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THE FEDERAL CIRCUIT: A CONTINUING EXPERIMENT IN SPECIALIZATION

Rochelle Cooper Dreyfuss[†]

In 1987, when the Federal Circuit was five years old, I conducted a study of its administration of patent law. The article I wrote was gratifyingly well received, and many people suggested that I reexamine the work of the court on the occasion of its twentieth anniversary. Unfortunately, the methodology that I adopted the first time out could no longer be utilized. At the time, there were so few patent cases published that I could read each one and analyze it both procedurally and substantively. Now, the number of cases is too large to make that tactic feasible. The time period is four times longer; patent filings and issuances have grown; more disputes are litigated; and the Federal Circuit has added new judgeships.

This study of the Federal Circuit therefore relies on secondary sources and anecdotal materials. I have, however, had the great benefit of consulting with the Federal Trade Commission on its Hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy and serving as a member of the National Academy of Science's Committee on Intellectual Property in the Knowledge-Based Economy. These positions have given me the opportunity to listen to people who have studied the patent system from a wide variety of perspectives. The following is what I have learned.

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Students of judicial administration have long debated the use of specialization to improve the quality of adjudication. On the positive side, channeling cases to a single court reduces opportunities for forum shopping. Further, specialization can foster expertise, leading to more accurate and efficient decisionmaking. But there are also negative aspects. It has been argued that exclusive focus on particular areas of law, when coupled with a lack of interchange with other courts, may engender bias in favor of particular views, tunnel vision, unique (and possibly inferior) practices, and law that departs from mainstream trends. In 1982, the opportunity to observe these possibilities arose. In that year, Congress specialized the adjudication of patent disputes by channeling patent appeals to a single court—the Court of Appeals for the Federal Circuit.¹

The Federal Circuit is not specialized in the traditional sense. Its docket includes areas outside the field of patent law.² Moreover, by virtue of the well-pleaded complaint rule, state courts and regional courts retain residual authority over patent disputes.³ Nonetheless, those who study the patent portion of the court's docket, or practice patent law before the court, have seen both the benefits and detriments of specialization emerge during the court's two decades of existence. Practitioners appear to be in general agreement that centralizing patent appeals in a single court is a vast improvement over regional adjudication.⁴ Although there were suspicions of a pro-patentee bias in the court's early years, these have largely abated.⁵ And while forum shopping for particu-

¹ See generally Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1 (1989) [hereinafter Dreyfuss, *The Federal Circuit*] (studying the court's first years and proposing adjustments); Rochelle Cooper Dreyfuss, *Specialized Adjudication*, 1990 BYU L. REV. 377 [hereinafter Dreyfuss, *Specialized Adjudication*] (discussing the advantages and disadvantages of specialized courts).

² 28 U.S.C. § 1295 (2000) (providing for jurisdiction over appeals of regional adjudication of all patent disputes and certain tort cases brought against the United States; of decisions of the Court of Federal Claims and the Court of International Trade; of certain decisions of the International Trade Commission; of decisions of the Merit Systems Protection Board; of dispute resolution under the Contract Disputes Act and various economic measures, including the Economic Stabilization Act, the Emergency Petroleum Allocation Act, the National Gas Policy Act, and the Energy Policy Conservation Act; and of certain agency action under the Federal Labor Relations Authority, the Patent Act, and the Lanham (Trademark) Act).

³ See *Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826 (2002), which is discussed below; see, e.g., *Telcomm Technical Servs., Inc. v. Siemens Rolm Communications, Inc.*, 295 F.3d 1249 (Fed. Cir. 2002) (transferring the appeal of an antitrust case with patent law counterclaim to the Eleventh Circuit). See generally Christopher A. Cotropia, "Arising Under" Jurisdiction and Uniformity in Patent Law, 9 MICH. TELECOMM. TECH. L. REV. 253 (2003) (discussing the retention of residual authority).

⁴ Carl Tobias, *The White Commission and the Federal Circuit*, 10 CORNELL J. L. & PUB. POL'Y 45, 58 (2000) (citing the Comm'n on Structural Alternatives for the Fed. Courts of Appeals, Working Papers 72-91 (1998)).

⁵ Articles on the early years of the court, such as Dreyfuss, *The Federal Circuit*, *supra*

lar district courts continues, forum shopping at the appellate level has largely ended.⁶ Lively debate among the judges of the court, as well as a recent surge in review by the Supreme Court, has compensated for the lack of percolation among circuit courts on patent law problems.⁷ Most important, the court has very clearly used its special position to focus considerable thought on key patent law issues, such as standards of obviousness and claim interpretation.⁸ The Federal Circuit has, rightly, become a template for nations around the globe.⁹ Indeed, as docket congestion has continued to grow within the federal system, the successes of the Federal Circuit have attracted considerable new interest in specialization.¹⁰

note 1, at 25-26, and Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CAL. L. REV. 803 (1988), focused on the court's treatment of obviousness. Those cases, which essentially lowered the standard for obtaining a patent, can be regarded as pro-patentee. So, too, can cases like *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), which expand the subject matter that can be protected. However, the court's recent focus on infringement can be classified as anti-patentee because these cases decrease patent value by narrowing the scope of what is considered infringing or by increasing the risk that the patent will be invalidated as overly broad. See, e.g., Russell B. Hill & Frank P. Cote, *Ending the Federal Circuit Crapshoot: Emphasizing Plain Meaning in Patent Claim Interpretation*, 42 IDEA 1 (2002); Cindy I. Liu, *Gentry Gallery, Inc. v. Berkline Corp.*, 14 BERKELEY TECH. L.J. 123 (1999).

⁶ See Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. REV. 889, 937 (2001). As explained further below, post-Holmes, new opportunities for appellate forum shopping have now appeared, but the practice has not had time to develop as of this writing.

⁷ In the Federal Circuit's first five years of operation, the Supreme Court reviewed only two Federal Circuit patent cases, both on procedural grounds: *Christianson v. Colt Indus. Operating Corp.*, 486 U.S. 800 (1988) (jurisdiction); and *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809 (1986) (deference owed district court fact finding). In the last six years, the Court has reviewed eight cases, half on purely substantive issues of patent law: *Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826 (2002) (jurisdiction); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) (prosecution history estoppel); *J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124 (2001) (patentability of plants); *Nelson v. Adams USA, Inc.*, 529 U.S. 460 (2000) (adding third parties for purposes of imposing fee liability); *Florida Prepaid Postsecondary Educ. Expense Bd. v. College Sav. Bank*, 527 U.S. 627 (1999) (immunity of states from monetary liability for patent infringement); *Dickinson v. Zurko*, 527 U.S. 150 (1999) (deference to Patent and Trademark Office decisionmaking); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55 (1998) (on-sale bar); *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997) (doctrine of equivalents). See generally John F. Duffy, *The Festo Decision and the Return of the Supreme Court to the Bar of Patents*, 2002 SUP. CT. REV. 273.

