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ANTIFORMALISM AT THE FEDERAL CIRCUIT:
THE JURISPRUDENCE OF CHIEF JUDGE RADER

*Peter Lee**

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ABSTRACT

Commentators have long noted that the Federal Circuit tends to produce formalistic patent doctrine that favors bright-line rules over extensive engagement with facts and context. This Article, however, argues that Chief Judge Rader's approach to patent law diverges sharply from this methodological tendency. In particular, it explores Chief Judge Rader's rejection of formalism by examining his contributions to three areas of patent doctrine: claim construction, patentable subject matter, and the written description requirement. Throughout his engagement with patent law, Chief Judge Rader exhibits a striking sensitivity to context, policy considerations, and exogenous sources of authority that distinguishes himself from his more formalistic colleagues. The Article concludes with a brief normative assessment of Chief Judge Rader's "antiformalist" methodology and its value to patent jurisprudence.

* Professor of Law, UC Davis School of Law. Thanks to Professor Robert Gomulkiewicz for comments on an earlier draft of this piece.

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INTRODUCTION

Individuals and the organizations to which they belong sometimes display remarkably different characteristics. While the Court of Appeals for the Federal Circuit has long been characterized as producing formalistic patent doctrine,¹ this Article contends that its Chief Judge does not share those tendencies. Just as parts sometimes differ from the whole, this Article departs from the others in this collection by focusing on Chief Judge Rader’s methodological orientation rather than his specific doctrinal contributions to intellectual property law (though the two, of course, are intimately intertwined). It argues that, contrary to the

¹ See, e.g., Timothy R. Holbrook, *The Supreme Court’s Complicity in Federal Circuit Formalism*, 20 SANTA CLARA COMPUTER & HIGH TECH. L.J. 1 (2003); Peter Lee, *Patent Law and The Two Cultures*, 120 YALE L.J. 2 (2010) [hereinafter Lee, *Patent Law and the Two Cultures*]; Arti K. Rai, *Engaging Facts and Policy: A Multi-Institutional Approach to Patent System Reform*, 103 COLUM. L. REV. 1035 (2003); John R. Thomas, *Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771, 776 (2003). This is not to suggest, of course, that members of the Federal Circuit are homogenous in their methodological preferences. Cf. R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105, 1159-63 (2004) (situating Federal Circuit judges on a “procedural” versus “holistic” continuum regarding their approach to claim construction). Furthermore, this characterization of Federal Circuit jurisprudence as formalistic has not gone uncontested. See Tun-Jen Chiang, *Formalism, Realism, and Patent Scope*, 1 IP THEORY 88 (2010) (arguing that claim scope doctrine appearing to be formalistic on its surface is actually quite flexible and indeterminate).

general orientation of the Federal Circuit, the patent jurisprudence of Chief Judge Rader reflects a striking rejection of formalism and a concomitant embrace of holism, realism, and context.²

This Article proceeds in three parts. Part I explores the widely held conception that the Federal Circuit produces formalistic patent doctrine. It further explores the nature and meaning of formalism and its many methodological opposites. Part II examines Chief Judge Rader's rejection of formalism by considering his jurisprudence across three areas of patent doctrine: claim construction, patentable subject matter, and the written description requirement. Throughout his engagement with patent law, Chief Judge Rader exhibits a sensitivity to context and exogenous sources of authority that distinguishes his jurisprudence from traditionally formalistic Federal Circuit doctrine. Part III provides a brief normative assessment of Chief Judge Rader's contrarian methodology and its value to patent law.

I. FORMALISM AND ANTIFORMALISM IN PATENT DOCTRINE

Federal Circuit patent doctrine has long been characterized as formalistic.³ Formalism, of course, is subject to a wide variety of definitions and connotations, and it can operate at many levels of judicial decision making.⁴ To begin, the Federal Circuit often creates substantive patent doctrine that is highly formalistic. In this context, by formalism I am referring to the court's emphasis on deciding cases "according to *rule*."⁵ In articulating new patent

² Throughout this Article, I will refer to Judge Rader as "Chief Judge" to reflect his current title, which he assumed on June 1, 2010.

³ See *supra* note 1.

⁴ See generally Larry Alexander, "With Me, It's All er Nuthin'": *Formalism in Law and Morality*, 66 U. CHI. L. REV. 530, 531 (1999); Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685 (1976); Frank I. Michelman, *A Brief Anatomy of Adjudicative Rule-Formalism*, 66 U. CHI. L. REV. 934 (1999); Richard H. Pildes, *Forms of Formalism*, 66 U. CHI. L. REV. 607 (1999); Frederick Schauer, *Formalism*, 97 YALE L.J. 509 (1988).

⁵ Schauer, *supra* note 4, at 510. These rules may be articulated in statute, and one conception of formalism refers to a mode of statutory interpretation that elevates textual fidelity over legislative intent and contextual factors. In general,

doctrine, the Federal Circuit routinely favors bright-line rules over discretionary standards.⁶ Such doctrine tends to eschew “totality of the circumstances” tests that admit numerous contextual factors.⁷ Accordingly, formalistic frameworks tend to unfold according to an internal logic whereby syllogism takes precedent over realism and context.⁸ Such attributes characterize a significant proportion of Federal Circuit patent doctrine, and there is evidence that it has become more formalistic over time.⁹ In addition, the Federal Circuit tends to be formalistic not only in the substantive doctrine that it produces, but in its reasoning as well. Unlike many other appellate courts, the Federal Circuit rarely ventures beyond traditional legal authorities to cite empirical and economic scholarship¹⁰ or international law to support its decisions. Furthermore, the court rarely offers policy rationales for the doctrine that it produces.¹¹

Federal Circuit formalism is evident in a number of doctrinal

I use formalism in a broader sense to refer to rule-based adjudication, including instances where rules arise from judge-made rather than statutory law.

