.

In any event, the potential justifications for avoiding eligibility in examination do not translate to litigation. For starters, it is not clear that data about rejections in examination should be used to make decisions about issue sequencing in litigation. In examination, the examiner can consider all grounds of patentability at the same time, and failure to satisfy any one of them will stop the patent from issuing. In litigation, however, eligibility is practically the only ground of patentability that can be decided on a motion to dismiss, meaning that, in litigation, unlike in examination, a finding that a patent fails to satisfy § 101 can be made earlier in the process than findings of unpatentability on other grounds.¹⁵⁸ Moreover, the notion that courts should avoid eligibility, and thereby treat that requirement differently from practically any other issue that might arise in a patent case, resembles the exceptionalist approach to procedural matters that

¹⁵⁴ Dennis Crouch & Robert P. Merges, *Operating Efficiently Post-Bilski by Ordering Patent Doctrine Decision-Making*, 25 BERKELEY TECH. L.J. 1673, 1691 (2010)); accord Saurabh Vishnubhakat, *The Antitrusting of Patentability*, 48 SETON HALL L. REV. 71, 103-04 (2017).

¹⁵⁵ Crouch & Merges, *supra* note 154, at 1686; Vishnubhakat, *supra* note 154, at 94, 103-04.

¹⁵⁶ See Greg Reilly, *Decoupling Patent Law*, 97 B.U. L. REV. 551, 592 (2017).

¹⁵⁷ Jacob S. Sherkow, *And How: Mayo v. Prometheus and the Method of Invention*, 122 YALE L.J. ONLINE 351, 356-57 (2013).

¹⁵⁸ See David Swetnam-Burland & Stacy O. Stitham, *Patent Law 101: The Threshold Test as Threshing Machine*, 21 TEX. INTELL. PROP. L.J. 135, 147 (2013) (“[I]n at least some cases Section 101 questions can be asked and answered early in litigation before the parties and the court have invested considerable resources . . . in discovery, claim construction, and summary judgment practice.”).

the Supreme Court has repeatedly condemned in the past decade.¹⁵⁹ The best approach to resolving patent eligibility in litigation would seem to be to resolve it like any other potentially dispositive issue—whenever the parties raise it and the court thinks it is ripe for decision.¹⁶⁰

B. Eligibility as Law, Fact, or Both

Doctrinally, a primary reason courts are able to decide eligibility at the “threshold” via a motion to dismiss or for judgment on the pleadings is that they usually view eligibility to present a pure question of law. Yet the test for eligibility developed by the Supreme Court seems to invite fact finding by asking whether the patent recites “fundamental economic practice[s]”¹⁶¹ or “conventional activity.”¹⁶² In this section, I suggest that eligibility should be understood to present a question of law based on underlying factual considerations—just like other patentability requirements such as nonobviousness.

1. Inconsistent Case Law on the Law-Versus-Fact Question.—Before fully explicating that normative argument, it will again be helpful to analyze the deep conflicts in the case law about whether eligibility is a question of law, fact, or a little of both. Starting at the broadest level, the Supreme Court has said, repeatedly, that “the ultimate question of patent validity is one of law.”¹⁶³ Nevertheless, the Court has recognized that the legal question of validity can have factual underpinnings.¹⁶⁴ The Court has explained, for example, that the nonobviousness requirement “lends itself to several basic factual inquiries” about the scope of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the pertinent art, and “secondary considerations,” such as commercial success and failure of others.¹⁶⁵ The Federal Circuit, contrary to the Supreme Court’s declaration that patent validity is

¹⁵⁹ See Peter Lee, *The Supreme Assimilation of Patent Law*, 114 MICH. L. REV. 1413, 1416 (2016).

¹⁶⁰ See *id.* at 1463 (arguing that patent law exceptionalism is not appropriate “where a well-established standard exists for a discrete issue in general litigation”).

¹⁶¹ *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2356 (2014); *Bilski v. Kappos*, 561 U.S. 593, 611 (2010).

¹⁶² *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79-80 (2012).

¹⁶³ *E.g.*, *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Though some nineteenth-century precedent treated patent validity as a question of fact for the jury, see, e.g., *Battin v. Taggart*, 58 U.S. (17 How.) 74, 85 (1854), the demise of that rule was apparently tied to the development of more elaborate administrative processes for reviewing validity before the patent issued. See Duffy, *supra* note 53, at 296-99.

¹⁶⁴ See *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 96-97 (2011).

¹⁶⁵ *Graham*, 383 U.S. at 17.

ultimately a question of law, has treated some patentability requirements as *entirely* factual, including utility,¹⁶⁶ novelty,¹⁶⁷ and written description.¹⁶⁸

As for eligibility, the Federal Circuit has frequently stated that it is a question of law reviewed *de novo* on appeal.¹⁶⁹ In a few cases, however, the court has suggested that factual considerations “may” underpin the analysis. The earliest example is its 1992 opinion in *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, which stated that analyzing eligibility “may require findings of underlying facts specific to the particular subject matter and its mode of claiming.”¹⁷⁰

In the early days of eligibility’s renaissance, the Federal Circuit occasionally alluded to the possible relevance of factual considerations.¹⁷¹ The most extensive discussion of the role of facts appears in the court’s 2013 opinion in *Ultramercial, Inc. v. Hulu, LLC (Ultramercial II)*.¹⁷² In contrast to the court’s prior statements that there could perhaps be factual aspects to the eligibility analysis, Chief Judge Rader’s opinion for the court declared that the analysis is “rife with underlying factual issues” including: whether there are “limitations in the claims that narrow or tie the claims to specific applications of an otherwise abstract concept,” “whether the patent embraces a scientific principle or abstract idea,” and whether the claim recites activities that were “routine, well-understood, or conventional” at the time the application was filed.¹⁷³ The Supreme Court, however, vacated the Federal Circuit’s opinion in *Ultramercial II* after deciding *Alice*,¹⁷⁴ and the Federal Circuit’s final opinion in the case, issued after Chief Judge Rader retired, did not discuss the role of facts in the eligibility inquiry.¹⁷⁵

Despite paying lip service to eligibility’s potentially factual aspects, the Federal Circuit has, as far as I can tell, never identified an actual factual dispute in the course of deciding an eligibility issue. The opinions discussed above all

¹⁶⁶ *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956 (Fed. Cir. 1983).

¹⁶⁷ *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001).

¹⁶⁸ *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1355 (Fed. Cir. 2010) (en banc).

¹⁶⁹ *E.g., In re Comiskey*, 554 F.3d 967, 975 (Fed. Cir. 2009).

¹⁷⁰ 958 F.2d 1053, 1056 (Fed. Cir. 1992). Ultimately, the court determined it did not need to address any factual issues to decide eligibility in that case. *See id.*

¹⁷¹ *See Comiskey*, 554 F.3d at 975 (“[T]here may be cases in which the legal question as to patentable subject matter may turn on subsidiary factual issues . . .”).

¹⁷² 722 F.3d 1335 (Fed. Cir. 2013).

¹⁷³ *Id.* at 1339.

¹⁷⁴ *WildTangent, Inc. v. Ultramercial, LLC*, 134 S. Ct. 2870 (2014).

¹⁷⁵ *See Ultramercial, Inc. v. Hulu, LLC (Ultramercial III)*, 772 F.3d 709 (Fed. Cir. 2014).

ultimately concluded that there was no real dispute of fact in the case at hand.¹⁷⁶ And, to be clear, it is unusual for the Federal Circuit to even recognize the potential relevance of facts to the eligibility analysis. Far more commonly, the court simply renders a yes-or-no decision on the patent's validity without indicating whether factual disputes might be relevant. For instance, in the Federal Circuit's first post-*Alice* decision upholding a patent against an eligibility challenge, the court began its opinion by ruling that one asserted patent was invalid as anticipated, holding that the jury's ruling to the contrary was not supported by substantial evidence.¹⁷⁷ The court then held that another asserted patent did satisfy the eligibility requirement, noting simply that "[w]e review the district court's determination of patent eligibility under 35 U.S.C. § 101 *de novo*."¹⁷⁸ More recently, the Federal Circuit has held that district courts, when deciding whether a patent contains the inventive concept required by § 101, may completely *ignore* evidence about the patent's novelty and nonobviousness.¹⁷⁹ That rule seems highly questionable given that all three of those doctrines (eligibility, novelty, and nonobviousness) revolve around the similar question of what, exactly, the inventor added to pre-existing technology.¹⁸⁰ And the Federal Circuit has offered no justification for its rule besides the self-evident statement that "[e]ligibility and novelty are separate inquiries."¹⁸¹

There is only one circumstance in which the Federal Circuit has actually relied on considerations about facts in deciding the eligibility question: when the court wants to support a ruling in favor of the patentee (that is, a ruling that the claimed invention *is* eligible for patenting) by citing principles of pleading law that, generally speaking, give the plaintiff the benefit of the doubt. For instance, in a case involving a patent on a computerized process of syncing animation with sound, the Federal Circuit reversed a district court's ruling of ineligibility on a motion for judgment on the pleadings, writing that the accused infringers "provided *no evidence* that the process previously used by animators is the same

¹⁷⁶ See *Comiskey*, 554 F.3d at 975; *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1056 (Fed. Cir. 1992); see also *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016) (though the § 101 inquiry "*may*" include factual questions, "it is also possible, as numerous cases have recognized, that a § 101 analysis may sometimes be undertaken without resolving fact issues") (citations omitted).

¹⁷⁷ *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1253 (Fed. Cir. 2014).

¹⁷⁸ *Id.* at 1255.

¹⁷⁹ *Two-Way Media Ltd. v. Comcast Cable Commc'ns*, 874 F.3d 1329, 1336 (Fed. Cir. 2017) (holding that the district court correctly ignored expert and inventor testimony addressing those issues).

¹⁸⁰ For that reason, some courts *do* consider evidence of novelty or nonobviousness when deciding eligibility. See, e.g., *YYZ, LLC v. Hewlett-Packard Co.*, 137 F. Supp. 3d 675, 686 (D. Del. 2015) (noting "how . . . the § 101 'inventiveness' [analysis] involves questions of fact which intersect with those raised in the context of §§ 102 and 103").

¹⁸¹ *Two-Way Media*, 874 F.3d at 1340.

as the process required by the claims.”¹⁸² Yet this reference to a lack of evidence seems disingenuous given the case’s final outcome. Instead of vacating the judgment on the pleadings and remanding to allow the accused infringers to develop a factual record about prior art processes, the Federal Circuit held that the asserted claims *were* patent-eligible, period.¹⁸³

Similarly, in another recent opinion reversing a pleading-stage dismissal on eligibility grounds, the Federal Circuit twice asserted that, in deciding whether the patent is directed to an abstract idea, it draws all “factual inferences” in favor of the patentee, citing Federal Rule of Civil Procedure 12(b)(6).¹⁸⁴ Yet the opinion again concluded by definitively ruling that the claimed invention *was* patent eligible, suggesting that the references to factual inferences and the case’s procedural posture were nothing more than hollow argumentation.¹⁸⁵

Like the Federal Circuit, district courts frequently downplay the potential for factual considerations to enter the eligibility analysis. For instance, they usually allow the jury to decide the issues of anticipation and obviousness, but not eligibility.¹⁸⁶ None of the leading model patent jury instructions even mention patentable subject matter.¹⁸⁷ In fact, numerous district courts have flatly stated that patent eligibility is a “pure” question of law.¹⁸⁸

2. *Fact Questions Embedded in the Eligibility Analysis.*—Treating patent eligibility as entirely devoid of factual considerations is questionable. To begin with, the Supreme Court has never held that eligibility presents a purely legal

¹⁸² *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016) (emphasis added).