⁸ See generally Mark D. Janis, *Patent Law in the Age of the Invisible Supreme Court*, 2001 U. ILL. L. REV. 387 (2001) (elaborating on the Federal Circuit's influence in changes in the Supreme Court's approach).

⁹ For example, the European Union's proposal for a community-wide patent would create a specialized tribunal to hear patent disputes. See Proposal for a Council Regulation on the Community Patent, 2000 O.J. (C 337) 278, available at http://europa.eu.int/smartapi/cgi/sga_doc?smartapi:celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2000&nu_doc=412.

¹⁰ See, e.g., COMM'N ON STRUCTURAL ALTERNATIVES FOR THE FED. COURTS OF APPEALS, FINAL REPORT (1998) (discussing in section 5 the possibility of bankruptcy, tax, and social security specialization); Richard A. Posner, *Reply: The Institutional Dimension of Statu-*

At the same time, however, some practitioners and many academics have voiced concern about the court's methodology and jurisprudence. It has been said¹¹ that the court has been slow to look at the ramifications of its decisions (particularly the effects of its on-going "debates") on the Patent and Trademark Office ("PTO"), the lower courts, and the consumers of its law; that it has been less interested than other courts in considering the academic literature or incorporating the lessons of social science research into its decisionmaking; and that it has veered in other ways from standard judicial practice. Because the establishment of this court was something of an experiment, and because the court is itself so dedicated to making the experiment work, it is worth examining what the court is doing in order to consider institutional changes that might further minimize the costs and maximize the benefits of specialization. The first part of this essay sketches some of the continuing problems perceived in the court's administration; the second explores six avenues for improving the court's performance.

I. COURT ADMINISTRATION

Unfortunately, it is difficult to test the concerns that have been voiced about the court empirically, and few have tried.¹²

tory and Constitutional Interpretation, 101 MICH. L. REV. 952, 963-65 (2003) (discussing the relation of specialization to statutory construction).

¹¹ Albeit, rarely for attribution: my observations are largely based on informal discussions with patent practitioners and academics, including some of those who testified before the National Academy of Science's Committee on Intellectual Property Rights in the Knowledge-Based Economy, on which I served, and at the Federal Trade Commission's Hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy, in which I participated. See FED. TRADE COMM'N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (2003).

¹² This is not a problem unique to federal patent law—there are few empirical studies of the courts generally. See generally JONATHAN MATTHEW COHEN, INSIDE APPELLATE COURTS: THE IMPACT OF COURT ORGANIZATION ON JUDICIAL DECISION MAKING IN THE UNITED STATES COURTS OF APPEALS (2002). As to the Federal Circuit, there are actually several significant exceptions. See, e.g., John R. Allison & Mark A. Lemley, *The Growing Complexity of the United States Patent System*, 82 B.U. L. REV. 77 (2002) [hereinafter Allison & Lemley, *The Growing Complexity*]; John R. Allison & Mark A. Lemley, *How Federal Circuit Judges Vote in Patent Validity Cases*, 27 FLA. ST. U. L. REV. 745 (2000); Ronald B. Coolley, *What the Federal Circuit Has Done and How Often: Statistical Study of the CAFC Patent Decisions 1982-1988*, 71 J. PAT. & TRADEMARK OFF. SOC'Y 385 (1989); Donald R. Dunner et al., *A Statistical Look at the Federal Circuit's Patent Decisions: 1982-1994*, 5 FED. CIR. B.J. 151 (1995); Kimberly A. Moore, *Judges, Juries, and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365 (2000); Craig Allen Nard, *Toward a Cautious Approach to Obeisance: The Role of Scholarship in Federal Circuit Patent Law Jurisprudence*, 39 HOUSTON L. REV. 667 (2002) [hereinafter Nard, *The Role of Scholarship*]; Arti K. Rai, *Engaging Facts and Policy: A Multi-institutional Approach to Patent System Reform*, 103 COLUM. L. REV. 1035 (2003). For other studies of Federal Circuit decisionmaking, see Dreyfuss, *The Federal Circuit*, *supra* note 1; Dreyfuss, *Specialized Adjudication*, *supra* note 1; Merges, *supra* note 5; Craig Allen Nard, *A Theory of Claim Interpretation*, 14 HARV. J.L. & TECH. 1 (2000) [hereinafter Nard, *A Theory of*

However, there are data that suggest that the court is grappling with a variety of problems, some of its own making and some of institutional design. The following five issues are among the critiques most often voiced.

A. Output

One concern is that the Federal Circuit is failing to articulate the law at the appropriate level of detail, thereby leaving those who rely on it with insufficient guidance.¹³ This critique is generally expressed as dissatisfaction with the number of nonprecedential opinions that the court issues. These are decisions that do not, in the court's view, add "significantly to the body of law." Accordingly, the court designates them as non-citable authority; anyone who makes business decisions based on the law articulated in these opinions does so at her peril.¹⁴ And although the court's local rule on nonprecedential opinions allows parties to petition the court to change the "nonprecedential" designation, the court has apparently been reluctant to do so, even when other authority on the precise point at issue cannot be found.¹⁵

Determining the number of nonprecedential opinions in each circuit turns out to be difficult, as it is not apparent that courts release these figures or that statistics on this matter are kept by the Administrative Office of the United States Courts.¹⁶ The computerized databases contain "unreported" decisions, but it is not clear what percent of such decisions are included. In the mid-1990s,

Claim Interpretation].

¹³ Cf. Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON. & ORG. 225, 280 (1985) (arguing that the existence of a wide body of nuanced corporate law is important to corporations when deciding where to incorporate).

¹⁴ FED. CIR. R. 47.6.

¹⁵ See, e.g., Tobias, *supra* note 4, at 58. There are other critiques that can be leveled at nonprecedential opinions. For example, in a decision that was later overturned, Judge Arnold expressed the view that as a constitutional matter, all opinions should be open to citation in later cases. *Anastasoff v. United States*, 223 F.3d 898, 904 (8th Cir. 2000) (distinguishing between publication and the precedential nature of opinions), *vacated as moot*, 235 F.3d 1054 (8th Cir. 2000) (en banc). But that is a different point from the one made here, which is that taking particular decisions "off the table" reduces the guidance that the law can provide.

It should also be noted that these problems are being debated in the federal judiciary generally. Indeed, the Judicial Conference's Standing Committee on Rules of Practice and Procedure is considering an amendment to the Federal Rules of Appellate Procedure to allow citation of dispositions designated "not for publication" or "nonprecedential." *Comments Sought in Proposed Changes to Federal Rules of Practice and Procedure*, U.S.L.W. LEGAL NEWS 2103, 2104 (Aug. 26, 2003) (discussing proposed FED. R. APP. P. 32.1). However, these problems appear to be particularly salient in the Federal Circuit. Kenneth R. Adamo et al., *Survey of the Federal Circuit's Patent Law Decisions in 2000: Y2K in Review*, 50 AM. U. L. REV. 1435, 1476-77 (2001).