⁶ See Thomas, *supra* note 1, at 776 (noting that Federal Circuit doctrine reflects “adjudicative rule formalism”).

⁷ See Schauer, *supra* note 4, at 510 (“[F]ormalism screen[s] off from a decisionmaker factors that a sensitive decisionmaker would otherwise take into account.”).

⁸ This inward orientation is illustrated, for example, in the Federal Circuit’s approach to claim construction, which prioritizes intrinsic evidence (such as the text of the claims themselves, the specification, and prosecution history) over extrinsic evidence (such as expert testimony, dictionaries, and other outside sources) as interpretive aids. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc); Lee, *Patent Law and the Two Cultures*, *supra* note 1, at 29-33.

⁹ Thomas, *supra* note 1, at 773.

¹⁰ See Rochelle Cooper Dreyfuss, *The Federal Circuit: A Continuing Experiment in Specialization*, 54 CASE W. RES. L. REV. 769, 780-81 (2004); Craig Allen Nard, *Toward a Cautious Approach to Obeisance: The Role of Scholarship in Federal Circuit Patent Law Jurisprudence*, 39 HOUS. L. REV. 667, 678-83 (2002).

¹¹ See Rochelle Cooper Dreyfuss, *What the Federal Circuit Can Learn from the Supreme Court – And Vice Versa*, 59 AM. U. L. REV. 787, 804-05 (2010) (“[A]lthough the Federal Circuit routinely recites policy justifications for the statutory requirements of patent law, it rarely provides insight into the policy rationale for its own decisions.”).

areas.¹² For example, at one point the court adopted a highly formalistic approach to prosecution history estoppel, an important doctrine that constrains patentees' assertion of infringement under the doctrine of equivalents. In *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, the Federal Circuit, sitting en banc, adopted a complete bar approach to prosecution history estoppel.¹³ Under this ruling, when a patent applicant narrows a claim element during prosecution, she is estopped from later asserting *any* equivalent of that element when alleging infringement under the doctrine of equivalents. As judges and commentators have recognized, this is a highly formalistic, bright-line rule.¹⁴ This rule "truncates" judicial inquiries because courts need not consider whether any technological equivalents survive the application of estoppel, for none does.¹⁵ Notably, the Supreme Court subsequently reversed the Federal Circuit and established a flexible bar approach to prosecution history estoppel in which contextual factors may allow a patentee to assert equivalents to a claim element even when prosecution history estoppel applies.¹⁶

The Federal Circuit's formalistic tendencies are further reflected in its historical approach to nonobviousness. In a series of cases, the court developed the so-called teaching, suggestion, or motivation (TSM) test to guard against hindsight bias in nonobviousness determinations.¹⁷ Under the TSM test, an invention is only considered obvious if there was some discernible

¹² I explore these doctrinal examples at greater length in Lee, *Patent Law and the Two Cultures*, *supra* note 1.

¹³ 234 F.3d 558 (Fed. Cir. 2000) (en banc), *vacated*, 535 U.S. 722 (2002).

¹⁴ *See id.* at 620 (Linn, J., concurring in part and dissenting in part) (characterizing the majority's decision as creating a "new rigid bright line rule"); Holbrook, *supra* note 1, at 5; Thomas, *supra* note 1, at 783-86.

¹⁵ While *Festo* represents a formalistic decision in that it creates a bright-line rule, it is antiformalistic to the extent that it reflects engagement with policy considerations and the working details of the patent system. Indeed, the Federal Circuit adopted this bright-line rule precisely because the flexible bar proved unworkable in practice. As this case illustrates, characterizing a decision as formalistic can be rather complicated, as the rule articulated and its justification may have differing methodological orientations.

¹⁶ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722 (2002).

¹⁷ *See, e.g., In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999).

teaching, suggestion, or motivation to combine its constituent elements.¹⁸ As I have argued elsewhere, the TSM test represents a doctrinal attempt to impose a rule-like framework around an intrinsically nebulous, holistic nonobviousness inquiry.¹⁹

Finally, one sees the Federal Circuit's formalistic tendencies in the law of patent infringement remedies. In *MercExchange, L.L.C. v. eBay, Inc.*, the Federal Circuit adopted a "general rule" of virtually automatically granting an injunction after a finding of patent infringement.²⁰ Among other implications, this syllogistic rule ("if infringement, then injunction") allowed courts to largely ignore factors such as the nature of a patented invention, its status as a component in a broader product, and the business practices of the patentee in determining the appropriateness of injunctive relief.²¹ Here again, the Federal Circuit's formalistic rule tended to reduce contextual consideration and truncate legal inquiries.

In these disparate doctrinal areas, one sees a variety of distinct but related dimensions of formalism. Formalistic doctrine establishes bright-line rules that decrease engagement with facts. Relatedly, formalistic reasoning prioritizes internal consistency over sensitivity to external context. As I define formalism and its connotations rather broadly, it necessarily has a wide range of opposites. In laying the foundation for exploring Chief Judge Rader's "antiformalist" jurisprudence, it is helpful to examine the many connotations of that term.

¹⁸ R. Polk Wagner & Katherine J. Strandburg, Debate, *The Obviousness Requirement in Patent Law*, 155 U. PA. L. REV. PENNUMBRA 96, 98 (2006), http://www.pennumbra.com/debates/pdfs/Wagner_Strandburg_Debate.pdf (exploring doctrinal nuances and controversies related to the TSM test).