¹⁸³ *See id.* at 1316 (“[W]e reverse and hold that [the asserted claims] are patentable under 35 U.S.C. § 101.”).

¹⁸⁴ *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1261-62 (Fed. Cir. 2017).

¹⁸⁵ *Id.* at 1262.

¹⁸⁶ *See, e.g.*, Final Jury Instructions, *DDR Holdings, LLC v. Digital River, Inc.*, No. 2:06-cv-42 (E.D. Tex. Oct. 12, 2012); *accord* *ContentGuard Holdings, Inc. v. Apple Inc.*, No. 2:13-CV-1112, 2016 WL 1637280, at *6 (E.D. Tex. Apr. 25, 2016) (“Patent eligibility is a matter of law and is not properly submitted to a fact-finder such as a jury.”).

¹⁸⁷ *See* AMERICAN INTELLECTUAL PROPERTY LAW ASS’N, MODEL PATENT JURY INSTRUCTIONS (2017), available at <http://www.aipla.org/learningcenter/library/books/other-pubs/Pages/default.aspx>; FEDERAL CIRCUIT BAR ASS’N, MODEL PATENT JURY INSTRUCTIONS (July 2016), available at <https://fedcirbar.org/IntegralSource/Model-Patent-Jury-Instructions>; MODEL PATENT JURY INSTRUCTIONS FOR THE NORTHERN DISTRICT OF CALIFORNIA (July 16, 2015), available at <http://www.cand.uscourts.gov/juryinstructions>.

¹⁸⁸ *E.g.*, *Lumen View Tech. LLC v. Findthebest.com, Inc.*, 984 F. Supp. 2d 189, 204 (S.D.N.Y. 2013) (“Whether a patent is valid under Section 101 is a pure question of law.”); *accord* *Becton, Dickinson & Co. v. Baxter Int’l, Inc.*, 127 F. Supp. 3d 687, 691 (W.D. Tex. 2015); *DietGoal Innovations LLC v. Bravo Media LLC*, 33 F. Supp. 3d 271, 277 (S.D.N.Y. 2014); *Big Baboon, Inc. v. Dell, Inc.*, No. CV 09-1198, 2011 WL 13124454, at *8 (C.D. Cal. Feb. 8, 2011).

question. Rather, the Court has sometimes based its eligibility analysis on “undisputed” propositions that resemble facts. For instance, in *Myriad*, in which the Court invalidated patents on DNA sequences for claiming a “product of nature,” the Court wrote: “It is *undisputed* that Myriad did not create or alter any of the genetic information encoded in the [claimed] genes.”¹⁸⁹

The now-definitive two-step test articulated by the Court in *Alice* also seems to invite factual inquiry. As for the first step, in both *Alice* and *Bilski*, the Court cited extrinsic evidence (that is, evidence besides the patent itself and its prosecution history), including textbooks, treatises, and academic journal articles, to support the conclusion that the patents claimed the abstract ideas of intermediated settlement and risk hedging, respectively.¹⁹⁰ As for the second, “inventive concept” step, the Court in *Mayo* invalidated patents on medical diagnostic tests because they covered “well-understood, routine, conventional activity already engaged in by the scientific community,”¹⁹¹ which, again, sounds like a factual determination. To be sure, none of the Supreme Court’s recent cases were themselves resolved on the pleadings.¹⁹² But the Court’s reliance on extrinsic evidence, determinations of conventionality, and “undisputed” propositions still highlights the potentially factual nature of the eligibility analysis.¹⁹³

Moreover, in contrast to the district courts that treat eligibility as a pure question of law, other district court decisions reflect the potentially fact-driven nature of the eligibility inquiry. Many courts have denied pleading-stage eligibility motions because they perceive factual disputes to exist on one or both

¹⁸⁹ Ass’n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107, 2116 (2013) (emphasis added).

¹⁹⁰ See *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2356 (2014) (citing JOHN C. HULL, RISK MANAGEMENT AND FINANCIAL INSTITUTIONS 103-04 (3d ed. 2012); Henry Crosby Emery, *Speculation on the Stock and Produce Exchanges of the United States*, in 7 STUDIES IN HISTORY, ECONOMICS AND PUBLIC LAW 283, 346-56 (1896); Yesha Yadav, *The Problematic Case of Clearinghouses in Complex Markets*, 101 GEO. L.J. 387, 406-12 (2013)); *Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (citing DMITRIS N. CHORAFAS, INTRODUCTION TO DERIVATIVE FINANCIAL INSTRUMENTS 75-94 (2008); CLYDE P. STICKNEY ET AL., FINANCIAL ACCOUNTING: AN INTRODUCTION TO CONCEPTS, METHODS, AND USES 581-82 (13th ed. 2010); STEPHEN ROSS ET AL., FUNDAMENTALS OF CORPORATE FINANCE 743-44 (8th ed. 2008)).

¹⁹¹ *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79-80 (2012).

¹⁹² *Alice*, *Mayo*, and *Myriad* were appeals from summary judgment. *Bilski* was an appeal from the Patent Office’s rejection of a patent application.

¹⁹³ For an example of a district court decision relying heavily on extrinsic evidence in deciding both elements of the *Alice* test, see *Veracode, Inc. v. Appthority, Inc.*, 137 F. Supp. 3d 17, 54 (D. Mass. 2015) (denying a post-trial motion to invalidate a patent on eligibility grounds, relying on testimony by both the inventor and multiple experts to find an inventive concept).

steps of the *Alice* analysis.¹⁹⁴ Other district courts have engaged in what appears clearly to be fact finding—for instance, relying on expert testimony about the patent’s inventiveness—in resolving eligibility before trial.¹⁹⁵ In fact, at least one district court has allowed the jury to resolve the ultimate question of patent eligibility.¹⁹⁶ Though that court is an outlier, many district judges are willing to reconsider pre-trial eligibility rulings after hearing the evidence and testimony at trial,¹⁹⁷ or they simply defer deciding eligibility until after trial,¹⁹⁸ again highlighting the potential relevance of facts to the eligibility determination.

The confusion about whether and, if so, to what extent deciding patent eligibility requires resolving questions of fact is neatly captured in a recent opinion by a district judge in New York.¹⁹⁹ In deciding a motion to dismiss, the judge stated unequivocally that “[p]atent eligibility under § 101 ‘is a pure question of law.’”²⁰⁰ Yet the judge went on to deny the motion, concluding that,

¹⁹⁴ For examples, see *Bristol-Myers Squibb Co. v. Merck & Co.*, No. CV 15-560, 2016 WL 1072841, at *1 (D. Del. Mar. 17, 2016) (finding a factual dispute about whether the patent contained an “inventive step”); *Cave Consulting Grp., Inc. v. Truven Health Analytics Inc.*, No. 15-CV-2177, 2016 WL 283478, at *3 (N.D. Cal. Jan. 25, 2016) (denying motion for judgment on the pleadings “without prejudice to renewal after claim construction and on a fuller factual record”); *Card Verification Sols., LLC v. Citigroup Inc.*, No. 13C6339, 2014 WL 4922524, at *4 (N.D. Ill. Sept. 29, 2014) (“The question whether a pseudorandom number and character generator can be devised that relies on an algorithm that can be performed by a human with nothing more than pen and paper poses a factual question inappropriate at the motion to dismiss stage.”).

¹⁹⁵ See, e.g., *Prism Techs., LLC v. T-Mobile USA, Inc.*, No. 12CV124, 2015 WL 6161790, at *3 (D. Neb. Sept. 22, 2015) (granting the patentee’s motion for summary judgment of eligibility). The Federal Circuit reversed the decision in that case, but it relied entirely on the patent itself in finding the claimed invention ineligible; it did not discuss the extrinsic evidence the district court relied on. See *Prism Techs. LLC v. T-Mobile USA, Inc.*, No. 2016-2031, 2017 WL 2705338, at *3 (Fed. Cir. June 23, 2017).

¹⁹⁶ *VS Techs., LLC v. Twitter, Inc.*, No. 2:11CV43, 2012 WL 1481508, at *4 (E.D. Va. Apr. 27, 2012) (upholding verdict of ineligibility).

¹⁹⁷ As one might expect, most of these post-trial decisions reach the same result as the pre-trial ruling. See, e.g., *Comcast Cable Commc’ns, LLC v. Sprint Commc’ns Co.*, No. CV 12-859, 2017 WL 3508706, at *16 (E.D. Pa. Aug. 16, 2017) (denying a renewed motion for judgment as a matter of law of ineligibility after having previously denied a motion for summary judgment on that ground); *Exergen Corp. v. Kaz USA, Inc.*, 172 F. Supp. 3d 366, 367 (D. Mass. 2016) (similar). But, possible anchoring effects aside, the courts’ mere willingness to reengage the issue illustrates the relevance of factual considerations.

¹⁹⁸ See, e.g., *Intellectual Ventures I LLC v. Symantec Corp.*, 100 F. Supp. 3d 371, 375 (D. Del. 2015), *aff’d in part, rev’d in part*, 838 F.3d 1307 (Fed. Cir. 2016).

¹⁹⁹ *Iron Gate Sec., Inc. v. Lowe’s Cos.*, No. 15-CV-8814, 2016 WL 4146140 (S.D.N.Y. Aug. 3, 2016) (Forrest, J.).

²⁰⁰ *Id.* at *5 (quoting *Lumen View Tech. LLC v. Findthebest.com, Inc.*, 984 F. Supp. 2d 189, 204 (S.D.N.Y. 2013)).

“on this pleading stage motion, . . . the Court cannot resolve factual disputes as to whether the claimed invention truly adds to the prior art.”²⁰¹

What seems clear is that the patent eligibility inquiry has at least the potential to raise questions of fact about both the nature of the claimed invention—for instance, does the patent claim an abstract idea, such as a “fundamental economic practice,” or something that occurs in nature, such as a particular chemical composition—as well as how the claimed invention relates to the prior art—specifically, does the patent contain an inventive concept?²⁰² That is not to say that *all* eligibility cases raise disputes of fact. Under the Federal Rules of Civil Procedure, the patent is considered part of the complaint, so if eligibility can be resolved by reference to the patent alone, it is appropriate for the judge to decide the issue as a matter of law.²⁰³ In many cases, the claims and specification of the patent itself indicate that the claimed invention involves a fundamental economic practice,²⁰⁴ an abstract idea,²⁰⁵ or a natural phenomenon.²⁰⁶ Similarly, it can be apparent from the patent itself that it contains no inventive concept because it merely adds generic computer components to an abstract idea,²⁰⁷ carries out an

²⁰¹ *Id.* at *14.