¹⁶ Cohen has data on cases terminated without published opinions, but does not include data on the Federal Circuit. COHEN, *supra* note 12, at 76-79.

however, William Landes, Lawrence Lessig, and Michael Solimine conducted a statistical study on the way that federal judges utilize one another's opinions.¹⁷ The study, which looked at the judicial opinions of experienced federal judges who were sitting on the courts of appeals during a specified period in the 1990s, was not designed to examine the Federal Circuit or to compare it to the regional circuits. Accordingly, the authors did not attempt to account for the differences between the complexity or size of the Federal Circuit's docket and those of the regional courts of appeals. Nor did they adjust for the comparative inexperience of the Federal Circuit as an institution. Nonetheless, the findings provide something of a window on how the court operates, relative to the other federal appellate tribunals. The data can be read to support the critique on nonprecedential opinions:

Average number of signed opinions per judge per year = 26.28
In the Federal Circuit = 11.55
Next lowest, Sixth Circuit = 19.44¹⁸

Of course, the number of signed opinions and the number of precedential opinions are not the same: a nonprecedential opinion can be signed and a signed opinion can be nonprecedential.¹⁹ More important, even unsigned opinions provide guidance to those who need to know the law.²⁰ Nonetheless, signing is a proxy measure for the significance the judges attribute to the decision in question. As such, the difference between the practice of the judges of the Federal Circuit and the other courts is surprising on several grounds. The regional circuits hear many diversity cases. On the whole, these cases are less likely to be perceived as significant because state law is applied in a context in which it is largely non-binding. In contrast, the Federal Circuit's docket consists entirely of federal cases, often in areas where it is the only court applying and creating law. Thus, all of its cases are of potential significance. In addition, the relative youth of the Federal Circuit means that there are likely to be issues (in patent law as well as in

¹⁷ William M. Landes et al., *Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges*, 27 J. LEGAL STUD. 271 (1998).

¹⁸ *Id.* at 278; see also Adamo et al., *supra* note 15 at 1475 ("In 2000, the Federal Circuit decided several hundred appeals dealing with issues of patent law; of that number, the court issued—by our count—only ninety-two published, 'precedential' patent or patent-related opinions.").

¹⁹ See, e.g., *Anastasoff*, 223 F.3d at 904; see also FED. CIR. R. 36 & 47.6.

²⁰ Similarly, the court has been criticized for summary affirmances, but these also provide guidance because they adopt the decision below. Thus, Federal Circuit Rule 36 allows the court to enter such a judgment if, among other things, it determines that "the judgment . . . of the trial court . . . is based on findings that are not clearly erroneous" or "the evidence supporting the jury's verdict is sufficient," or the "decision has been entered without an error of law."

other areas of its docket) that the court is addressing for the first time, or where it has had few opportunities to fully flesh out its thinking. In these areas, the need for precedential authority is greater than it is in the case of courts that are long established.

Admittedly, there are certain sets of cases on the court's docket that involve relatively simple applications of known law to new facts: government employment cases may fall into this category. However, the patent part of the docket is, by many measures, extremely complex,²¹ which makes it likely that a large number of decisionmaking opportunities are needed to fully express the court's views.²² Thus, whatever discount might be applied to the gap between the Federal Circuit and other courts' opinions by reason of the simplicity of some of the Federal Circuit's cases is offset by the complexity of its patent cases.

B. Internal Consistency

To develop good case law, it is helpful for judges to have an opportunity to see how different approaches operate in practice and to debate with their colleagues about which approach works best. If the Federal Circuit is to obtain these advantages in the specialty portion of its docket, then the debate would largely be among the panels of the court, rather than with the regional circuits. Accordingly, some level of inconsistency in outcomes should be tolerated: the issue is how much is appropriate. Some critics think that there is currently too much. Thus, the Federal Circuit has been criticized for construing the same patent differently in successive cases.²³ The larger problem, however, is the

²¹ On the complexity of patent cases, see Moore, *supra* note 6, at 933 (finding patent cases more complex than other civil litigation); The Nat'l Acads. Comm. on Intellectual Prop. Rights in a Knowledge-Based Economy, Conference on the Operation of the Patent System: Insights from New Research 292 (Oct. 22, 2001) (comments of Judge T.S. Ellis III, Eastern District of Virginia) (reporting that the Administrative Office of the Courts considers patent cases 1.7 times more complex than the average civil case and commenting that "the NEC-Hyndai [sic] case involved 25 transistor circuitry patents, and I can tell you it's far more than 1.7. It may be 100.7, because it's very labor intensive"), available at http://www7.nationalacademies.org/step/transcript1022_PDF.pdf; cf. Allison & Lemley, *The Growing Complexity*, *supra* note 12, at 79. (finding that patents have become increasingly complex by comparing a sample of patents from the 1970s with patents from the 1990s).

²² Matters could get worse. Currently, the decision to make an opinion nonprecedential must be by the unanimous consent of the panel; the court has considered allowing a majority to make the decision (but giving the dissent a veto). Court of Appeals for the Federal Circuit, Proposal of Jan. 23, 2002, *formerly available at* <http://www.fedcir.gov/pdf/fedcir.pdf> (on file with author).

²³ Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?*, 15 HARV. J.L. & TECH. 1, 19-20 (2001) (citing as an example the patent in *CVI/BETA Ventures, Inc. v. Tura LP*, 120 F.3d 1260 (Fed. Cir. 1997)); see also Tobias, *supra* note 4, at 58 (noting that practitioners complain they have difficulty "discerning circuit law due to conflicting precedents"); Janis, *supra* note 8, at 403-04.

court's failure to agree on core policy, even after a period of experimentation, and even when cases have been the subject of en banc review.²⁴

The Landes, Lessig, and Solimine study supports the notion that there is a problem here. The authors calculated how often each judge is cited by other judges within his or her own circuit:

Average internal citation per judge per year = 122.7

In the Federal Circuit = 44.8

Next lowest, Fourth Circuit = 54.65²⁵

The paucity of internal citations is more than merely a basis for believing that earlier decisions are not followed; it also gives reason to surmise that the judges are not, in fact, engaged in deliberate experiments with differing approaches.²⁶ Indeed, because the citation rate does not reflect the way the court uses precedent, these numbers may understate the extent of the problem. Citing precedent and discussing whether it is being followed does not necessarily mean that productive discussions on underlying policy conflicts are taking place.