¹⁹ See Lee, *Patent Law and the Two Cultures*, *supra* note 1, at 35-39. In similar fashion, the Federal Circuit has also diminished the technological demands of nonobviousness inquiries by elevating the importance of non-technological "secondary considerations," such as the commercial success of an invention, within nonobviousness determinations. See Rebecca S. Eisenberg, *Obvious to Whom? Evaluating Inventions from the Perspective of PHOSITA*, 19 BERKELEY TECH. L.J. 885, 893 (2004).

²⁰ 401 F.3d 1323, 1338 (Fed. Cir. 2005) (articulating a "general rule . . . that a permanent injunction will issue once infringement and validity have been adjudged") (citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1246-47 (Fed. Cir. 1989)).

²¹ See Lee, *Patent Law and the Two Cultures*, *supra* note 1, at 40.

First, antiformalist doctrine is attentive to facts and context. In establishing substantive rules of decision, it favors flexible standards rather than inquiry-truncating rules. Antiformalist doctrine, moreover, may be holistic not only in its substantive content, but also in its genesis and justification. Antiformalist doctrine thus is “realist” to the extent that it responds to the real-world technical, institutional, and economic context in which patent law unfolds.

Second, antiformalist doctrine tends to be more explicitly focused on outcomes and policy objectives.²² Formalistic reasoning typically unfolds according to an internal logic in which decision makers systematically apply unwavering rules to reach legal conclusions. It thereby has a syllogistic character in which legal opinions proceed as deductive proofs. Antiformalist reasoning, however, is more attentive to outcomes and is mindful of shaping legal rules to produce desirable results. This “big-picture” orientation helps render antiformalist jurisprudence more explicitly sensitive to policy considerations.

Finally, related to the notion of context, antiformalist reasoning looks beyond traditional legal authorities, such as binding statutes and precedent, when crafting new doctrine. In particular, antiformalist jurisprudence is more likely to consult empirical and

²² One must tread carefully here, for formalism may also advance important policy objectives. In particular, formalism may (but does not always) produce more certain and determinate outcomes to legal disputes, *see* Schauer, *supra* note 4, at 539, which is especially beneficial to motivating and safeguarding investments in technological innovation. Furthermore, formalism reduces cognitive burdens on decision makers, a particularly important consideration when lay judges are charged with engaging and understanding unfamiliar technologies. *See* Lee, *Patent Law and the Two Cultures*, *supra* note 1. By characterizing antiformalist jurisprudence as more explicitly policy oriented, I am referring to antiformalist courts’ greater willingness to interpret and craft doctrine in light of the overarching constitutional objective “[t]o promote the Progress of Science and useful Arts.” U.S. CONST. art. I, § 8, cl. 8. Several other commentators have also noted a disconnect between the Federal Circuit’s rule-based formalism and the overarching policy objective of promoting innovation. *See, e.g.*, Rai, *supra* note 1, at 1040; Thomas, *supra* note 1, at 799; *cf.* Tun-Jen Chiang, *The Rules and Standards of Patentable Subject Matter*, 2010 WIS. L. REV. 1353, 1402 (noting that “the policy goal of the patent system is a standard” rather than a rule) [hereinafter Chiang, *Rules and Standards*].

academic studies to buttress legal conclusions. Additionally, it is more likely to consider foreign and international law for guidance when shaping domestic doctrine. Antiformalism thus has several dimensions, many of which are on display in the patent jurisprudence of Chief Judge Rader. The following Part explores these antiformalist characteristics in Chief Judge Rader's contributions to three doctrinal areas: claim construction, patentable subject matter, and the written description requirement.

II. ANTIFORMALISM IN THE JURISPRUDENCE OF CHIEF JUDGE RADER

A. *Appellate Review of Claim Construction*

First, Chief Judge Rader's sensitivity to context and realism is evident in his approach to claim construction. Claim construction—the process by which courts construe the meaning of claim terms—often determines the outcome of patent litigation.²³ Partly because of its substantive importance, claim construction has been a highly controversial issue at the Federal Circuit. Claim construction has spawned several related debates, many of them centering on the role of various institutions in interpreting claims.²⁴ A particularly important issue is the appropriate standard of review of claim construction on appeal.²⁵ On the one hand, the Supreme Court has held that judges rather than juries should construe claims,²⁶ suggesting to some that claim construction is a legal issue

²³ See *Diamond v. Diehr*, 450 U.S. 175, 205 (1981) (Stevens, J., dissenting); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 999 (Fed. Cir. 1995) (Newman, J., dissenting), *aff'd*, 517 U.S. 370 (1996); Kimberly A. Moore, *Are District Judges Equipped To Resolve Patent Cases?*, 15 HARV. J.L. & TECH. 1, 8 (2001).

²⁴ See, e.g., *Markman*, 52 F.3d at 979, *aff'd*, 517 U.S. 370 (1996) (holding that judges rather than juries should construe claims); *Phillips v. AWH Corp.* 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc) (holding that courts should give greater weight to intrinsic versus extrinsic evidence in construing claims).

²⁵ See Jeffrey A. Leftsin, *Claim Construction, Appeal, and the Predictability of Interpretative Regimes*, 61 U. MIAMI L. REV. 1033, 1033-34 (2007).