²⁰² For a critique of eligibility doctrine that laments courts’ inattention to factual considerations, see Timothy R. Holbrook & Mark D. Janis, *Patent-Eligible Processes: An Audience Perspective*, 17 VAND. J. ENT. & TECH. L. 349, 382 (2015) (noting that the test for patent eligibility “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”).

²⁰³ See FED. R. CIV. P. 10(c) (“A copy of a written instrument that is an exhibit to a pleading is a part of the pleading for all purposes.”); see also *CertusView Techs., LLC v. S&N Locating Servs., LLC*, 111 F. Supp. 3d 688, 704 (E.D. Va. 2015) (resolving the “claim-centric issue of section 101 validity” on a motion for judgment on the pleadings, citing Rule 10(c) and noting that “the Court finds that it need not rely on any factual matter other than that presented in the specifications of the patents-in-suit themselves”), *aff’d*, No. 2016-2605, 2017 WL 3443246 (Fed. Cir. Aug. 11, 2017).

²⁰⁴ *E.g.*, *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1054 (Fed. Cir. 2017) (“[T]he ’807 patent specification itself demonstrates that processing an application for financing a purchase is ‘a fundamental economic practice long prevalent in our system of commerce.’”).

²⁰⁵ *E.g.*, *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370, 1372 (Fed. Cir. 2011) (invalidating a patent on “a method for verifying the validity of a credit card transaction over the Internet,” noting: “It is clear that unpatentable mental processes are the subject matter of [the claim]. All of [the claim’s] steps can be performed in the human mind, or by a human using a pen and paper.”).

²⁰⁶ *E.g.*, *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1361 (Fed. Cir. 2017) (“[T]he method starts and ends with naturally occurring phenomena with no meaningful non-routine steps in between—the presence of [myeloperoxidase] in a bodily sample is correlated to its relationship to cardiovascular disease. The claims are therefore directed to a natural law.”).

²⁰⁷ *E.g.*, *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324-25 (Fed. Cir. 2016) (“[T]he claims ‘add’ only generic computer components such as an ‘interface,’

abstract idea over the Internet,²⁰⁸ or employs known scientific techniques.²⁰⁹ Sometimes the information needed to resolve the issue of eligibility might be outside the complaint but so incontrovertible that it is subject to judicial notice.²¹⁰ But even if recognizing the potential relevance of facts would not change the outcome in every single case, it would, as I discuss next, make clearer the circumstances in which eligibility should (or should not) be decided on the pleadings alone.

C. Deciding Eligibility on the Pleadings

If the eligibility analysis involves factual considerations, then at the pleading stage eligibility is not the yes-or-no question it often seems to be. Rather, any factual disputes should be resolved by reference to the pleading provisions of the Federal Rules of Civil Procedure and the case law interpreting those provisions, most notably, the Supreme Court’s decisions in *Twombly* and *Iqbal*, which read Rule 8(a)(2) to mandate that the complaint contain factual allegations sufficient to justify a plausible inference of liability.²¹¹ To illustrate how that change in perspective could improve judges’ decisions on patent eligibility, this section first examines the different types of arguments defendants may raise in pleading-stage motions and explores how those motions have historically been deployed in patent cases. It then argues that viewing eligibility disputes through the lens of *Twombly* and *Iqbal* would help courts avoid overly quick invalidations. Turning

‘network,’ and ‘database.’ These generic computer components do not satisfy the inventive concept requirement.”).

²⁰⁸ *E.g.*, *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“The claims’ invocation of computers adds no inventive concept. . . . That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”).

²⁰⁹ *E.g.*, *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, No. 15-CV-40075, 2017 WL 3336275, at *1 (D. Mass. Aug. 4, 2017) (granting a renewed motion to dismiss on eligibility grounds after having initially denied a motion to dismiss because “[a]t a subsequent hearing, Plaintiffs’ counsel agreed that a statement in the patent specification” indicating that the techniques used to detect certain antibodies were “‘standard techniques in the art’” “was undisputed”).

²¹⁰ *See, e.g.*, *buySAFE*, 765 F.3d at 1355 (affirming judgment on the pleadings of ineligibility, noting that “[t]he claims are squarely about creating a contractual relationship—a ‘transaction performance guaranty’—that is beyond question of ancient lineage” (citing Willis D. Morgan, *The History and Economics of Suretyship*, 12 CORNELL L.Q. 153 (1927)); *see also* *Front Row Techs., LLC v. NBA Media Ventures, LLC*, 204 F. Supp. 3d 1190, 1247 (D.N.M. 2016) (noting that courts may rely on “well-known, general historical observations” in deciding pleading-stage eligibility motions), *aff’d sub nom.*, *Front Row Techs., LLC v. MLB Advanced Media, L.P.*, No. 2016-2604, 2017 WL 4127880 (Fed. Cir. Sept. 18, 2017). The Federal Rules of Evidence allow the court to take judicial notice “at any stage of the proceedings.” FED. R. EVID. 201(d).

²¹¹ *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009); *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 557, (2007). Part of the reason those decisions have been so controversial is that Rule 8(a)(2) states merely that a complaint must contain “a short and plain statement of the claim showing that the pleader is entitled to relief.” FED. R. CIV. P. 8(a)(2).

to implications beyond the realm of patent eligibility, this section concludes by asserting that the way in which some courts currently invoke *Twombly* and *Iqbal* in eligibility disputes reveals the inherently factual nature of claim construction itself.

1. *Pleading-Stage Motions and How Courts Use Them in Patent Validity Disputes.*—A defendant can base a motion to dismiss under Rule 12(b)(6) (or for judgment on the pleadings under Rule 12(c)²¹²) on one of two arguments. First, the defendant can argue that, even assuming everything in the complaint is true, the law simply does not recognize the plaintiff’s claim. A simple example would be a complaint for battery alleging, “Last Saturday, *D* came up to me and gave me a handshake.”²¹³ In that situation, because the defendant is not challenging the factual sufficiency of the complaint’s allegations, the plausibility standard of *Twombly* and *Iqbal* is irrelevant, as is the familiar axiom that the court resolves uncertainties in the plaintiff’s favor.²¹⁴

The second ground on which a defendant can seek dismissal is that the complaint, though it is based on a “cognizable legal theory,”²¹⁵ does not contain sufficient facts to “show[]” that the plaintiff is entitled to relief, as Rule 8(a)(2) requires.²¹⁶ In deciding this second type of motion, the plausibility standard of *Twombly* and *Iqbal* is crucial, and the plaintiff will receive the benefit of the doubt for the allegations considered by the court to be factual.²¹⁷

Before the recent reemergence of the eligibility requirement, pleading-stage motions to invalidate patents were basically unheard of. On the rare occasions parties filed them, they were almost always denied.²¹⁸ After *Bilski*, however,

²¹² The only difference between the two motions is that a defendant can file a motion to dismiss in lieu of an answer, while a motion for judgment on the pleadings is filed after the answer. See A. BENJAMIN SPENCER, CIVIL PROCEDURE: A CONTEMPORARY APPROACH 494-95 (rev. 4th ed. 2015).

²¹³ *Id.* at 492.

²¹⁴ See *Iqbal*, 556 U.S. at 678 (“[T]he tenet that a court must accept as true all of the allegations contained in a complaint is inapplicable to *legal conclusions*.”) (emphasis added); see also 5B CHARLES ALAN WRIGHT ET AL., FEDERAL PRACTICE AND PROCEDURE § 1357 & n.22 (3d ed. 2017) (citing numerous cases holding that “a pleading’s ‘legal conclusions’” “need not be accepted as true on a Rule 12(b)(6) motion”).

²¹⁵ *Balistreri v. Pacifica Police Dep’t*, 901 F.2d 696, 699 (9th Cir. 1988).

²¹⁶ See *Iqbal*, 556 U.S. at 679.

²¹⁷ See 5B WRIGHT ET AL., *supra* note 214, § 1357 (“[F]ederal courts have said that they accept the truth of a pleading’s ‘facts,’ ‘factual allegations,’ ‘material facts,’ ‘material allegations,’ ‘well-pleaded facts,’ ‘well-pleaded factual allegations,’ and ‘well-pleaded allegations.’”) (footnotes omitted).

²¹⁸ For pre-*Bilski* examples of unsuccessful pleading-stage invalidity motions, see *Digital-Vending Servs. Int’l, LLC v. Univ. of Phoenix Inc.*, No. 2:09CV555, 2010 WL 11450783, at *1 (E.D. Va. Aug. 12, 2010) (denying motion for judgment on the pleadings of indefiniteness); *Ariad*

some district courts began to resolve eligibility on the pleadings. One of the first to do so was the district court in the *Ultramercial* litigation mentioned above. In that case, the court rejected the patentee’s argument that eligibility could not be resolved on a motion to dismiss and before the court had formally construed the patent’s claims, noting that “[t]he patent terms are clear” and that the patentee “has not brought to the Court’s attention any reasonable construction that would bring the patent within patentable subject matter.”²¹⁹ Though some courts followed suit and invalidated patents on the pleadings,²²⁰ others were more skeptical. A district judge in Ohio, for instance, refused to entertain an ineligibility defense on a motion to dismiss, criticizing the court in *Ultramercial* for, among other things, ignoring “the presumption of validity and a patent challenger’s burden to prove invalidity by clear and convincing evidence.”²²¹

Other courts expressed reluctance to adjudicate eligibility without conducting claim construction.²²² Because the judge’s claim construction delineates the patent’s exclusionary scope,²²³ it is potentially quite relevant to inquiries in the eligibility analysis, such as whether the claim is directed to a natural phenomenon or abstract idea. On the other hand, as the district court illustrated in *Ultramercial*, a judge could resolve eligibility without formally construing the patent’s claims by simply reading the claims in the manner most favorable to the patentee.

In the first *Ultramercial* appeal (*Ultramercial I*), the Federal Circuit sent mixed signals about whether it is proper to resolve eligibility before claim construction. On one hand, the court noted that it “has never set forth a bright line

Pharms., Inc. v. Eli Lilly & Co., No. CIV.A. 02-11280, 2003 WL 21087115, at *1 (D. Mass. May 12, 2003) (denying motion to dismiss on the grounds of anticipation and enablement). Besides eligibility, the ground most likely to result in a pleading-stage invalidation (though it was and remains rare) is indefiniteness, *see, e.g., In re TLI Commc’ns LLC Patent Litig.*, 87 F. Supp. 3d 773, 804 (E.D. Va. 2015); *Lexington Luminance LLC v. Amazon.com, Inc.*, 6 F. Supp. 3d 179, 195 (D. Mass. 2014), *vacated and remanded*, 601 F. App’x 963 (Fed. Cir. 2015), probably because indefiniteness is a matter of claim construction that can be decided by the judge. *But see infra* notes 300-305 (discussing case law allowing juries to decide indefiniteness).