In fact, an examination of the way the court handles open questions lends support to the concern that the court is not making fruitful attempts to achieve consensus. Examples abound, and include the way the court is handling the controversy over the role of secret art in nonobviousness determinations,²⁷ its position on

²⁴ See, e.g., *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538 (Fed. Cir. 1995) (en banc) (offering several different theories on how remedies should be considered). Another example is *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 234 F.3d 558 (Fed. Cir. 2000), which was decided en banc after the Supreme Court had explicitly told the Federal Circuit, in *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 41 (1997), to devise limits on the doctrine of equivalents. *Warner-Jenkinson* was itself a review of a fractured decision of the Federal Circuit sitting en banc. *Hilton Davis Chem. Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512 (Fed. Cir. 1995). *Festo* led to another round of Supreme Court review, followed by remand. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722 (2002). There were also three separate opinions on remand. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 344 F.3d 1359 (Fed. Cir. 2003).

²⁵ Landes et al., *supra* note 17, at 277-78.

²⁶ It is conceivable that the Federal Circuit resolves conflicts through the en banc process at a rate that is higher than that of other courts. However, it is difficult to document that hypothesis. Although the Administrative Office publishes statistics on the en banc resolutions of the regional circuits and the D.C. Circuit, comparable statistics for the Federal Circuit are not available. ADMIN. OFFICE OF THE U.S. COURTS, JUDICIAL BUSINESS OF THE U.S. COURTS 2003, ANNUAL REPORT OF THE DIRECTOR tbls. S-1 & B-8 (2004), available at <http://www.uscourts.gov/judbususc/judbus.html> (last visited Jan. 28, 2004).

²⁷ See, e.g., *Oddzon Prods. Inc. v. Just Toys, Inc.*, 122 F.3d 1396 (Fed. Cir. 1997) (citing *Lamb-Weston, Inc. v. McCain Foods, Ltd.*, 78 F.3d 540 (Fed. Cir. 1996)); *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1453 (Fed. Cir. 1984); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983). These cases state the rules on the use of secret art in nonobviousness determinations, but do not focus on the policy issues, which include whether trade secrecy law should be viewed as an alternative to patents (in which case secret art

whether a non-novel process can be considered patentable if the starting or ending materials are new,²⁸ and the debate over whether an unrecognized, but inherent, feature of prior art can be used to reject a patent on novelty grounds or to statutorily bar its issuance.

To take the last issue as an illustration, consider *Schering Corp. v. Geneva Pharmaceuticals*, which held that ordinary artisan recognition of the inherent feature is not required in order to produce anticipation.²⁹ That opinion is lavish in its recitation of precedent;³⁰ however, the court never focused on the underlying policies. In fact, the dueling approaches under consideration in *Schering* lead to important differences in the administration of the innovation system: a recognition requirement preserves incentives to study known inventions and to find valuable new features,³¹ while a nonrecognition approach protects first comers, the public, and the temporal limits of patents.³² Discussing these policies and outcomes would be considerably more helpful than citations of

should be invalidating to protect the trade secrecy holder), or whether trade secrecy holders should be made to bear the risk that patents will issue on their inventions (in order to promote utilization of the patent system). See also *Baxter Int'l, Inc. v. COBE Labs., Inc.*, 88 F.3d 1054, 1061 (Fed. Cir. 1996) (Newman, J., dissenting). Failure to grapple with the policies underlying use of secret art is of particular concern to the computer industry, where the choice between trade secrecy and patent protection is quite viable. To be sure, the *Oddzon* court relied on a change Congress made in 35 U.S.C. § 103 (now § 103(c)) (2000), but that change was not preceded by a debate over the issue, nor can it be read as endorsing one policy or another.

²⁸ *In re Ochiai*, 71 F.3d 1565 (Fed. Cir. 1995) (citing *In re Pleuddemann*, 910 F.2d 823 (Fed. Cir. 1990)); *In re Durden*, 763 F.2d 1406 (Fed. Cir. 1985); *In re Mancy*, 499 F.2d 1289 (C.C.P.A. 1974); *In re Kuehl*, 475 F.2d 658 (C.C.P.A. 1973); *In re Albertson*, 332 F.2d 379 (C.C.P.A. 1964); *In re Larsen*, 292 F.2d 531 (C.C.P.A. 1961). These cases state rules on the patentability of processes and also discuss the pros and cons of per se rules. However, they do not focus on the role that process patents play in particular industries, which was at the heart of another § 103 amendment (now 35 U.S.C. § 103(b) (2000)), which, interestingly, was not discussed in *Ochiai*.

²⁹ *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373 (Fed. Cir. 2003).

³⁰ Among other cases, the court cited *Elan Pharms., Inc. v. Mayo Found. for Med. Educ. & Research*, 304 F.3d 1221 (Fed. Cir. 2002), later vacated, rededicated, then heard en banc and decided on enablement grounds, 346 F.3d 1051 (Fed. Cir. 2003) (en banc); *In re Cruciferous Sprout Litig.*, 301 F.3d 1343 (Fed. Cir. 2002); *Scaltech, Inc. v. Retec/Tetra, LLC*, 269 F.3d 1321, 1330 (Fed. Cir. 2001); *Mehl/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1366 (Fed. Cir. 1999); *Abbott Labs. v. Geneva Pharms., Inc.*, 182 F.3d 1315 (Fed. Cir. 1999); *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264 (Fed. Cir. 1991); and *Lewmar Marine, Inc. v. Bariant, Inc.*, 827 F.2d 744, 747 (Fed. Cir. 1987). 339 F.3d at 1377. En banc review of *Schering* was recently denied over a dissent by Judge Newman noting the factual differences between the case and the cited precedents, and a dissent by Judge Lourie pointing out the importance of clarifying the law on the patentability of metabolites. *Schering Corp. v. Geneva Pharms., Inc.*, 348 F.3d 992, 993-96 (Fed. Cir. 2003).

³¹ Under the facts of *Schering*, for example, a recognition requirement would spur research on the metabolites of known bioactive compounds.