²⁶ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

that should be reviewed de novo.²⁷ On the other hand, claim construction involves many factual findings on the part of trial courts, which suggests a more deferential standard of appellate review.²⁸ In *Cybor v. FAS*, the Federal Circuit, sitting en banc, attempted to resolve this dispute by holding that claim construction is a question of law to be reviewed de novo on appeal.²⁹

Chief Judge Rader concurred in the judgment but dissented vigorously from the court's pronouncements on claim construction. While recognizing that the standard of review of claim construction "seems an esoteric legal topic,"³⁰ Chief Judge Rader's concurrence nevertheless appreciates its immense practical significance.³¹ Furthermore, his concurrence pierces the sophist reasoning underlying the majority's opinion that appellate courts should review claim construction without deference. The majority reasoned that trial courts may utilize expert testimony to understand, *but not interpret*, claim terms, thus affording them no institutional advantage relative to appellate courts (which, of course, may not consult experts outside of the record). Chief Judge Rader, however, argues that this distinction lacks merit, for a trial judge's ability to consult experts to understand claim terms would undoubtedly inform her interpretation of those terms.³² In a broader sense, Chief Judge Rader significantly engages the realities of trial and appellate adjudication, in which trial judges may liberally consult outside information that appellate judges may not.³³ In his view, these institutional advantages render trial court claim constructions more worthy of deference on appeal.

Along similar lines, Chief Judge Rader's concurrence meaningfully engages the working details of patent adjudication. He argues that deference to trial court claim construction would fulfill the promise of early certainty in patent litigation, which was

²⁷ See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1451 (Fed. Cir. 1998) (en banc).

²⁸ *Id.* at 1478 (Rader, J., concurring in the judgment).

²⁹ See *id.* at 1451.

³⁰ *Id.* at 1474 (Rader, J., concurring in the judgment).

³¹ *Id.*

³² *Id.*

³³ *Id.* at 1477 (Rader, J., concurring in the judgment).

a primary objective of allocating claim construction to judges rather than juries.³⁴ In a decidedly antiformalist move, he marshals empirical evidence to support his arguments, citing the Federal Circuit's general reversal rate of district courts as well as a study revealing a 40 percent reversal rate (in whole or in part) of claim constructions since *Markman*.³⁵ Such engagement with context, particularly empirical studies, diverges sharply from the Federal Circuit's traditional formalistic tendencies. Mindful of the realities of patent litigation, he argues that de novo review of claim construction discourages parties from settling, as there is a significant chance that the Federal Circuit will reverse a claim construction on appeal.³⁶ Explicitly invoking policy considerations, Chief Judge Rader argues that deference to district court claim construction would increase the efficiency and decrease the cost and duration of patent litigation.

In a further antiformalist move, Chief Judge Rader advocates a "functional approach" to establishing a proper standard of review for claim construction.³⁷ Just as the objective of adjudicative economy informed the allocation of claim construction to judges rather than juries, Chief Judge Rader argues that functional considerations should help allocate decisional power between trial and appellate courts.³⁸ He reiterates these functional arguments in *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, a subsequent case involving the standard of review of claim construction.³⁹ Again engaging in institutional competence analysis, Chief Judge Rader

³⁴ *Id.* at 1475-76. Here, Chief Judge Rader refers to an earlier line of precedent, culminating in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), holding that judges rather than juries should perform claim construction. This decision spawned the emergence of *Markman* hearings in which judges, prior to the start of trial, construe claims. In theory, *Markman* hearings establish early certainty around claim terms in patent litigation, a model upset by de novo review of claim construction on appeal. See Craig Allen Nard, *A Theory of Claim Interpretation*, 14 HARV. J.L. & TECH. 1, 32 (2000) [hereinafter Nard, *Claim Interpretation*].

³⁵ *Cybor*, 138 F.3d at 1476 (Rader, J., concurring in the judgment).

³⁶ *Id.*; see Nard, *Claim Interpretation*, *supra* note 34, at 33.

³⁷ *Cybor*, 138 F.3d at 1477 (Rader, J., concurring in the judgment).

³⁸ See Nard, *Claim Interpretation*, *supra* note 34, at 32.

³⁹ 469 F.3d 1039, 1044 (Fed. Cir. 2006) (Rader, J., dissenting from the denial of the petition for rehearing en banc).

argues that district courts, which are closer to the facts of a case, are better situated than appellate judges to construe technical patent claims.⁴⁰ Reflecting an antiformalist orientation, Chief Judge Rader consistently draws on policy, function, and pragmatism, as well as a deep understanding of institutional limitations, to argue for greater deference to district court claim constructions.⁴¹

B. Patentable Subject Matter

Chief Judge Rader's antiformalist tendencies are also reflected in his views on patentable subject matter. In *In re Bilski*, the Federal Circuit, sitting en banc, considered the patentability of a method for hedging risks in commodities trading.⁴² More broadly, this case presented the court with an opportunity to clarify the distinctions between patent-eligible processes and those that are not eligible for patenting.⁴³ In the majority opinion, then-Chief Judge Michel articulated the machine-or-transformation test to govern the patentability of processes. Under this test, a process was eligible for patenting only if "(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different

⁴⁰ *Id.* at 1044.

⁴¹ Notably, Chief Judge Rader's holistic tendencies apply not only to his preferred standard of review for claim construction on appeal, but to his preferred methodology for interpreting claims themselves. While *Phillips v. AWH* establishes an interpretative framework that privileges intrinsic over extrinsic evidence, Chief Judge Rader has been characterized as a "pragmatic textualist" who seeks greater engagement with context to understand and interpret claims. Nard, *Claim Interpretation*, *supra* note 34, at 10-11; see *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.* 114 F.3d 1547, 1555 (Fed. Cir. 1997) ("[T]he testimony of one skilled in the art about the meaning of claim terms at the time of the invention will almost always qualify as relevant evidence.") (Rader, J.), *abrogated on other grounds by* *Cybor*, 138 F.3d at 1456; see also Kelly Casey Mullally, *Patent Hermeneutics: Form and Substance in Claim Construction*, 59 FLA. L. REV. 333, 340 (2007) ("A formalist approach strictly limits the universe of permissible interpretative sources.").

⁴² 545 F.3d 943 (Fed. Cir. 2008) (en banc), *aff'd sub nom.* *Bilski v. Kappos*, 130 S. Ct. 3218 (2010).