²¹⁹ *Ultramercial, LLC v. Hulu, LLC*, No. CV 09-6918, 2010 WL 3360098, at *6 (C.D. Cal. Aug. 13, 2010).

²²⁰ *E.g., Glory Licensing LLC v. Toys R Us, Inc.*, No. CIV. 09-4252, 2011 WL 1870591, at *4 (D.N.J. May 16, 2011).

²²¹ *Progressive Cas. Ins. Co. v. Safeco Ins. Co.*, No. 1:10CV1370, 2010 WL 4698576, at *4 (N.D. Ohio Nov. 12, 2010); *accord Investpic, LLC v. FactSet Research Sys., Inc.*, No. CIV. 10-1028, 2011 WL 4591078, at *1 (D. Del. Sept. 30, 2011) (“[c]hoos[ing] not to follow” *Ultramercial* and *Glory Licensing*). More to follow on the presumption of validity and the standard of proof in eligibility disputes. *See infra* Part II.E.

²²² *See, e.g., Edge Capture, L.L.C. v. Barclays Bank PLC*, No. 09 C 1521, 2011 WL 494573, at *1 (N.D. Ill. Jan. 31, 2011).

²²³ *See supra* note 45.

rule requiring district courts to construe claims before determining subject matter eligibility.”²²⁴ On the other hand, the court noted that “[o]n many occasions, . . . a definition of the invention via claim construction can clarify the basic character of the subject matter of the invention.”²²⁵ The court ultimately approved of the district court’s procedural decision to resolve eligibility on a motion to dismiss without construing the claims (although the Federal Circuit reversed on the merits).²²⁶

The Supreme Court vacated the Federal Circuit’s opinion in *Ultramercial I* after *Mayo*,²²⁷ and it soon became increasingly common for district courts to resolve patent eligibility on the pleadings.²²⁸ In *Ultramercial II*, however, the Federal Circuit again questioned that practice, writing that “it will be rare that a patent infringement suit can be dismissed at the pleading stage for lack of patentable subject matter.”²²⁹ For dismissal under Rule 12(b)(6) to be proper, the court wrote, “the only plausible reading of the patent must be that there is clear and convincing evidence of ineligibility.”²³⁰

Yet the Supreme Court also vacated *Ultramercial II*, this time in light of *Alice*.²³¹ And several subsequent Federal Circuit decisions affirmed pleading-stage dismissals under § 101.²³² By 2015, a magistrate judge in Delaware could confidently declare that “[i]t is now well-settled that it can be proper to address a Section 101 motion in a patent infringement action at the Rule 12(b)(6) stage.”²³³ More recently, the Federal Circuit has backed away from any suggestion that patent eligibility cannot be resolved on the pleadings, instead recognizing that it has “repeatedly affirmed § 101 rejections at the motion to dismiss stage, before

²²⁴ *Ultramercial, LLC v. Hulu, LLC (Ultramercial I)*, 657 F.3d 1323, 1325 (Fed. Cir. 2011).

²²⁵ *Id.*

²²⁶ *Id.* at 1325, 1330.

²²⁷ *WildTangent, Inc. v. Ultramercial, LLC*, 132 S. Ct. 2431 (2012).

²²⁸ *See, e.g., OIP Techs., Inc. v. Amazon.com, Inc.*, No. C-12-1233, 2012 WL 3985118, at *5 (N.D. Cal. Sept. 11, 2012) (holding that a motion to dismiss on eligibility grounds “is not per se premature”), *aff’d*, 788 F.3d 1359 (Fed. Cir. 2015); *Vacation Exch., LLC v. Wyndham Exch. & Rentals, Inc.*, No. CV1204229, 2012 WL 12882053, at *2 (C.D. Cal. Sept. 18, 2012) (“[W]here claim construction is not required for a full understanding of the basic character of the claimed subject matter, a district court may resolve patentable subject matter eligibility on a motion to dismiss.”).

²²⁹ *Ultramercial, Inc. v. Hulu, LLC (Ultramercial II)*, 722 F.3d 1335, 1338 (Fed. Cir. 2013).

²³⁰ *Id.* at 1338.

²³¹ *WildTangent, Inc. v. Ultramercial, LLC*, 134 S. Ct. 2870 (2014).

²³² *See, e.g., Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1344 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1345 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1352 (Fed. Cir. 2014).

²³³ *Versata Software, Inc. v. NetBrain Techs., Inc.*, No. 13-676, 2015 WL 5768938, at *2 n.2 (D. Del. Sept. 30, 2015).

claim construction or significant discovery has commenced.”²³⁴ Today, district courts that decline to decide eligibility on the pleadings do so not because the motion is per se premature, as was sometimes previously the case,²³⁵ but because the court thinks either formal claim construction²³⁶ or further factual development²³⁷ will aid the eligibility analysis.

2. *When Eligibility Should Be Decided on the Pleadings.*—Whether it is appropriate to decide eligibility on the pleadings turns in part on whether, in a given case, eligibility presents purely a question of law or whether it turns on factual considerations. If the court can decide a particular patent’s eligibility solely by reference to the patent itself and information subject to judicial notice, then resolving eligibility on the pleadings is proper. Because the ultimate question of patent validity is one of law, a motion to dismiss in that circumstance would be based on the first theory discussed at the beginning of this section—that the complaint fails to state a claim recognized by the law. When a court does not need to consider extrinsic evidence to resolve eligibility, eligibility is, in fact, a yes-or-no decision: because it presents a pure issue of law, the principle that the plaintiff receives the benefit of the doubt does not apply.

I argued above, however, that eligibility analysis can have factual aspects. To the extent the analysis turns on matters outside the patent itself and on information not subject to judicial notice, then a motion to dismiss is based on the second theory discussed at the beginning of this section—that, under *Twombly* and *Iqbal*, the complaint contains insufficient factual allegations from which a court could reach a plausible conclusion of liability. In that circumstance, factual doubts should be resolved in favor of the plaintiff/patentee.²³⁸ If the court determines that dismissal is not appropriate because of outstanding fact questions, the defendant can still seek relatively quick adjudication through an early summary judgment motion.²³⁹

²³⁴ *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1360 (Fed. Cir. 2017) (citing cases).

²³⁵ *See supra* notes 221-222.

²³⁶ *See, e.g., WAG Acquisition, LLC v. Multi-Media, LLC*, No. CIV.A. 14-1661, 2015 WL 5310203, at *6 (D.N.J. Sept. 10, 2015).

²³⁷ *See, e.g., Diamond Grading Techs. Inc. v. Am. Gem Soc’y*, No. 2:14-CV-1161, 2016 WL 5719700, at *3 (E.D. Tex. Sept. 12, 2016).

²³⁸ *See supra* note 217.

²³⁹ *See, e.g., Kaavo Inc. v. Amazon.com Inc.*, No. CV 15-638, 2016 WL 6562038, at *14 (D. Del. Nov. 3, 2016) (denying a motion to dismiss on eligibility grounds “without prejudice to Defendants’ ability to later renew a Section 101 challenge in the form of a summary judgment motion”). In fact, the Federal Rules permit the court to convert a motion to dismiss or for judgment on the pleadings to a summary judgment motion if it involves matters outside the pleadings. *See* FED. R. CIV. P. 12(d). In addition, Rule 56 permits a party to file a summary

Many courts, to be sure, already apply the *Twombly/Iqbal* standard to pleading-stage eligibility motions. I cited above cases that denied pleading-stage motions precisely because there were factual disputes about whether the patent was directed to an ineligible principle or contained an inventive concept.²⁴⁰ Two points, however, will hopefully make clear the importance of more conscientiously integrating general principles of pleading law into the eligibility analysis. First, as I just mentioned, when an eligibility dispute presents only a question of law, then the *Twombly/Iqbal* plausibility standard is irrelevant and the patentee should not receive the benefit of the doubt. Rather, the judge should simply resolve the legal question of eligibility as the judge would resolve any other question of law that arises on a motion to dismiss. Yet many courts view the *legal* question of eligibility through the *Twombly/Iqbal* plausibility lens²⁴¹ and give the patentee the benefit of the doubt despite finding no factual dispute.²⁴² If the question of patent eligibility really involves no factual considerations, that approach is wrong. That is not to suggest that judges *should* be rendering yes-or-no decisions on eligibility at the pleading stage in all cases.²⁴³ Rather, the point is that judges' resort to the framework of *Twombly* and *Iqbal*—even when purporting to decide a purely *legal* question of eligibility—provides further indication that many eligibility disputes turn on considerations that are more factual than legal.

The second consequence of better integrating general pleading law into the eligibility analysis relates to courts' common practice of invoking the axiom that

judgment motion “*at any time* until 30 days after the close of all discovery.” FED. R. CIV. P. 56(b) (emphasis added).

²⁴⁰ See *supra* notes 236-237.

²⁴¹ See, e.g., *RaceTech, LLC v. Kentucky Downs, LLC*, 167 F. Supp. 3d 853, 858 n.2, 868 (W.D. Ky. 2016) (noting that “[i]n addressing the motion to dismiss, the Court is analyzing the facial validity of the Asserted Patents as a matter of law, not a finding of fact,” but granting the motion because “[t]he only plausible reading of the [asserted] patents reflects that they are ineligible for patent protection”), *aff'd*, 676 F. App'x 1009 (Fed. Cir. 2017); *Wolf v. Capstone Photography, Inc.*, No. 2:13-CV-09573, 2014 WL 7639820, at *5 (C.D. Cal. Oct. 28, 2014) (noting that “[i]ssues of patent-eligible subject matter are questions of law” but stating that, on a pleading-stage motion, “a patent claim can be found directed towards patent ineligible subject matter if the only plausible reading of the patent [is] that there is clear and convincing evidence of ineligibility”) (internal quotation marks and emphasis omitted).

²⁴² See, e.g., *Rothschild Location Techs. LLC v. Geotab USA, Inc.*, No. 6:15-CV-682, 2016 WL 3584195, at *4 (E.D. Tex. Jan. 4, 2016) (determining that “[t]he parties have not sufficiently identified any . . . factual issue” but “constru[ing] [the patent's] claims in a manner most favorable to” the patentee in deciding a motion to dismiss); *X One, Inc. v. Uber Techs., Inc.*, 239 F. Supp. 3d 1174, 2017 WL 878381, at *5, *19 (N.D. Cal. 2017) (noting that “[w]hether a claim recites patent-eligible subject matter under § 101 is a question of law” but denying the defendant's motion to dismiss because “on a motion to dismiss the Court construe[s] the pleadings in the light most favorable to the nonmoving party”) (alteration in original, internal quotation marks omitted).