³² For example, invalidation of the patent in *Schering* prevented the patentee from stringing together patent rights in drugs and their metabolites; had the patentee been allowed to proceed with that strategy, it might have been able to sue generic manufacturers of unpatented drugs on a contributory infringement theory whenever a purchaser's ingestion of the unpatented pharmaceutical metabolized into a protected product.

precedent or a formalistic debate over how the language in a particular precedent should be construed. Failure to identify the real issues makes it impossible to achieve a stable consensus or to search for ways to protect all the policy interests at stake. And while Professor Duffy is surely right that litigants will always try to “delve down into further and further levels” of doctrine, a clearer elucidation of policy would provide guidance on how the cases they frame should be decided.³³

C. External Consistency

Another potential problem with channeling a particular set of cases to a specialized tribunal is that the law in the chosen area may fall out of step with general jurisprudential developments. The example most often cited on this issue is the court’s handling of antitrust issues. Consider *In re Independent Service Organizations Antitrust Litigation*,³⁴ which involved Xerox’s refusal to sell parts or manuals to organizations that serviced its copiers, thereby retaining control over the after-market in maintaining its products. The Federal Circuit rejected an antitrust challenge to Xerox’s refusal to deal, reasoning that because the parts were patented and the manuals were copyrighted, Xerox had the right to refrain from selling them. Although the opinion acknowledged a two-year-old Ninth Circuit decision involving similar facts but going the other way,³⁵ the Federal Circuit distinguished that case on rather questionable grounds and largely ignored the problem the Ninth Circuit was grappling with—namely, the anticompetitive possibilities that patent rights present.³⁶

The Landes, Lessig, and Solimine statistics do not analyze the substance of decisions, but their data also suggest the possibility that the Federal Circuit is not keeping abreast (or—more accu-

³³ John F. Duffy, Comment, *Experiments After the Federal Circuit*, 54 CASE W. RES. L. REV. 803, 806 (2004). For example, perhaps the use of an unrecognized feature should depend on whether the patentee also holds or held rights in the prior art, or whether the prior art was patented. Unless the policies underlying the decision are articulated, it is impossible to know whether these—or other—factors should matter. Thus, while it has been suggested that formalism creates bright line rules that are easy for lower courts to apply, the focus on language to the exclusion of policy considerations does nothing of the sort. See John R. Thomas, *Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771 (2003).

³⁴ 203 F.3d 1322 (Fed. Cir. 2000).

³⁵ *Image Technical Serv., Inc. v. Eastman Kodak Co.*, 136 F.3d 1354 (9th Cir. 1998) (allowing antitrust plaintiffs to overcome a presumption in favor of a patentee’s right to refuse to deal with evidence that the refusal is a pretext to mask anticompetitive conduct).

³⁶ The Federal Circuit maintained that the parts in the Ninth Circuit case were not patented, but it is not apparent that this was, in fact, the case. See, e.g., Robert Pitofsky, *Challenges of the New Economy: Issues at the Intersection of Antitrust and Intellectual Property*, 68 ANTITRUST L.J. 913, 921-23 (2001); Rai, *supra* note 12, at 1106-10.

rately—may not be viewed as keeping abreast) of the law in other circuits. Its opinions are not often cited by the judges of other benches:

Average external citation per judge per year = 70.73

In the Federal Circuit = 6.6

Next lowest, Sixth Circuit = 53.79³⁷

Of course, the failure of other courts to be influenced by Federal Circuit law is partly attributable to the fact that many of the cases that the Federal Circuit decides have no counterparts in other courts. As a result, non-Federal Circuit judges have fewer opportunities to cite Federal Circuit opinions than the opinions of other regional circuits. However, there are areas where the Federal Circuit shares responsibility with other courts, and thus places where cross-citation could be occurring. Examples include: trademark cases (the Federal Circuit reviews decisions by the PTO; the other circuits review district court decisions), contract disputes (the Federal Circuit handles government contracts; the other circuits hear contract cases between diverse parties), government tort cases (the Federal Circuit splits authority over cases brought against the United States with the regional circuits), labor disputes (the Federal Circuit hears cases involving federal workers; other courts hear cases under certain federal labor laws), and, as illustrated above, antitrust cases (the Federal Circuit hears some claims arising out of patent practices; other courts hear claims arising in other contexts and a few cases involving patents, depending on how the dispute is framed).

The Federal Circuit also faces many of the same procedural problems as do the other circuits (e.g., decisions about choice of law, jurisdiction, and availability of interlocutory review). Moreover, there are many legal and jurisprudential concerns that tran-

³⁷ Landes et al., *supra* note 17, at 277-78. The authors also include calculations of each judge's overall influence. *Id.* at 317-18. On their count, individual Federal Circuit judges are among the least influential of all federal judges.

It is, of course, possible that there are fewer citations per judge in the Federal Circuit because each judge has fewer cases or publishes fewer opinions. The first explanation is not borne out by recent statistics, which show the Federal Circuit's total terminations after oral hearings to be in the middle of the range of the circuit courts. ADMIN. OFFICE OF THE U.S. COURTS, JUDICIAL BUSINESS OF THE U.S. COURTS 2003, ANNUAL REPORT OF THE DIRECTOR tbls. S-1 & B-8 (2004), available at <http://www.uscourts.gov/judbususc/judbus.html> (last visited Jan. 28, 2004). There may, however, be a time lag between the data available now and the time period these authors were studying. Moreover, Congress uses its power to create judgeships to keep the workload of each judge fairly constant. Congressional failure to confirm appointments leaves vacancies that counter that effect, but the order-of-magnitude difference here is unlikely to be fully explicable on such a theory. It may be that the court is simply issuing fewer opinions, but that too is a problem. See *supra* Part I.A.

scend specific fields, such as questions of how to interpret language (e.g., the plain meaning rule, the parol evidence rule, and use of legislative history); the role of courts (e.g., the validity of judicial activism and the fidelity to legislative intent); and the relevance of economic and other social science data to the resolution of legal problems. It is worth noting that the Landes, Lessig, and Solimine study shows the D.C. Circuit judges as having considerable influence on other judges, despite the specialized nature of that court's jurisdiction.³⁸

D. Consideration of Extra-judicial Materials

Since the early twentieth century and the introduction of the so-called Brandeis brief,³⁹ there has been a marked trend for courts to rely on more than formalistic, doctrinal case law analysis, and rather to include in their thinking the insights provided by extra-legal materials such as empirical, social science evidence.⁴⁰ Whether this move is appropriate is beyond the scope of this study;⁴¹ what is said is that the Federal Circuit appears wed to a legalistic model of adjudication that is out of step with the approaches being taken by other appellate courts.⁴²

Landes, Lessig, and Solimine do not deal with the issue of external influences on judicial activity, and an accurate study of this issue would be difficult, as it would require the identification of a series of topics in which outside materials are particularly relevant, a search for all of the appellate cases decided in these areas, a

³⁸ Landes et al., *supra* note 17, at 278. The fact that studies of the federal courts generally do not always include the Federal Circuit may contribute to its isolation, in the sense that direct comparisons between its practices and those of the regional circuits are not routinely made. See, e.g., COHEN, *supra* note 12 (including very little discussion of the Federal Circuit and no statistics in his tables).

³⁹ See, e.g., *Muller v. Oregon*, 208 U.S. 412 (1908).

⁴⁰ See generally THE REVIVAL OF PRAGMATISM: NEW ESSAYS ON SOCIAL THOUGHT, LAW, AND CULTURE (Morris Dickstein ed., 1998); Matthew A. Edwards, *Posner's Pragmatism and Payton Home Arrests*, 77 WASH. L. REV. 299, 310-11 (2002); Daniel A. Farber, *Reinventing Brandeis: Legal Pragmatism for the Twenty-First Century*, 1995 U. ILL. L. REV. 163 (1995); Symposium, *The Renaissance of Pragmatism in American Legal Thought*, 63 S. CAL. L. REV. 1569 (1990); Symposium, *The Revival of Pragmatism*, 18 CARDOZO L. REV. 1 (1996).