⁴³ See 35 U.S.C. § 101 (2006) (listing "process[es]" as a statutorily recognized category of patentable subject matter).

state or thing.”⁴⁴ This is a relatively formalistic test, as it strives to reduce a rather nebulous inquiry—the patentability of processes—to two governing rules.⁴⁵ Applying this test, the Federal Circuit denied the patentability of the subject invention.⁴⁶

Chief Judge Rader agreed that the invention at issue did not comprise patentable subject matter, but he offered a very different rationale. In its overall tone, Chief Judge Rader’s dissent is sensitive to context; he takes the majority to task for adopting a patent-eligibility framework better suited to “the age of iron and steel” rather than the current era of “subatomic particles and terabytes.”⁴⁷ In rejecting the machine-or-transformation test as the sole test of process patentability, Chief Judge Rader turns instead to longstanding precedent that natural laws, natural phenomena, and abstract ideas are not patentable subject matter.⁴⁸ Relying on this case law, Chief Judge Rader argues that the patent applicants’ method of hedging risk is nothing more than an unpatentable abstract idea.⁴⁹

In addition to representing a different (and perhaps doctrinally sounder) basis for denying patentability relative to the machine-or-transformation test, the abstract idea test is inherently more holistic.⁵⁰ Whether or not a discovery comprises an abstract idea is a complicated inquiry encompassing several considerations. Abstract ideas represent “the basic tools of scientific and technological work.”⁵¹ As such, characterizing an invention as an

⁴⁴ *Bilski*, 545 F.3d at 954, 956.

⁴⁵ The Federal Circuit has been formalistic in other articulations of patentable subject matter as well. *See, e.g., State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998) (articulating a rule that patentable subject matter comprises any process, machine, manufacture, or composition of matter that produces “a useful, concrete and tangible result”); *see also* Lee, *Patent Law and the Two Cultures*, *supra* note 1, at 61 n.354.

⁴⁶ *Bilski*, 545 F.3d at 949.

⁴⁷ *Id.* at 1011 (Rader, J., dissenting).

⁴⁸ *Id.*; *see* *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980); *Diamond v. Diehr*, 450 U.S. 175, 185 (1981).

⁴⁹ *Bilski*, 545 F.3d at 1015 (Rader, J., dissenting).

⁵⁰ *Cf. Chiang, Rules and Standards*, *supra* note 22, at 1356 (“This ‘abstract-idea’ doctrine is not capable of bright-line rules.”).

⁵¹ *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972).

abstract idea may require determining whether that asset helps to facilitate broader, industry-wide developments and technological progress.⁵² An analogy can be drawn to another line-drawing mechanism in intellectual property law: the idea-expression dichotomy in copyright.⁵³ In that context, separating protectable expression from nonprotectable idea often proceeds as a policy determination inquiring into whether an asset is so abstract that subjecting it to exclusive rights would effectively impair rather than advance creative progress.⁵⁴ This instrumentalist orientation also informs identifying “abstract ideas” in patent law and manifests itself in Chief Judge Rader’s *Bilski* dissent.⁵⁵ Emphasizing the patent system’s overarching utilitarian objectives, Chief Judge Rader urges the Federal Circuit to “ask whether its decisions incentivize research for cures and other important technical advances.”⁵⁶ Notably, while Chief Judge Rader dissented from the majority’s opinion, he received at least partial vindication at the Supreme Court. On appeal, the Court rejected the machine-or-transformation test as the sole test of process patentability and held the applicants’ invention unpatentable as an abstract idea.⁵⁷

In addition to emphasizing context, Chief Judge Rader’s patentable subject matter jurisprudence exhibits another

⁵² Cf. Mark A. Lemley et al., *Life After Bilski*, 63 STAN. L. REV. 1315, 1339 (2011) (arguing that courts should consider the “generative nature of the new technology” when assessing whether it comprises an abstract idea).

⁵³ See Peter Lee, *The Evolution of Intellectual Infrastructure*, 83 WASH. L. REV. 39, 80 (2008).

⁵⁴ *Id.*; see *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 742 (9th Cir. 1971) (“We think the production of jeweled bee pins is a larger private preserve than Congress intended to be set aside in the public market without a patent. A jeweled bee pin is *therefore* an ‘idea’ that defendants were free to copy.”) (emphasis added).

⁵⁵ However, while policy considerations may shed light on identifying abstract ideas, Chief Judge Rader remains sensitive to the line-drawing difficulties of this doctrine. See *Research Corp. Technologies v. Microsoft Corp.*, 627 F.3d 859, 868 (Fed. Cir. 2010) (“[T]his court also will not presume to define ‘abstract’ beyond the recognition that this disqualifying characteristic should exhibit itself so manifestly as to override the broad statutory categories of eligible subject matter . . .”).

⁵⁶ *Bilski*, 545 F.3d at 1014 (Rader, J., dissenting).

⁵⁷ *Bilski v. Kappos*, 130 S. Ct. 3218 (2010).

antiformalist trait: engagement with foreign and international patent law. In his *Bilski* dissent, Chief Judge Rader notes that the European Patent Convention constrains patentable subject matter more than its U.S. counterpart by restricting software and other method patents and by prohibiting patents deemed contrary to the public interest.⁵⁸ He disfavors such restrictions, and he argues that the United States' more expansive conception of patentable subject matter has contributed to this country's world leadership in innovation.⁵⁹ These comparative considerations broaden the scope of patent-eligibility analysis beyond traditional legal authorities and reveal macro-level insights and policy objectives that can guide unsettled doctrine.