²⁴³ Indeed, the courts that give the patentee the benefit of the doubt on the legal question of eligibility still often invalidate the patent. See the cases cited *supra* note 241.

doubts are to be resolved in the plaintiff's favor when deciding pleading-stage eligibility motions. Courts invoke that axiom not only when applying the *Alice* two-step test, which, I have argued, can implicate factual disputes, but also when resolving matters of claim construction. The Federal Circuit, for instance, has construed patent claims “in [the] manner most favorable to [the patentee]” when reviewing pleading-stage eligibility decisions.²⁴⁴ Similarly, district courts frequently preface their eligibility analysis by saying that, on a motion to dismiss, they will construe the claims in the way the patentee suggested²⁴⁵ or otherwise resolve doubts about claim meaning in the patentee's favor.²⁴⁶

On first glance, those practices appear consistent with the general notion of giving the plaintiff the benefit of the doubt at the pleadings stage. Moreover, to the extent we think of eligibility as a quick look test for disposing of only the most blatantly invalid patents, giving the patentee the benefit of the doubt makes sense as a policy matter.²⁴⁷ But justifying that practice as a matter of doctrine would require some (much needed) reforms to the law of claim construction itself. In particular, as I explain next, it would require the Federal Circuit to recognize the inherently factual nature of the claim construction inquiry. That change to claim construction doctrine would increase appellate deference to district court interpretations of patent claims, increase the predictability of litigation outcomes, and decrease litigation costs.

D. The Role of Claim Construction in the Eligibility Analysis

After quickly recapping what courts have said about the role of claim construction in deciding patent eligibility, this section shows how that case law underscores the inescapably factual nature of the claim construction task. If the Federal Circuit treated claim construction as mostly a question of fact rather than as mostly a question of law (which is the court's current practice), patent litigation would be changed profoundly, and probably for the better.

1. The Prevailing Approach: Give the Patentee the Benefit of the Doubt.—As mentioned above, early Federal Circuit cases suggested that claim construction was, if not required, at least strongly recommended before resolving patent eligibility.²⁴⁸ However, for as long as district courts have been deciding eligibility

²⁴⁴ *E.g.*, *Content Extraction & Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1349 (Fed. Cir. 2014).

²⁴⁵ *E.g.*, *Cogent Med., Inc. v. Elsevier Inc.*, 70 F. Supp. 3d 1058, 1065 (N.D. Cal. 2014).

²⁴⁶ *See supra* note 242 (citing cases).

²⁴⁷ *See Vishnubhakat, supra* note 154, at 72.

²⁴⁸ *See, e.g.*, *Bancorp Servs., L.L.C. v. Sun Life Assur. Co.*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012) (“[C]laim construction is not an inviolable prerequisite to a validity determination under § 101. We note, however, that it will ordinarily be desirable—and often necessary—to resolve

on the pleadings, they have also claimed the flexibility not to do formal claim construction if there is no plausible reading of the patent's claims under which the patentee could prevail.²⁴⁹ More recently, the Federal Circuit has embraced that latter approach of giving the patentee the benefit of the doubt, though its case law is not entirely consistent, as I will discuss shortly.²⁵⁰

2. *The Inescapably Factual Nature of Claim Construction.*—Under the prevailing doctrine on claim construction, it seems improper for courts to slant claim meaning in the patentee's favor when resolving eligibility on the pleadings. Claim construction is a pure question of law if the court finds it unnecessary to consult extrinsic evidence (such as expert testimony, dictionaries, or scientific literature).²⁵¹ But, as noted above, on a motion to dismiss, the plaintiff does not receive the benefit of the doubt on questions of law, only on questions of fact.²⁵² Although the Supreme Court in a 2015 decision made clear that claim construction can involve factual inquiries and overturned Federal Circuit case law that had treated claim construction as a pure question of law,²⁵³ most Federal Circuit decisions still usually treat claim construction as a question of law subject to de novo review.²⁵⁴ Thus, if courts were to faithfully integrate patent eligibility procedure with general principles of pleading law, courts would simply perform the legal task of claim construction when deciding the motion to dismiss. The analysis would be slanted in the patentee's favor only when fact finding based on extrinsic evidence is necessary to understand claim meaning, which, under Federal Circuit precedent, is a rare occurrence.²⁵⁵

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.”).

²⁴⁹ See, e.g., *DietGoal Innovations LLC v. Bravo Media LLC*, 33 F. Supp. 3d 271, 289 (S.D.N.Y. 2014) (“Nor would claim construction shed light on any dispositive legal issue; the . . . [p]atent is invalid under § 101, under any reasonable construction.”), *aff'd*, 599 F. App'x 956 (Fed. Cir. 2015).

²⁵⁰ See *infra* notes 261-264 and accompanying text.

²⁵¹ *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

²⁵² See *supra* notes 213-217.

²⁵³ *Teva*, 135 S. Ct. at 838 (overruling, among other decisions, *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455-56 (Fed. Cir. 1998) (en banc)).

²⁵⁴ See Sheri L. Gordon & Larry S. Nixon, *Claim Construction Post-Teva: 1st Year of Fed. Cir. Review*, LAW360 (Mar. 8, 2016), <https://www.law360.com/articles/766331/claim-construction-post-teva-1st-year-of-fed-circ-review> (collecting examples).

²⁵⁵ See, e.g., *CardSoft, LLC v. VeriFone, Inc.*, 807 F.3d 1346, 1350 (Fed. Cir. 2015) (holding that “the district court must have actually made a factual finding in order to trigger *Teva*'s deferential review” and that the Federal Circuit may ignore “findings on [extrinsic] evidence” and review claim construction de novo as a question of law “if the intrinsic record fully determines the proper scope of the disputed claim terms”) (alteration in original) (quoting *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1297 (Fed. Cir. 2015)); see also *MERGES & DUFFY, supra* note 15, at 704 (“Not surprisingly, given its prior preference to review claim constructions *de novo*, the

From a normative standpoint, it would not be ideal to have district judges definitively rule on claim meaning based on the complaint and the patent alone, even if that practice would reconcile patent procedure with generally applicable pleading law.²⁵⁶ Claim construction is a complex and contentious question, and it is often the most important question in a patent case.²⁵⁷ Though the Federal Circuit usually avoids relying on extrinsic evidence when deciding claim construction, the reality is that, before interpreting the claims, district judges often consider expert testimony and affidavits, technology tutorials presented by the parties, and even the advice of court-appointed technical advisors.²⁵⁸

Accordingly, my argument is not that judges *should* be conducting formal claim construction at the pleadings stage. Nor is my argument that a formal claim construction proceeding *must* occur before the court decides patent eligibility.²⁵⁹ Rather, I seek to make a broader point. Namely, that the procedural flaws in how courts currently resolve disputes over claim construction on pleading-stage eligibility motions highlight even more serious shortcomings in the law of claim construction itself. If the judge cannot decisively construe the claims by simply reading the patent and without considering extrinsic evidence—as seems to be the case on many pleading-stage eligibility motions—then it seems doubtful to say, as the Federal Circuit has, that claim construction is usually a pure question of law. The fact that many judges cannot or will not perform claim construction on the pleadings, in other words, illuminates the inherently factual nature of claim construction itself.²⁶⁰

The courts that give the patentee the benefit of the doubt on claim meaning when deciding pleading-stage eligibility motions are, as a matter of pure policy, sensibly waiting to construe the claims until the evidentiary record is more

Federal Circuit has taken the position that district courts should not often resort to extrinsic evidence.”).

²⁵⁶ Calling the district judge’s claim construction ruling “definitive” overstates matters slightly. The ruling would technically create law of the case, which the court could depart from if it turned to be clearly wrong. See Paul R. Gugliuzza, *(In)valid Patents*, 92 NOTRE DAME L. REV. 271, 317 (2016). Still, given the judicial anchoring effects noted above, see *supra* note 197, as well as the signal that a preliminary ruling on claim scope would send to parties contemplating settlement, any pleading-stage claim construction ruling would be highly significant in determining the end result of the litigation.

²⁵⁷ See Greg Reilly, *Patent “Trolls” and Claim Construction*, 91 NOTRE DAME L. REV. 1045, 1052-54 (2016).

²⁵⁸ See PETER S. MENELL ET AL., *PATENT CASE MANAGEMENT JUDICIAL GUIDE* 5-15 to -21 (3d ed. 2016).

²⁵⁹ For an argument along those lines, see Holbrook & Janis, *supra* note 202, at 372.

²⁶⁰ See Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1755-56 (2009) (discussing “[t]he fiction that claim construction is a question of legal interpretation for judges, not an exercise in understanding technology”).

complete. But that practice is hard to square with the prevailing doctrine of claim construction, which downplays the salience of facts. Reframing claim construction doctrine to more explicitly recognize the factual aspects of the inquiry, then, is justified not only because it would more accurately reflect how courts actually interpret patent claims, it would also square eligibility analysis with what I have argued is one of eligibility doctrine’s key policy functions: providing a procedural mechanism to quickly invalidate patents that are *plainly* invalid while ensuring that patents for which there is a plausible claim construction that would render them patent eligible are not invalidated too early in the case.

The inconsistent manner in which the Federal Circuit has treated claim construction in eligibility disputes reflects tension about the role of facts in claim construction more broadly.²⁶¹ The court has sometimes read patent claims in the manner most favorable to the patentee when deciding eligibility—an approach consistent with the notion that claim construction involves factual considerations. But at other times the court has construed the claims itself on appeal rather than giving the patentee the benefit of the doubt²⁶²—an approach more consistent with the idea that claim construction is a pure question of law. In still other eligibility cases, the Federal Circuit has simply dodged the question of claim construction by saying “there is no claim construction dispute relevant to the eligibility issue.”²⁶³ But that approach is in tension with the court’s more general insistence that courts *must* conduct claim construction any time the parties raise an “actual dispute”

²⁶¹ That tension has long existed on the Federal Circuit. *See, e.g.*, *Phillips v. AWH Corp.*, 415 F.3d 1303, 1332 (Fed. Cir. 2005) (en banc) (Mayer, J., dissenting) (“While this court may persist in the delusion that claim construction is a purely legal determination, unaffected by underlying facts, it is plainly not the case.”). Even though the Supreme Court recently made clear that claim construction can involve factual questions, the Federal Circuit’s case law still reflects significant discord over what, exactly, constitutes a factual determination that warrants deference on appeal. *Compare* *Prolitec, Inc. v. Scentair Techs., Inc.*, 807 F.3d 1353, 1359 (Fed. Cir. 2015) (treating a ruling based on a concession by the patentee’s expert as a “subsidiary factual determination” subject to deferential review), *with* *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 678 (Fed. Cir. 2015) (conducting de novo review despite relying on a similar concession by an expert, noting that the district court itself did not rely on the expert’s testimony); *see also* John F. Duffy, *On Improving the Legal Process of Claim Interpretation: Administrative Alternatives*, 2 WASH. U. J.L. & POL’Y 109, 124 (2000) (suggesting that “any formal change” in the law regarding the law/fact distinction in claim construction “may matter little” because judges can pick and choose “different approaches in different contexts”).