⁴¹ See, e.g., Frank B. Cross, *Political Science and the New Legal Realism: A Case of Unfortunate Interdisciplinary Ignorance*, 92 NW. U. L. REV. 251, 255-64 (1997); Joseph D. Kearney & Thomas W. Merrill, *The Influence of Amicus Curiae Briefs on the Supreme Court*, 148 U. PA. L. REV. 743, 775-76 (2000) (noting the disjuncture between Supreme Court Rules, which assume that cases will be decided on a formal model of strict adherence to facts and precedent, and the manner in which the justices of the Court in fact reason).

⁴² At least one judge on the court has expressed some of the same concern. See, e.g., *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 234 F.3d 558, 638-39 (Fed. Cir. 2000) (Newman, J., dissenting), *vacated by* 535 U.S. 722 (2002); *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1531-32 (Fed. Cir. 1995) (Newman, J., concurring), *rev'd*, 520 U.S. 17 (1997).

careful reading of the briefs and opinions in these cases, a comparison of the arguments presented as well as the approaches the courts considered, and then an assessment of the comparative influence that academic literature has had on the outcomes and the holdings of the cases in each circuit. However, Craig Nard's recent study comes close.⁴³ He reviewed every opinion of the Federal Circuit from 1983 to 2000 and counted the number of opinions, and number of patent opinions, citing secondary sources, and then compared these results to the secondary-source citation practice of the Second and Ninth Circuits in trademark and copyright cases (which Nard viewed as comparable to the patent cases in the Federal Circuit). He found support for the critique, finding that the regional circuits cite scholarship roughly four times as often as the Federal Circuit.⁴⁴ Although Nard points out that it may be that the Federal Circuit is more familiar with patent law than the other circuits are with copyright and trademark law, he also suggests that the disparity is such that "the court verges on the abstract by failing to give adequate weight to empirical and economic scholarship."⁴⁵ There are no comparable studies to support Nard's work; however, anecdotal evidence points in a similar direction.⁴⁶

Even those who do not espouse legal pragmatism may find reason to worry about the Federal Circuit's refusal to consider extra-legal materials. Thus, it is argued that the court's insulation leads it to deal inappropriately with the scientific and technological facts that Congress meant to be incorporated into the legal standards the court administers. The examples most often cited in this regard are (not surprisingly) drawn from the court's jurisprudence in emerging fields, such as biotechnology and computer software. To take the former, the arguments are, first, that the court appears to have seriously misjudged the level of ordinary skill in the art. Because that level of skill determines whether an

⁴³ Nard, *The Role of Scholarship*, *supra* note 12.

⁴⁴ *Id.* at 678-83.

⁴⁵ *Id.* at 685.

⁴⁶ An interchange in the decision whether to rehear *Enzo Biochem, Inc. v. Gen-Probe Inc.* en banc is especially suggestive. Judge Lourie, responding to Judge Rader's citation of several articles critical of the court's treatment of the written description requirement stated: "While views of knowledgeable and objective commentators are surely of interest to this court, we should not interpret the law based on taking polls of discontented writers. Our commission is to apply the law to the facts and attempt to explain the reasons for our decisions." *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 973 (Fed. Cir. 2002). A court that regards scholarly output as equivalent to an opinion poll is unlikely to be learning from it in any useful way. At the American Bar Association's Section of Intellectual Property Law and Young Lawyer's Committee, Judge Lourie reemphasized this point, stating that lawyers should "[a]void emphasis on policy and legislative history 'Such arguments telegraph to us that you'll probably lose on the law.'" *Judge Lourie Provides Tips for Patent Appeals to Federal Circuit*, 67 Pat., Trademark & Copyright J. (BNA) at 501 (Apr. 2, 2004).

innovation is inventive enough to patent, the result of the court's failure to track developments in biotechnology is that these patents are too easy to procure: information that is essentially in the public domain becomes subject to proprietary rights.⁴⁷ Second, commentators suggest that the court has failed to appreciate the difference between genetic materials and ordinary chemical products, with the result that when it considers issues of infringement and patent scope, it looks to structure rather than informational content, leading to patents that are too narrow to be of commercial value.⁴⁸

The critique of those who espouse legal pragmatism is more fundamental. These critics argue that the court's insulation results in a failure to properly consider the interaction between the rules the court articulates and innovation policy. Consider again the approach the court is taking to biotechnology. In fact, it narrows patents in two ways: as noted before, ignoring informational content reduces the scope of the patent to the molecular structure described. Second, understating the level of skill in the art affects the extent to which a disclosure is considered to enable and describe a broad range of practices. But despite the systematic effect of the court's interpretation of the law on patent scope, the court never considers the effect of this construction on the biotechnology industry. It does not, for example, look at whether narrow patents are providing enough of a return to fulfill the goal of encouraging progress, whether the narrowness is appropriately allocating rights as between inventors and followers on, or whether the narrowness is creating patent thickets that increase the cost of working in the field. These are all issues that are being heavily investigated by legal and economic theorists, yet the court does not cite the literature these scholars have generated.⁴⁹

⁴⁷ See, e.g., Dan L. Burk & Mark A. Lemley, *Biotechnology's Uncertainty Principle*, 54 CASE W. RES. L. REV. 691, 733 (2004) (noting that "the current Federal Circuit jurisprudence lowers the obviousness barrier for biotechnology"); Joseph P. Meara, *Just Who Is the Person Having Ordinary Skill in the Art? Patent Law's Mysterious Personage*, 77 WASH. L. REV. 267, 283 (2002) (observing that "commentary predating the Federal Circuit noted a tendency in the courts to equate technological complexity with nonobviousness and simplicity with obviousness"); Arti K. Rai, *Specialized Trial Courts: Concentrating Expertise on Fact*, 17 BERKELEY TECH. L.J. 877, 887-88 (2002) ("Indeed, to the extent that the Federal Circuit gives particular facts—for example, the level of the ordinary skill in art at a particular point in time—precedential, or 'law-like' value, it commits the serious error of assuming skill in the art is static."). But see Lawrence M. Sung, *On Treating Past as Prologue*, 2001 J. L. TECH. & POL'Y 75, 78-79 (2001) (arguing that the lag comes from the court's focus on the level of skill at the time of invention).

⁴⁸ See Burk & Lemley, *supra* note 47, at 691; Rebecca S. Eisenberg, *Re-examining the Role of Patents in Appropriating the Value of DNA Sequences*, 49 EMORY L.J. 783, 785 (2000) ("The DNA sequences identified by high-throughput sequencing look less like new chemical entities than they do like new scientific information.").