Such engagement with realism and comparative insights is also reflected in his "additional views" filed in *Classen Immunotherapies, Inc. v. Biogen Idec*.⁶⁰ In this case, which addressed the patentability of methods for evaluating the safety of immunization schedules, Chief Judge Rader begins by observing that many well-meaning attempts to constrain patentable subject matter have merely encouraged novel claim drafting to evade such constraints.⁶¹ For example, prohibitions against patenting mathematical algorithms⁶² simply led patent applicants to claim software inventions not as disembodied processes but as "computer programs embodied in a tangible medium."⁶³ Reflecting his realist orientation, he notes that "[w]hen careful claim drafting or new claim formats avoid eligibility restrictions, the doctrine becomes very hollow."⁶⁴ As Chief Judge Rader recognizes, attempts to impose precise rules on patentable subject matter are vulnerable to gaming by strategic behavior.

As in his *Bilski* dissent, he punctuates his arguments by referencing foreign experience. He argues that the "real-world impact" of subject matter restrictions is to "frustrate innovation

⁵⁸ *Bilski*, 545 F.3d at 1012 (Rader, J., dissenting).

⁵⁹ *Id.*

⁶⁰ 659 F.3d 1057 (Fed. Cir. 2011).

⁶¹ *Id.* at 1074 (Rader, J., additional views).

⁶² See *Gottschalk v. Benson*, 409 U.S. 63, 71-73 (1972).

⁶³ *In re Beauregard*, 53 F.3d 1583, 1584 (Fed. Cir. 1995).

⁶⁴ *Classen*, 659 F.3d at 1074 (Rader, J., additional views).

and drive research funding to more hospitable locations.”⁶⁵ He cites the European Patent Convention’s limitations on patentable subject matter in the biotechnological realm, arguing that such constraints helped shift innovative activity to the United States.⁶⁶ Here as well, a policy-oriented view of the patent system informed by comparative insights undergirds Chief Judge Rader’s defense of expansive patentable subject matter.⁶⁷

C. *The Written Description Requirement*

Finally, antiformalist characteristics are also evident in Chief Judge Rader’s approach to the written description requirement. To understand Chief Judge Rader’s position and reasoning, some context is in order. The patent statute contains several provisions defining the disclosure requirements for obtaining a patent. In particular, 35 U.S.C. § 112 states:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.⁶⁸

This statutory language has always been understood to create an “enablement” requirement whereby a patent disclosure must teach an ordinary artisan how to make and use a claimed invention. Courts and commentators have long debated, however, whether

⁶⁵ *Id.* at 1075.

⁶⁶ *Id.*

⁶⁷ Notably, this expansive conception of patentable subject matter parallels normative arguments that patent eligibility should operate as a “coarse eligibility filter,” leaving more finely-tuned analyses of patentability to other doctrines. *See* Research Corp. Techs. v. Microsoft Corp., 627 F.3d 859, 869 (Fed. Cir. 2010); *cf.* John M. Golden, *Patentable Subject Matter and Institutional Choice*, 89 TEX. L. REV. 1041, 1065 (2011); Joshua D. Sarnoff, *Patent-Eligible Inventions after Bilski: History and Theory*, 63 HASTINGS L.J. 53, 106 (2011).

⁶⁸ 35 U.S.C. § 112 (2006).

this provision also creates an independent “written description” requirement, whereby a patent applicant must adequately *describe* her claimed invention.⁶⁹

Even if one accepts that an independent written description requirement exists, the exact contours of that requirement have also been subject to debate. Traditionally, the written description requirement functioned solely to police priority by ensuring that *amended* claims were supported by an original disclosure.⁷⁰ In this view, the written description requirement prevented patent applicants from amending claims throughout prosecution to claim technological subject matter that they had not described in their disclosure (which is generally fixed at the time of filing). However, in the 1997 case of *Regents of the University of California v. Eli Lilly & Co.*, the Federal Circuit extended the written description requirement to operate as a substantive constraint on *original* claims as well.⁷¹ Many judges of the Federal Circuit, as well as academic commentators, were quite uneasy with this purported expansion.⁷²

In a series of opinions, primarily dissents, Chief Judge Rader has consistently argued that the written description requirement should function narrowly only to police priority for *amended* claims.⁷³ While this position is notable in and of itself, equally revealing is the antiformalist reasoning underlying it. Take, for

⁶⁹ See, e.g., Mark D. Janis, *On Courts Herding Cats: Contending with the “Written Description” Requirement (and Other Unruly Patent Disclosure Doctrines)*, 2 WASH. U. J.L. & POL’Y 55, 61 (2000) (“[T]he distinction between the written description and enablement requirements is artificial.”).

⁷⁰ See Christopher M. Holman, *Is Lilly Written Description a Paper Tiger?: A Comprehensive Assessment of the Impact of Eli Lilly and Its Progeny in the Courts and PTO*, 17 ALB. L.J. SCI. & TECH. 1, 4 (2007).

⁷¹ 119 F.3d 1559 (Fed. Cir. 1997).

⁷² See, e.g., Holman, *supra* note 70, at 17-20; Janis, *supra* note 69, at 60.