²⁶² *See, e.g.*, *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1311 (Fed. Cir. 2016) (observing that, “in this case, claim construction is helpful to resolve the question of patentability under § 101” and adopting the claim construction urged by the patentee); *Bancorp Servs., L.L.C. v. Sun Life Assur. Co.*, 687 F.3d 1266, 1274 (Fed. Cir. 2012) (“Although the district court declined to construe the claims, that does not preclude us from making that legal determination on appeal.”).

²⁶³ *E.g.*, *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1374 (Fed. Cir. 2016).

about the scope of the claims.²⁶⁴ If the parties are contesting whether a patent is “directed to” an ineligible principle—as is the case in practically every eligibility dispute—then construing the claims seems essential to resolving the case.

In short, if claim meaning were treated as the question of fact it often appears to be, then the correct approach to resolving disputes about claim construction on eligibility motions would be clearer. The patentee would usually receive the benefit of the doubt, but early dismissal would remain appropriate if there is no plausible reading of the patent to satisfy the eligibility test. Some district courts, as noted, currently handle pleading-stage eligibility disputes that way.²⁶⁵ But Federal Circuit case law is notably inconsistent. Explicitly recognizing the inherently factual nature of claim construction would increase appellate deference and remove a widely recognized source of cost and uncertainty in patent litigation more generally.²⁶⁶

E. Applying the Presumption of Validity to the Eligibility Analysis

The preceding discussion of the distinction between law and fact leads to a final question about eligibility procedure that has divided the lower courts more deeply than any other question discussed in this article: in determining patent eligibility, does the statutory presumption of validity apply? If, as I have argued, eligibility can implicate questions of fact, it probably should. This section outlines the split among lower courts on this issue and then sketches a modest role for the presumption of validity in the eligibility analysis.

1. The Presumption of Validity and How Courts Have Applied It (or Not Applied It) in Eligibility Decisions.—Section 282(a) of the Patent Act states, simply, that “[a] patent shall be presumed valid.”²⁶⁷ The Supreme Court confirmed in its 2011 decision in *Microsoft Corp. v. i4i Ltd. Partnership* that the presumption requires a patent challenger to prove invalidity by clear and

²⁶⁴ See *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). That doctrine has, itself, engendered substantial controversy within the Federal Circuit. See, e.g., *Nobelbiz, Inc. v. Glob. Connect, L.L.C.*, 876 F.3d 1326, 1327-28 (Fed. Cir. 2017) (O’Malley, J., dissenting from the denial of rehearing en banc) (criticizing the court’s case law for providing insufficient guidance about what constitutes an “actual dispute” requiring judicial claim construction).

²⁶⁵ See *supra* note 245.

²⁶⁶ See J. Jonas Anderson & Peter S. Menell, *Informal Deference: A Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 NW. U. L. REV. 1, 70 (2014) (noting that de novo review of claim construction can lead to, among other effects, “lower quality decisionmaking at both the trial and appellate levels, higher costs of litigation as a result of more appeals and retrials following reversals, greater uncertainty regarding the litigation, [and] longer case pendency and litigation costs as a result of fewer and delayed settlements”).

²⁶⁷ 35 U.S.C. § 282(a).

convincing evidence.²⁶⁸ That heightened standard of proof can sometimes be difficult for courts to apply because many patentability requirements have both legal and factual aspects, including nonobviousness and, as I have argued, eligibility. As Justice Breyer noted in a concurring opinion in *i4i*, evidentiary standards of proof apply to questions of fact but not to questions of law.²⁶⁹ In the nonobviousness analysis, for example, that means the presumption applies when the factfinder resolves specific questions about the level of ordinary skill in the art and the differences between the prior art and the claimed invention. But the presumption does not apply to the ultimate legal determination of obviousness or nonobviousness. Similarly, to the extent eligibility analysis involves factual questions about the nature of the claimed invention and how it compares to the prior art, those factual questions would be subject to the clear-and-convincing standard of proof, but the legal determination of eligibility or ineligibility would not.

This framework of separating questions of law from questions of fact makes sense in theory. But it does not reflect how courts apply the presumption of validity in practice. On issues that, unlike eligibility, are widely recognized to have factual elements, such as nonobviousness, courts often instruct the jury that patents are presumed valid and that the challenger must therefore prove invalidity by clear and convincing evidence.²⁷⁰ But then, rather than allowing the jury to decide only subsidiary factual questions, the court will let the jury render a general verdict on validity.²⁷¹ That verdict is subject to review by the judge on a post-trial motion for judgment as a matter of law. But if the verdict being reviewed is a general one, as it often is, separating factual considerations from legal conclusions (and applying the presumption of validity as Justice Breyer envisions) can be nearly impossible.²⁷²

²⁶⁸ 564 U.S. 91, 95 (2011).

²⁶⁹ *Id.* at 114 (Breyer, J., concurring).

²⁷⁰ *See, e.g.*, FED. CIR. BAR ASS'N, *supra* note 187, § 4.1.

²⁷¹ *See, e.g.*, *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1356 (Fed. Cir. 2001) (upholding a general jury verdict of obviousness); *see also* Lemley, *supra* note 53, at 1690 (“Today we tend to give juries responsibility for deciding ultimate questions [of validity] as long as those questions involve issues of fact.”). Many model patent jury instructions allow the jury to render the ultimate decision on obviousness. *See* AM. INTELL. PROP. L. ASS'N, *supra* note 187, §§ 4, 7 (noting only that “[c]areful consideration should be given to the Court’s and the jury’s respective roles in determining” obviousness); FED. CIR. BAR ASS'N, *supra* note 187, § 4.3c. One exception is the model patent jury instructions for the Northern District of California, which make clear that the ultimate question of obviousness should be resolved by the judge. MODEL PATENT JURY INSTRUCTIONS, *supra* note 187, § 4.3b.

²⁷² *See McGinley*, 262 F.3d at 1363 (Michel, J., dissenting) (“I am concerned that after reading the majority opinion, trial courts and our panels will hereafter consider such general verdicts on obviousness immune from meaningful review and that serious legal errors by juries will thus go uncorrected.”); *see also* *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1075 (Fed. Cir. 2016)

Federal Circuit law on how the presumption of validity applies to the issue of eligibility is in disarray, in part because the court has not clearly addressed the role of facts in the analysis. For instance, I discussed above the Federal Circuit’s 1992 decision in *Arrhythmia Research*, a rare opinion that recognized the potential factual underpinnings of eligibility.²⁷³ Though the court determined that, on the record before it, “there were no disputed facts material to the issue,” Judge Newman’s opinion for the court appeared to apply the presumption of validity to the *legal* question of eligibility, citing § 282 and writing that the Federal Circuit would review the district court’s decision *de novo*, “with appropriate recognition of the burdens on the challenger of a duly issued United States patent.”²⁷⁴ Similarly, although the *en banc* Federal Circuit splintered on the merits in the *Alice* case, a majority of the court’s judges actually agreed that the presumption of validity applies to the eligibility inquiry, despite appearing to view the issue as a purely legal.²⁷⁵

Some Federal Circuit judges and panels, however, have begun to express doubt about the presumption of validity’s relevance to the eligibility analysis. For instance, in a concurring opinion in *Ultramercial III* (the one Federal Circuit opinion in that litigation the Supreme Court did *not* vacate), Judge Mayer argued that the presumption was irrelevant.²⁷⁶ He reached that conclusion not because eligibility is purely a question of law, but because of the policy rationale that the Patent Office “has for many years applied an insufficiently rigorous subject matter eligibility standard” and because the Supreme Court “has never mentioned—much less applied—any presumption of eligibility” in its § 101 decisions.²⁷⁷ In contrast to Judge Mayer’s opinion in *Ultramercial III*, more recent Federal Circuit opinions confirm the statements from *Arrhythmia Research* and *Alice* that the presumption of validity does in fact apply to the question of

(*en banc*) (Dyk, J., dissenting) (arguing that, by upholding a general verdict rejecting an obviousness challenge, “the majority turns the legal question of obviousness into a factual issue for a jury to resolve . . .”).

²⁷³ *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1056 (Fed. Cir. 1992); *see also supra* note 170.

²⁷⁴ *Arrhythmia Research*, 958 F.2d at 1056.

²⁷⁵ *CLS Bank Int’l v. Alice Corp.*, 717 F.3d 1269, 1276, 1284 (Fed. Cir. 2013) (*en banc*) (Lourie, J., concurring) (“[I]t bears remembering that all issued patent claims receive a statutory presumption of validity.”) (citations omitted), *aff’d*, 134 S. Ct. 2347 (2014); *id.* at 1304-05 (Rader, C.J., concurring in part and dissenting in part) (“[W]e believe the presumption of validity applies to all challenges to patentability, including those under Section 101 and the exceptions thereto . . .”).

²⁷⁶ *Ultramercial, Inc. v. Hulu, LLC (Ultramercial III)*, 772 F.3d 709, 720-21 (Fed. Cir. 2014) (Mayer, J., concurring).

²⁷⁷ *Id.*

eligibility.²⁷⁸ Other decisions, however, appear to leave open the possibility that the presumption might not apply.²⁷⁹

Without definitive guidance from the Federal Circuit, a deep split among the district courts has developed.²⁸⁰ Many courts, in tension with the Federal Circuit's statements in *Arrhythmia Research* and *Alice*, insist that the presumption does not apply to the determination of eligibility, at least if the court is resolving the issue without looking to extrinsic evidence.²⁸¹ Yet it is not clear that courts following that approach would apply the presumption even if extrinsic evidence were necessary, as many of them cite with approval Judge Mayer's concurrence in *Ultramercial III*, which stated broadly that the presumption is wholly irrelevant when deciding eligibility.²⁸²

On the flip side, some courts say that the presumption of validity *does* apply to the eligibility analysis, including at the pleadings stage when the court is resolving the issue as a matter of law.²⁸³ Indeed, even courts that explicitly treat eligibility as a “pure” question of law frequently apply the presumption of

²⁷⁸ See, e.g., *Tranxition, Inc. v. Lenovo Inc.*, 664 F. App'x 968, 972 (Fed. Cir. 2016) (stating that “[w]e are not persuaded that the district court was correct that a presumption of validity does not apply,” but concluding that, “under any applicable evidentiary standard, . . . the district court did not err in holding that the claims are patent-ineligible”).

²⁷⁹ See, e.g., *Trading Techs. Int'l, Inc. v. CQG, Inc.*, 675 F. App'x 1001, 1004 n.2 (Fed. Cir. 2017) (“The parties dispute whether the district court erred in requiring proof of ineligibility under § 101 by clear and convincing evidence. Because our review is de novo, and because under either standard the legal requirements for patentability are satisfied, we need not address this dispute.”).

²⁸⁰ See generally *Proto Labs, Inc. v. ICO Prods., LLC*, No. 15CV02562, 2016 WL 4974951, at *5 (D. Minn. Sept. 16, 2016) (citing cases).