⁴⁹ For example, an important article on the relationship between pioneer inventors and

The court's checkered career with the doctrine of equivalents, which expands the literal scope of the patent, furnishes another example of this problem. The Federal Circuit launched its attack with the charge that patent attorneys were making "the doctrine of equivalents . . . simply the second prong of every infringement charge."⁵⁰ The suspicion that lawyers were abusing the system led the court to adopt a rather ungenerous view of the doctrine.⁵¹ That interpretation severely limited the breadth of patent claims, and ultimately led to two rounds of remand by the Supreme Court.⁵² Had the Federal Circuit considered the accelerating pace of technological innovation—an issue richly studied in the economic literature⁵³—then it might have viewed reliance on the doctrine more benignly, as an attempt to deal with the abundance of after-arising technology and the ease with which this technology can now be used to replace elements of the invention as literally claimed in the patent. Moreover, the court failed to draw on empirical evidence demonstrating that thickets of narrow patents raise transaction costs and give rise to other innovation-deadening problems.⁵⁴

those who follow on has been cited by the Federal Circuit only twice, both times by the same judge and neither time in a majority opinion. See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 234 F.3d 558, 640 (Fed. Cir. 2000) (Newman, J., dissenting), *vacated by* 535 U.S. 722 (2002); *Hilton Davis Chem. Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1531 (Fed. Cir. 1995) (Newman, J., concurring), *rev'd*, 520 U.S. 17 (1997); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990); see also Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698 (1998) (providing a theoretical framework for considering the patent thicket problem, but has never been cited by the Federal Circuit).

⁵⁰ *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991).

⁵¹ Admittedly, the court was also concerned about the uncertainty that the doctrine of equivalents engenders, but even here there is a problem as the court has made little attempt to find studies that quantify the effect of uncertainty or compare it to the costs of restricting patent scope. See, e.g., *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997) (simply citing uncertainty as the problem with the doctrine of equivalents).

⁵² *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722 (2002); *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997).

⁵³ See, e.g., Richard Gilbert & Carl Shapiro, *Optimal Patent Length and Breadth*, 21 RAND J. ECON. 106 (1990); Richard C. Levin et al., *Appropriating the Returns from Industrial Research and Development*, 3 BROOKINGS PAPERS ON ECON. ACTIVITY 783 (1987); Edwin Mansfield, *R&D and Innovation: Some Empirical Findings*, in R&D, PATENTS, AND PRODUCTIVITY 127, 127-54 (Zvi Griliches ed., 1984); Ted O'Donoghue et al., *Patent Breadth, Patent Life, and the Pace of Technological Progress*, 7 J. ECON. & MGMT. STRATEGY 1 (1998).

⁵⁴ See, e.g., Rebecca S. Eisenberg, *Bargaining over the Transfer of Proprietary Research Tools: Is This Market Failing or Emerging?*, in EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY 223 (Rochelle Dreyfuss et al. eds., 2001) (discussing technology transfer problems in the biotechnology area); Bronwyn H. Hall & Rosemarie Ham Ziedonis, *The Patent Paradox Revisited: An Empirical Study of Patenting in the U.S. Semiconductor Industry, 1979-1995*, 32 RAND J. ECON. 101, 102 (2001) (discussing the increase in semiconductor-related patents since the early 1980s). See generally Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe et al. eds., 2001) (discussing the problems of overlapping patent rights in highly technical industries).

E. Process

Strong arguments have been made that various review procedures in the Federal Circuit are interfering with the efficiency of adjudication, affecting outcomes, and possibly even influencing the substance of decisional law. In part, this is a problem of the Supreme Court's making: on the one hand, it has required deference to the decisionmaking of other institutional actors, such as the PTO's findings on patentability and factual determinations of the district courts.⁵⁵ On the other hand, it has agreed with the Federal Circuit that there are circumstances when careful scrutiny is required to further the legislative objective of bringing uniformity to patent law.⁵⁶

Walking the fine line between deference and scrutiny is not easy. One of the Federal Circuit's ways of handling this challenge is to pay close attention to the kind of evidence fact finders use. For example, when deciding whether an invention is creative enough to qualify for patent protection,⁵⁷ the Federal Circuit has required district courts to examine secondary considerations, such as long-felt need for the invention and its success in the marketplace; it requires the PTO to rely almost entirely on documentary evidence.⁵⁸ Another tack the court has taken (with the Supreme

Another example is the court's recent decision to abolish the ability of academic researchers to rely on an experimental use defense to patent infringement, which it did without considering the impact of its decision on education or scientific research, without a discussion of whether academia was sufficiently like commercial institutions to merit identical treatment, and without regard to changes that the court itself made in the susceptibility of scientific principles to patent protection. See *Madey v. Duke Univ.*, 307 F.3d 1351, 1362 (Fed. Cir. 2002) (holding that a party's non-profit status is not sufficient to entitle it to the experimental use defense); *Embrex, Inc. v. Serv. Eng'g Corp.*, 216 F.3d 1343, 1353 (Fed. Cir. 2000) (Rader, J., concurring) (arguing that "the Supreme Court's recent reiteration that infringement does not depend on the intent underlying the allegedly infringing conduct . . . precludes any experimental use defense"). For contrast, see *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860, 873 (Fed. Cir. 2003) (Newman, J., dissenting) (arguing that the court's elimination of the common law research exception "is ill-suited to today's research-founded, technology-based economy").

⁵⁵ See, e.g., *Dickinson v. Zurko*, 527 U.S. 150 (1999) (holding that the Federal Circuit's strict review standards of PTO findings did not give enough deference to agency factual findings); *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809 (1986) (requiring deference to district court findings on obviousness).

⁵⁶ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390-91 (1996) (holding that claim interpretation is an issue for the judge, not the jury). Admittedly, the *Markman* decision was motivated by the Court's desire to take interpretive authority away from the jury. See, e.g., Margaret L. Moses, *What the Jury Must Hear: the Supreme Court's Evolving Seventh Amendment Jurisprudence*, 68 GEO. WASH. L. REV. 183 (2000) (delineating the changes in Seventh Amendment constraints post-*Markman*). But motive is irrelevant: by diverting claim interpretation from the jury through its classification as an issue of law, the Court gave the Federal Circuit the power to reconsider it *de novo*.

⁵⁷ 35 U.S.C. § 103 (2000) (inventions that are obvious to a person of ordinary skill in the art are not patentable).