⁷³ See, e.g., *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 976 (Fed. Cir. 2002) (Rader, J., dissenting from decision not to hear case en banc); *Univ. of Rochester v. G.D. Searle & Co., Inc.*, 375 F.3d 1303, 1307-08 (Fed. Cir. 2004) (Rader, J., dissenting from decision not to hear case en banc); *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1361 (Fed. Cir. 2010) (en banc) (Rader, J., dissenting-in-part and concurring-in-part); see also Holman, *supra* note 70, at 18 (“Judge Rader is probably the Federal Circuit’s most outspoken critic of the *Lilly* doctrine.”).

example, *Enzo Biochem, Inc. v. Gen-Probe Inc.*, a case in which the majority endorsed a capacious view of the written description requirement.⁷⁴ In his dissent from the denial of the decision not to rehear this case en banc, Chief Judge Rader relies significantly on functional considerations to argue for a narrower conception of the written description requirement. He first observes that at the time of the first statutory codification of the words “written description” in 1793, patents did not require claims.⁷⁵ As such, the written description (i.e., specification) played the crucial function of demarcating the boundaries of a patentee’s asserted property right. Subsequent statutory interventions, however, resulted in the requirement of formally claiming patented inventions. In Chief Judge Rader’s view, given that the claims now served to delimit patent scope, the only function left to the specification was not to “describe” the invention but to enable a person of ordinary skill in the art to make and use it.⁷⁶

According to Chief Judge Rader, this doctrinal landscape changed in 1967, when the Court of Customs and Patent Appeals, a precursor to the Federal Circuit, decided *In re Ruschig*.⁷⁷ In this case, the C.C.P.A. “calved a new [written description] doctrine out of the § 112 enablement requirement” for the sole purpose of policing new matter in claims, i.e., claim amendments.⁷⁸ Thus, the “origin and purpose” of 35 U.S.C. § 112 and the modern role of claims in delimiting patent scope reveal that the proper function of the written description requirement is to police priority for *amended* claims.⁷⁹ Ultimately, history and function inform Chief Judge Rader’s more modest conception of the written description requirement.

In arguing for a narrow conception of the written description requirement, Chief Judge Rader’s antiformalist reasoning manifests itself in another way: through extensively engaging

⁷⁴ 323 F.3d 956 (Fed. Cir. 2002).

⁷⁵ *Id.* at 977 (Rader, J., dissenting from decision not to hear case en banc).

⁷⁶ *Id.*

⁷⁷ 54 C.C.P.A. 1551 (1967); *see also* Janis, *supra* note 69, at 59.

⁷⁸ 323 F.3d at 978 (Rader, J., dissenting from decision not to hear case en banc); *see* Janis, *supra* note 69, at 59.

⁷⁹ *Id.* at 983.

academic scholarship.⁸⁰ In his *Enzo Biochem* dissent, Chief Judge Rader cites several academic articles highlighting the novelty of applying the written description requirement to constrain *original* claims.⁸¹ These academic treatments lend support to his contention that the written description requirement should only be used to police priority for amended claims. Chief Judge Rader's engagement with academic research assumes far greater proportions in *University of Rochester v. G.D. Searle & Co., Inc.*⁸² In his dissent from the decision not to hear this case en banc, he reiterates his arguments against extending the written description requirement to substantively constrain original claims.⁸³ Here, however, he relies powerfully on academic commentary to support his views. His examination of the literature "shows 31 articles criticizing the *Eli Lilly* doctrine, 7 articles defending the doctrine, and 16 neutrally commenting on the state of this evolving case law."⁸⁴ Quite remarkably, Chief Judge Rader attaches as an appendix a lengthy table citing and quoting from each of these academic sources.⁸⁵ He repeats this reliance on academic commentary in his partial concurrence and dissent in *Ariad Pharmaceuticals, Inc. v. Eli Lilly & Co.*, the recent en banc case holding that the written description requirement does indeed apply to both original and amended claims.⁸⁶ Such engagement with

⁸⁰ Such willingness to cite scholarship is perhaps not surprising given his significant teaching experience and ties to academia.

⁸¹ 323 F.3d at 982-83 (citing Mark D. Janis, *On Courts Herding Cats: Contending with the "Written Description" Requirement (and Other Unruly Patent Disclosure Doctrines)*, 2 WASH. U. J.L. & POL'Y 55 (2000), Janice M. Mueller, *The Evolving Application of the Written Description Requirement to Biotechnological Inventions*, 13 BERKELEY TECH. L.J. 615 (1998), Arti K. Rai, *Intellectual Property Rights in Biotechnology: Addressing New Technology*, 34 WAKE FOREST L. REV. 827 (1999), Harold C. Wegner, *An Enzo White Paper: A New Judicial Standard for a Biotechnology "Written Description" Under 35 U.S.C. § 112 ¶ 1*, 1 J. MARSHALL REV. INTELL. PROP. L. 254 (2002)).

⁸² 375 F.3d 1303, 1307 (Fed. Cir. 2004) (Rader, J., dissenting from decision not to hear case en banc).

⁸³ *Id.*

⁸⁴ *Id.* at 1309.

⁸⁵ *Id.* at 1314-25.

⁸⁶ 598 F.3d 1336, 1362 (Fed. Cir. 2010) (en banc) (Rader, J., concurring in part and dissenting in part) (noting "the extensive academic criticism of this

academic literature is quite unique within Federal Circuit jurisprudence and reflects Chief Judge Rader's willingness to look outside of traditional legal authorities to craft patent doctrine.

III. ASSESSING A METHODOLOGICAL CONTRARIAN

The primary aim of this Article is to describe Chief Judge Rader's antiformalist orientation, which distinguishes him from the commonly-perceived formalistic tenor of Federal Circuit patent doctrine. Nevertheless, a brief normative appraisal is in order as well. On the one hand, antiformalist jurisprudence may temper the rigidity, reductionism, and indifference to context often associated with formalism. These critiques apply with particular force to the patent jurisprudence of the Federal Circuit.⁸⁷ On the other hand, antiformalism is itself susceptible to criticism as producing doctrine that is indeterminate, inconsistent, and unpredictable.⁸⁸ Indeed, holistic frameworks may be particularly difficult to apply in the context of patent law, as they often intensify lay judges' engagement with technologically challenging subject matter.⁸⁹ Such critiques may apply to Chief Judge Rader's views; for example, precisely identifying an "abstract idea" for the purposes of determining patentable subject matter is not an easy task, and reasonable courts may draw different conclusions from similar factual predicates.⁹⁰

Of course, one rough measure of judicial "success" involves

product of judicial imagination").