²⁸¹ See, e.g., *Modern Telecom Sys. LLC v. Earthlink, Inc.*, No. CV14-347, 2015 WL 1239992, at *7 (C.D. Cal. Mar. 17, 2015) (“The Court agrees with Defendants that the clear and convincing evidence standard is not necessarily applicable in the context of determining patent-eligibility under § 101, which is a question of law. . . . Because, ordinarily, no evidence outside the pleadings is considered in resolving a motion to dismiss or a motion for judgment on the pleadings, it makes little sense to apply a ‘clear and convincing evidence’ standard—a burden of proof—to such motions.”); accord *Wireless Media Innovations, LLC v. Maher Terminals, LLC*, 100 F. Supp. 3d 405, 411 (D.N.J. 2015), *aff'd*, 636 F. App'x 1014 (Fed. Cir. 2016).

²⁸² See, e.g., *TNS Media Research LLC v. TiVo Research & Analytics, Inc.*, 223 F. Supp. 3d 168, 178 (S.D.N.Y. 2016); *Wireless Media*, 100 F. Supp. 3d at 411; *OpenTV, Inc. v. Apple, Inc.*, No. 14-CV-1622, 2015 WL 1535328, at *3 (N.D. Cal. Apr. 6, 2015); *Modern Telecom*, 2015 WL 1239992, at *7.

²⁸³ See, e.g., *CertusView Techs., LLC v. S&N Locating Servs., LLC*, 111 F. Supp. 3d 688, 707 & n.6 (E.D. Va. 2015) (recognizing contrary authority), *aff'd*, No. 2016-2605, 2017 WL 3443246 (Fed. Cir. Aug. 11, 2017).

validity,²⁸⁴ which seems doctrinally questionable given the conventional understanding that standards of proof do not apply to questions of law.²⁸⁵

2. *A Modest Role for the Presumption of Validity in Eligibility Decisions.*— Much of the disharmony among the lower courts stems from the on-going uncertainty about the nature of eligibility as a legal question or a factual one. If, as I have argued, the eligibility analysis can contain factual considerations, then, under *i4i*, the presumption of validity should apply to those factual questions. Specifically, courts would invoke the presumption only in cases in which they consider extrinsic evidence, such as expert testimony, to resolve the question of eligibility. And, even in those cases, the presumption would apply only to the factual inquiries that underpin the ultimate legal conclusion of eligibility or ineligibility.

That approach, however, raises a difficult definitional question: what, precisely, *are* the factual inquiries underpinning the eligibility decision? They probably cannot be the two questions *Alice* makes fundamental to resolving eligibility (that is, whether the patent is directed to an ineligible principle and whether it contains an inventive concept). Viewing *those* questions as factual would turn the entire eligibility decision into a question of fact, contrary to the Supreme Court’s instruction that patent validity is a question of law. The Supreme Court’s precedent does provide some indications about factual determinations that underlie the decision on each step of the *Alice* inquiry. On the first step, a court could, for instance, allow the factfinder to determine (under the clear-and-convincing-evidence standard) whether an activity recited in the patent is a “fundamental” or “long prevalent” economic practice,²⁸⁶ leaving for the judge the ultimate decision on whether the patent is directed to an abstract idea. While offering a role for the factfinder and the presumption of validity, that approach would ensure that the task of determining what a patent claim is “directed to,”²⁸⁷ which seems like a matter of claim construction, is performed by the judge, in

²⁸⁴ See *Lumen View Tech. LLC v. Findthebest.com, Inc.*, 984 F. Supp. 2d 189, 204 (S.D.N.Y. 2013) (stating that “[w]hether a patent is valid under Section 101 is a pure question of law” but concluding that “[i]t is evident by clear and convincing evidence that the patent is invalid”); *DietGoal Innovations LLC v. Bravo Media LLC*, 33 F. Supp. 3d 271, 277 (S.D.N.Y. 2014) (“The determination of whether a claim is drawn to patent-eligible subject matter is a pure question of law. . . . The party challenging the validity of a patent bears the burden of proving invalidity by clear and convincing evidence.”) (internal quotation marks and citations omitted), *aff’d*, 599 F. App’x 956 (Fed. Cir. 2015).

²⁸⁵ See *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 114 (2011) (Breyer, J., concurring) (“Where the ultimate question of patent validity turns on the correct answer to legal questions—what these subsidiary legal standards mean or how they apply to the facts as given—today’s strict standard of proof has no application.”).

²⁸⁶ E.g., *Bilski v. Kappos*, 561 U.S. 593, 611 (2010).

²⁸⁷ *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014).

accord with Supreme Court precedent.²⁸⁸ On the second step, the factfinder could decide whether the patent recites activity that is “well known” in the field,²⁸⁹ leaving for the judge the ultimate decision on whether the patent contains an “inventive concept.”

Those distinctions between questions of fact and questions of law are, to be sure, fine ones. Indeed, one district judge who applied the clear-and-convincing standard to the entire eligibility analysis did so precisely because “it is difficult to tease out legal and factual issues under § 101.”²⁹⁰ Yet distinguishing law from fact in the eligibility analysis is important because of the key role that distinction plays in shaping the procedure of patent eligibility—a point on which I elaborate in the final part of the article.

III. RETHINKING THE LAW/FACT BOUNDARY: IMPLICATIONS FOR ELIGIBILITY DOCTRINE AND BEYOND

This part concludes the article by exploring the consequences of changing how the law labels the question of patent eligibility. Drawing on literature skeptical of the conventional distinction between law and fact, it first explains—in terms of policy—how treating eligibility as at least partly factual would help ensure efficient and accurate patent adjudication. It then considers the institutional implications of the article’s analysis of eligibility procedure, arguing that confusion around the law/fact boundary may be an adverse effect of centralizing appeals in the Federal Circuit.

A. Patent Eligibility and the Myth of the Law-Fact Distinction

One of this article’s primary arguments is that determining patent eligibility requires courts to resolve disputes that the legal system would normally call disputes of fact, not law. But, as skeptics of the law/fact distinction have pointed out, a fact—just like the law—is simply “something in the world” that the parties must prove in a given case.²⁹¹ As I suggested at the conclusion of the previous part of the article, the resemblance between law and fact is particularly strong in the realm of patent eligibility, where the ostensible question of law (patent validity) is not about the meaning of a statute or the interpretation of precedent, but instead turns on whether a particular patent contains an “inventive concept.”

²⁸⁸ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996).

²⁸⁹ *E.g.*, *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79 (2012).

²⁹⁰ *Front Row Techs., LLC v. NBA Media Ventures, LLC*, 204 F. Supp. 3d 1190, 1235-36 (D.N.M. 2016), *aff’d sub nom.*, *Front Row Techs., LLC v. MLB Advanced Media, L.P.*, No. 2016-2604, 2017 WL 4127880 (Fed. Cir. Sept. 18, 2017).

²⁹¹ Ronald J. Allen & Michael S. Pardo, *The Myth of the Law-Fact Distinction*, 97 *Nw. U. L. REV.* 1789, 1802 (2003).

The blurry distinction between law and fact in the eligibility inquiry implicates a point recently made by Gary Lawson in his work on “proving” the law. Because propositions of law and propositions of fact are “epistemologically equivalent” in that they are both “object[s] of proof” in legal proceedings, the applicable standards of proof should be dictated by considerations of *policy*, not “epistemology or [legal] metaphysics.”²⁹² Extrapolating from that argument, a comprehensive analysis of whether the law should treat patent eligibility as a legal question or a factual one must consider both how the law would *conventionally* label the eligibility issue and gauge the *consequences* of attaching one label or the other. Labeling patent eligibility as partly factual would have at least three important benefits: it would allow courts to resolve eligibility at the optimal time in any given case, it would provide an appropriately limited role for the statutory presumption of patent validity, and, though it might result in some normatively undesirable jury involvement in deciding eligibility, it would lend support to broader critiques of the jury trial right that courts and lawyers often assume to exist in disputes over patent validity.

First, in terms of timing, the key aim is to provide courts with a mechanism to quickly invalidate patents that are plainly invalid while ensuring that they do not rush to an inaccurate decision on an inadequate record. Treating eligibility as a pure question of law, as many courts do, risks favoring speed over accuracy, as a court that views eligibility as a legal question can *always* resolve it on the pleadings. But treating eligibility as unavoidably factual is not ideal either, for patent law already contains fact-driven doctrines, such as novelty, nonobviousness, and various disclosure requirements, that are, like the eligibility requirement, designed to eradicate patents that are overly broad and not inventive. Treating eligibility as a question of law that can be based on factual considerations strikes an ideal balance. It gives courts flexibility to invalidate patents on the pleadings when evidence outside the pleadings is unlikely to bolster the case for eligibility. But it also forces courts to acknowledge that aspects of the *Alice* inquiry—such as the comparison of the patent to previously existing technology—can sometimes be decided more accurately on a better developed record.

Second, as for the standard of proof, I argued above that the presumption of validity should apply to eligibility analysis, but only if the court must make findings of fact based on evidence outside the patent itself. This relatively limited role for the presumption of validity is also consistent with various policy considerations. The presumption of validity originated as a common law doctrine reflecting the deference courts usually give to an expert agency such as the Patent

²⁹² LAWSON, *supra* note 147, at 9-10.

Office.²⁹³ Today, however, deference to the agency is arguably unwarranted given the minimal scrutiny most patent applications receive.²⁹⁴ Many studies report that patent applications receive, on average, less than twenty hours of attention from an examiner.²⁹⁵ Moreover, roughly forty-three percent of court decisions on validity favor the challenger,²⁹⁶ raising further doubts about the quality of Patent Office examination. That said, § 282(a) of the Patent Act unequivocally states that patents are presumed valid, so it seems legally indefensible to *completely ignore* the presumption when a patent's validity is challenged under § 101, as some courts currently do. A limited role for the presumption of validity in the eligibility analysis respects the unambiguous statutory language enacted by Congress while also accounting for the lenient nature of examination in the modern patent system.

A third and final consequence of the law/fact label is that it determines who decides patent eligibility. Most courts and lawyers assume that the Seventh Amendment provides the patentee with a right to a jury trial on fact questions relevant to patent validity.²⁹⁷ As Mark Lemley has shown, however, that assumption is questionable as a matter of history and doctrine.²⁹⁸ Moreover, as a practical matter, having lay juries resolve technically complex issues of patent validity is probably not an ideal way of resolving disputes.²⁹⁹

Critiques of jury involvement in patent cases could be invoked to support the notion—contrary to my argument in this article—that patent eligibility should be treated as a purely legal issue so it can be resolved entirely by the judge. As I argued above, however, labeling eligibility as a question of law is difficult to justify as a matter of doctrine, and it can tempt judges to decide the issue too quickly. Eligibility law thus highlights the conundrum created by the robust jury

²⁹³ Stuart Minor Benjamin & Arti K. Rai, *Who's Afraid of the APA? What the Patent System Can Learn from Administrative Law*, 95 GEO. L.J. 269, 281-82 (2007).