⁸⁷ Cf. Thomas, *supra* note 1, at 775 ("[A]n orientation toward rules threatens to make the patent law hidebound and unresponsive to changing conditions.").

⁸⁸ Cf. Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577, 578 (1988) (distinguishing between hard-edged, crystalline legal precepts and "fuzzy, ambiguous" rules of decision).

⁸⁹ Lee, *Patent Law and the Two Cultures*, *supra* note 1.

⁹⁰ See Chiang, *Rules and Standards*, *supra* note 22, at 1385-86. As noted, Chief Judge Rader has demonstrated some sensitivity to these difficulties in articulating (or refusing to articulate) the contours of the abstractness doctrine. See *supra* note 55. Perhaps reflecting the difficulty of crafting patentable subject matter doctrine, the Supreme Court recently revisited this topic in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

carrying the weight of the court, and in this sense, Chief Judge Rader's efforts have often not been successful. Notably, in each of the doctrinal areas examined—claim construction, patentable subject matter, and the written description requirement—Chief Judge Rader's antiformalist sentiments have been expressed in dissent.⁹¹ Chief Judge Rader may be the exception that proves the rule; his engagement with holism, realism, and exogenous legal authorities such as foreign law and academic scholarship distinguishes him from his generally more formalistic colleagues.

Consistency with one's colleagues, however, is only one measure of success, and a rather impoverished one at that. From a wider perspective, Chief Judge Rader's antiformalist approach to patent law has received some vindication at the Supreme Court, which has produced notably holistic doctrine in reversing several important lines of Federal Circuit precedent.⁹² As mentioned, in *Bilski v. Kappos*, the Supreme Court rejected the Federal Circuit's holding that the machine-or-transformation test represents the sole test for process patentability.⁹³ Rather, it denied the patentability of the claimed invention by invoking the "abstract idea" line of doctrine, thus paralleling Chief Judge Rader's dissent.⁹⁴ It remains to be seen whether Chief Judge Rader's more antiformalist mode of reasoning will continue to find vindication at the Supreme Court in other doctrinal areas as well.⁹⁵

In a broader sense, just as this Article focuses more on process than substantive outcomes, the value of Chief Judge Rader's contributions to patent law may depend more on his contrarian

⁹¹ This is not always the case. The brevity of this Article precludes canvassing Chief Judge Rader's antiformalist tendencies in other doctrinal areas, but there are instances where Chief Judge Rader's holistic views have carried the court. *See, e.g.*, *In re Kubin*, 561 F.3d 1351, 1359 (Fed. Cir. 2009) (noting that "[t]he Supreme Court's admonition against a formalistic approach to obviousness in this context actually resurrects this court's own wisdom" from earlier case law).

⁹² *See Lee, Patent Law and the Two Cultures*, *supra* note 1.

⁹³ 130 S. Ct. 3218 (2010).

⁹⁴ Similarly holistic, in arriving at its decision, the Supreme Court "focused not on semantic content but real-world commerce." Chiang, *Rules and Standards*, *supra* note 22, at 1390.

⁹⁵ *Cf. In re Kubin*, 561 F.3d 1351, 1359 (Fed. Cir. 2009).

input into the work of the Federal Circuit rather than whether or not his views are reflected in majority opinions. The Federal Circuit was developed as a quasi-specialized court charged chiefly with unifying and imparting greater certainty to patent law.⁹⁶ In many ways, formalism has been an important tool in this project. Throughout its history, however, the quasi-specialized nature of the Federal Circuit has produced concerns over “tunnel vision,” hypertechnicality, and doctrinal rigidity. There is a risk, in other words, that in unifying patent law, the Federal Circuit may become too unified itself. In this sense, Chief Judge Rader’s holistic, contextual, and comparative jurisprudence represents a valuable counterweight to the formalistic tendencies of the Federal Circuit. While the importance of ideational diversity is most closely associated with legislatures, courts, too, are deliberative bodies.⁹⁷ And in patent law, which does not have circuit splits, differences among individual Federal Circuit judges often serve to identify important issues for potential reevaluation and reform.⁹⁸ As such, the value of Chief Judge Rader’s commitment to context and realism may arise most centrally from the minority voice it provides as the Federal Circuit continues to debate and craft patent law.

CONCLUSION

While most of the contributions to this issue examine Chief Judge Rader’s jurisprudence in particular substantive fields, this Article takes a different approach. Rather than focus on a single substantive topic, it examines Chief Judge Rader’s methodological orientation across several doctrinal areas. The Federal Circuit has long been characterized as creating rule-based, context-eschewing,

⁹⁶ See Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1 (1989).

⁹⁷ See Hon. Paul Michel, *Judicial Constellations: Guiding Principles as Navigational Aids*, 54 CASE W. RES. L. REV. 757, 763 (2004) (describing the “extensive memo traffic” and “enormously robust” debate that precedes the issuing of a Federal Circuit opinion).

⁹⁸ See John F. Duffy, *The Festo Decision and the Return of the Supreme Court to the Bar of Patents*, 2002 SUP. CT. REV. 273, 318-19.

formalistic doctrine. The jurisprudence of Chief Judge Rader, however, exhibits a valuable commitment to holism, realism, and context. In areas as diverse as claim construction, patentable subject matter, and the written description requirement, he demonstrates a refreshing embrace of policy-oriented, functional legal reasoning and an openness to engage academic scholarship and foreign patent law. Ironically, one of Chief Judge Rader's most significant contributions to patent law arises from his status as a methodological contrarian of the court that he leads.