²⁹⁴ See Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 STAN. L. REV. 45, 49-51 (2007) (proposing to limit the presumption of validity to situations where patent owners have submitted to a more rigorous initial examination or where a court, the International Trade Commission, or the Patent Office has already reevaluated validity and found in the patentee's favor).

²⁹⁵ See, e.g., Michael D. Frakes & Melissa F. Wasserman, *Is the Time Allocated to Review Patent Applications Inducing Examiners to Grant Invalid Patents?*, 99 REV. ECON. & STAT. 550, 552 (2017); Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1500 (2001).

²⁹⁶ John R. Allison et. al., *Understanding the Realities of Modern Patent Litigation*, 92 TEX. L. REV. 1769, 1801 (2014).

²⁹⁷ See Lemley, *supra* note 53, at 1715.

²⁹⁸ See *id.*

²⁹⁹ See Kimberly A. Moore, *Judges, Juries, and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 368, 409 (2000) (collecting critiques of the use of juries in patent cases and finding some evidence of “flaws in juror comprehension”).

trial right that is currently assumed to exist: it incentivizes courts to engage in the questionable practice of treating eligibility as a pure question of law, which prevents jury involvement and preserves the eligibility requirement as a tool to quickly strike down patents that are clearly invalid. But if, instead of sending fact questions to the jury (as is the current practice), the judge alone conducted all proceedings on patent validity, the judge could simultaneously address the aspects of the eligibility inquiry that resemble what patent lawyers usually understand to present questions of law (for instance, the claim construction-like question of whether the patent “directed to” an abstract idea) and those that look more like questions of fact (for instance, whether the patent contains an inventive concept when compared to the prior art). Without juries, the presumption of validity would be easier to implement, too: instead of applying it only to questions formally denominated as “factual,” the judge could simply apply the presumption as a shade on the overall validity analysis.

B. Law, Fact, and the Federal Circuit

Eligibility doctrine is not the only area of patent law where the Federal Circuit has done a questionable job distinguishing between issues of law and fact. In contrast to the court’s treatment of eligibility as effectively a pure question of law, the court has allowed juries to make the ultimate decision on nonobviousness, even though nonobviousness is, under Supreme Court precedent, a question of law. Also, as covered above in the discussion of claim construction, the Federal Circuit has mostly refused to acknowledge the factual considerations that permeate determinations of claim meaning. Other examples abound of troublesome Federal Circuit doctrine around the border between law and fact.

Take indefiniteness. Under that doctrine, which stems from § 112’s command that the patent’s claims must “particularly point[] out and distinctly claim[]” the invention,³⁰⁰ a patent is invalid if its claims, specification, and prosecution history “fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”³⁰¹ The Federal Circuit has acknowledged that determining whether a patent satisfies the definiteness requirement is a task of construing the patent’s claims.³⁰² So, under the Supreme Court’s landmark decision in *Markman*,³⁰³ it should be done exclusively by the judge. But many district courts—with the Federal Circuit’s approval—allow juries to decide indefiniteness.³⁰⁴ The confusion surrounding the allocation of decisionmaking

³⁰⁰ 35 U.S.C. § 112(b).

³⁰¹ *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

³⁰² *See Sonix Tech. Co. v. Publications Int’l, Ltd.*, 844 F.3d 1370, 1378 (Fed. Cir. 2017).

³⁰³ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996).

³⁰⁴ *See, e.g., Koninklijke Philips N.V. v. Zoll Med. Corp.*, 656 F. App’x 504, 527-28 (Fed. Cir. 2016) (vacating jury verdict of no indefiniteness because of a legally incorrect instruction and remanding for another trial).

authority on indefiniteness is well illustrated by a recent Federal Circuit decision emphasizing that, indefiniteness is, like the ultimate issue of claim construction, reviewed de novo on appeal, but also noting that the accused infringer must prove indefiniteness by clear and convincing evidence.³⁰⁵

Another doctrine in which the Federal Circuit has drawn questionable distinctions between matters of law and fact is the written description requirement.³⁰⁶ To determine whether a patent complies with that requirement, the court compares the inventor's original application with the patent's issued claims to ensure that, at the time of filing, the inventor had actually invented what the patent ultimately claimed.³⁰⁷ Like claim construction, this comparison of two documents—the original application to the issued patent—would seem to present a question for the judge. Yet the Federal Circuit, surprisingly, views written description to be an entirely factual question that can be given to the jury.³⁰⁸

As far as I can tell, the Federal Circuit has never attempted to justify this rule (which, to reiterate, is in tension with the Supreme Court's repeated statement that patent validity is a question of law). If you trace the case law back far enough, the Federal Circuit's predecessors reasoned that written description is a factual question because the original application must be read from the perspective of a person having ordinary skill in the art.³⁰⁹ But many patent law doctrines are applied from that perspective, most notably, claim construction³¹⁰ and the ultimate determination of obviousness,³¹¹ yet those doctrines are applied by the court as a matter of law.

There are at least three conclusions we can draw from the Federal Circuit's persistent difficulties in distinguishing law from fact, all of which speak to the broader question of whether the court has succeeded or failed as an “experiment” in judicial specialization.³¹² First, the Federal Circuit's troubles at the law/fact divide provide yet another example of the court developing questionable doctrine

³⁰⁵ *Sonix*, 844 F.3d at 1376-77.

³⁰⁶ Like indefiniteness, the written description requirement also stems from § 112 of the Patent Act. See 35 U.S.C. § 112(a) (“The specification shall contain a written description of the invention . . .”).

³⁰⁷ *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1479 (Fed. Cir. 1998).

³⁰⁸ *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1355 (Fed. Cir. 2010) (en banc).

³⁰⁹ See *In re Wertheim*, 541 F.2d 257, 262 (C.C.P.A. 1976) (“The primary consideration [of the written description doctrine] is factual and depends on the nature of the invention and the amount of knowledge imparted to those skilled in the art by the disclosure.”).

³¹⁰ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

³¹¹ See *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 422 (2007).

³¹² See generally Rochelle Cooper Dreyfuss, *The Federal Circuit: A Continuing Experiment in Specialization*, 54 CASE W. RES. L. REV. 769, 770-72 (2004) (collecting critiques and praise of the Federal Circuit as an institution).

on transsubstantive issues (that is, issues such as jurisdiction or procedure that arise not just in patent cases).³¹³ The Federal Circuit has received substantial attention for its frequent reversals by the Supreme Court in recent years,³¹⁴ and many of those reversals have been on issues far from the substantive core of patent law.³¹⁵ Though we should not automatically take Supreme Court reversals to be an indictment of the Federal Circuit's performance as an institution, this pattern of reversals on similar issues raises serious questions.

Second, the Federal Circuit's tendency to recast what appear to be factual inquiries as legal questions is consistent with a pathology commonly theorized to be associated with specialized courts: they naturally tend to expand their power.³¹⁶ Downplaying the factual aspects of the eligibility inquiry fits that mold, as it gives the Federal Circuit plenary control over a controversial and contentious area of patent doctrine. Claim construction fits the pattern, too: treating that issue as purely legal gives the Federal Circuit significant authority over the most important issue in many patent cases. From a normative perspective, this power expansion is not necessarily bad. Federal Circuit judges see more patent cases than most district judges, so they might bring useful expertise to bear.³¹⁷ And the Federal Circuit affirms over ninety percent of the eligibility appeals it hears, meaning that any power expansion may not significantly affect the outcomes of individual cases.³¹⁸ That said, *de novo* review of fact-laden questions can increase litigation costs by encouraging appeals, separate and apart from any worries about unpredictability of outcomes.

Finally, the court's approval of giving certain legal questions to juries, such as nonobviousness and indefiniteness, as well as the court's characterization of validity requirements such as novelty and written description as issues of fact, are consistent with another theorized shortcoming of specialized courts: capture.³¹⁹

³¹³ See Lee, *supra* note 159, at 1451.

³¹⁴ See Timothy B. Dyk, *Thoughts on the Relationship Between the Supreme Court and the Federal Circuit*, 16 CHI.-KENT. J. INTELL. PROP. 67, 68 (2016).

³¹⁵ See Paul R. Gugliuzza, *How Much Has the Supreme Court Changed Patent Law?*, 16 CHI.-KENT. J. INTELL. PROP. 330, 335 (2017).

³¹⁶ See, e.g., Chad M. Oldfather, *Judging, Expertise, and the Rule of Law*, 89 WASH. U. L. REV. 847, 877 (2012) (suggesting that "a specialized court seems more likely to allocate the power to decide certain issues to itself rather than to juries").

³¹⁷ *But cf.* David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223, 225-26 (2008) (suggesting that the Federal Circuit reverses with similar frequency the claim construction orders of district judges who have heard many patent cases and the orders of judges who have heard few patent cases).

³¹⁸ *Cf.* Gugliuzza & Lemley, *supra* note 17, at 37 (reporting a high affirmance rate but also suggesting that the Federal Circuit's choice about whether to issue precedential opinions in eligibility cases could distort the law, or at least perceptions of it).

³¹⁹ See PAUL D. CARRINGTON ET AL., JUSTICE ON APPEAL 168 (1976).

Though it is often said that the Federal Circuit was created primarily to establish uniformity in patent law,³²⁰ the court's supporters also clearly hoped that it would strengthen patent rights.³²¹ Juries like patentees,³²² so from the patentee's perspective, the more issues denominated as questions of fact, the better. To be sure, plenty of evidence cuts against a definitive story about the Federal Circuit being captured by patentees, such as patentees' low win-rate on patent-eligible subject matter challenges and the fact that the law of infringement developed by the Federal Circuit is, by many accounts, is relatively evenhanded.³²³ But, given the Federal Circuit's relatively narrow jurisdiction—and the fact that patent cases are by far the most high-profile cases it hears—we should at least be attuned to evidence of capture.

CONCLUSION

This article has highlighted several ways in which the procedures through which courts decide patent eligibility could be reformed to better balance the need for quick invalidations of bad patents with the danger of erroneously invalidating meritorious patents. Looking at the law of patent-eligible subject matter through a procedural lens also illuminates several broader problems with patent doctrine, particularly those that implicate the law/fact divide. The Federal Circuit's struggles in articulating coherent case law along that divide provide reason to be skeptical about the court's performance as an institution.

³²⁰ See H.R. REP. NO. 97-312, at 23 (1981) (stating that the “central purpose” of the statute creating the Federal Circuit was “to reduce the widespread lack of uniformity and uncertainty of legal doctrine that exist in the administration of patent law”).

³²¹ See Paul R. Gugliuzza, *Saving the Federal Circuit*, 13 CHI.-KENT J. INTELL. PROP. 350, 371 (2014).

³²² See, e.g., Mark A. Lemley et al., *Rush to Judgement? Trial Length and Outcomes in Patent Cases* 41 AIPLA Q.J. 169, 175 (2013) (reporting, based on case outcomes from 2000 to 2011, that patentees won 62.9% of jury trials as compared to 51.3% of bench trials).

³²³ See Gugliuzza, *supra* note 321, at 373-74.