⁵⁸ See, e.g., *In re Lee*, 277 F.3d 1338, 1343-44 (Fed. Cir. 2002) (prohibiting examiners from interposing their assessment of whether ordinary artisans have the tacit knowledge to

Court's blessing) is to classify certain issues as issues of law, subject to de novo review.⁵⁹

While these actions have promoted objective decisions and have enhanced the ease of review, they have arguably affected patent law in several adverse ways. As to the rules on the evidence used on obviousness, it is said that tacit (that is, undocumented) knowledge is now underutilized, while information that has little to do with inventiveness (such as commercial success) is overvalued. As a result, the ordinary artisan, who is the main focus of patent law and is presumably versed in both documented and undocumented knowledge, can no longer be sure which inventions will be considered patentable or accurately predict how issued claims will be interpreted.⁶⁰ Further, it is suggested that de novo review on such matters as claim interpretation wastes judicial resources (in that district courts try infringement claims on the basis of incorrect interpretation of the claims). Moreover, it produces what Arti Rai calls a "domino effect" of inaccurate results (in that the Federal Circuit decides infringement issues without the benefit of the evidence that would have been adduced had the litigants known the interpretation that would be given to the claims on appeal).⁶¹ Interlocutory review might abate these problems, but the court has been unwilling to fully utilize its authority to bypass the final judgment rule.⁶² Finally, it is alleged that litigants are trying to avoid the court's close scrutiny of district court decisions by trying their cases to juries, a practice that increases cost and delay.⁶³

combine references); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1539 (Fed. Cir. 1983) (requiring examination of secondary considerations). *But see In re Berg*, 320 F.3d 1310, 1315 (Fed. Cir. 2003) ("[E]xaminers and administrative patent judges on the Board are responsible for making findings, informed by their scientific knowledge." (emphasis added)).

⁵⁹ See, e.g., *Markman*, 517 U.S. 370; see also Dreyfuss, *The Federal Circuit*, *supra* note 1, at 48-49 (recognizing that problems arise with complex patent law questions that often involve both questions of law and fact). Some also believe that the court is still dealing with this problem by giving insufficient deference to other fact finders. See *Dethmers Mfg. Co., Inc. v. Automatic Equip. Mfg. Co.*, 293 F.3d 1364, 1366-67 (2002) (Dyk, J., dissenting) (arguing that court's decision to give no deference to PTO's interpretation of regulations is at odds with the Supreme Court's decisions regarding other agencies).

⁶⁰ See, e.g., Nard, *A Theory of Claim Interpretation*, *supra* note 12, at 7-8.

⁶¹ Rai, *supra* note 12, at 1059-60.

⁶² See 28 U.S.C. § 1292(b) (2000); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1479 (Fed. Cir. 1998) (Newman, J., additional views) (remarking that the Federal Circuit's refusal to grant interlocutory review of claim interpretation has created "shortfalls between expectation and reality"). See generally Craig Allen Nard, *Process Considerations in the Age of Markman and Mantras*, 2001 U. ILL. L. REV. 355 (2001) (criticizing the Federal Circuit for failing to grant interlocutory review on issues of claim interpretation).

⁶³ See, e.g., Ted D. Lee & Michelle Evans, *The Charade: Trying a Patent Case to All "Three" Juries*, 8 TEX. INTELL. PROP. L.J. 1, 7-8 (1999) (citing large increases in jury trials of patent cases since the creation of the Federal Circuit).

Once again, although there is anecdotal evidence of these problems and much off-the-record commentary (including that by examiners and district court judges), empirical support is difficult to find. Kimberly Moore's study of district court claim construction can, however, be read to suggest that at least some of these comments are right. She found that district courts are reversed more often on claim construction than on other appealable issues.⁶⁴ Her analysis further indicates that, despite the Federal Circuit's concern that interlocutory review of claim construction would swamp its docket, the court could readily handle the extra workload.

II. AVENUES FOR IMPROVEMENT

If concerns about deficiencies in specialized adjudication are regarded as borne out (or, at least, not disproved), the next question is remedying them (or the appearance of them).⁶⁵ One issue is causation: is the Federal Circuit's adjudicatory methodology departing from that of the other courts because those who practice before it perform differently (for example, by failing to cite relevant materials or file Brandeis briefs)? Or is the court indicating to those who practice before it that different rules are in effect (e.g., that citing extra-judicial materials is a waste of time and space)? If the former, then it is the bar that needs to be educated. The court could provide that education, for example, by making clear what the judges would like to see argued—be it positions of other circuits or the economics literature. If the problem is in the court itself, then institutional changes could be made that would improve the efficiency and quality of adjudication. The following section looks at six possibilities.

A. Jurisdiction

An obvious way to deal with many of the problems outlined above would be to extend the jurisdiction of the court to a larger range of issues, including issues that overlap with the authority of other appellate courts. In fact, in recent years, the Federal Circuit has begun to utilize exactly this approach to help it see patent law in a wider context. Thus, the court has been entertaining appeals on nonpatent issues, so long as a patent claim appears in at least one litigant's pleadings. For example, the aforementioned *In re*

⁶⁴ Moore, *supra* note 23, at 14-15.

⁶⁵ Even if the problems are not thought to be well documented, it may be worthwhile to consider structural changes that would minimize concerns about whether the problems exist or not.

Independent Services Organizations Antitrust Litigation raised mainly antitrust issues; the court entertained it because the defendant's counterclaim arose under federal patent law.⁶⁶ That case not only presented a good vehicle for examining innovation policy more broadly, it also gave (or could have given) the Federal Circuit an opportunity to consider the views of the Ninth Circuit, which—as noted—had confronted a fairly similar set of issues in an earlier case.⁶⁷

But despite the opportunities this practice presented for inter-circuit dialogue, it was brought to a halt by the Supreme Court's recent decision in *Holmes Group, Inc. v. Vornado Circulations Systems, Inc.*⁶⁸ That case held that "arising under" in the grant of Federal Circuit jurisdiction under 28 U.S.C. § 1295 must be interpreted in the same way as "arising under" in the grant of federal district court jurisdiction under § 1331. As a result, the Federal Circuit's authority in patent disputes is now confined to cases in which the patent issue appears on the face of the well-pleaded complaint, or to cases where the plaintiff's right to relief depends on resolution of a substantial question of federal patent law.

Given how little the *Independent Services* court made of its opportunity for dialogue with the Ninth Circuit, *Holmes* is quite understandable. Nonetheless, the decision is a pity in several respects. In addition to undermining opportunities for percolation and cross-pollination, stripping antitrust cases out of the Federal Circuit's docket increases the risk that the court will be left with a truncated view of how federal law should be structured to promote innovation.⁶⁹ That is, if the court fails to appreciate competition law as a tool for encouraging invention, there is a danger that it

⁶⁶ *In re Indep. Servs. Orgs. Antitrust Litig.*, 203 F.3d 1322 (Fed. Cir. 2000). This trend began early in the court's life. See *Aerojet-Gen. Corp. v. Mach. Tool Works, Oerlikon-Buehrle Ltd.*, 895 F.2d 736, 741 (Fed. Cir. 1990).

⁶⁷ *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1219 (9th Cir. 1997) (holding that while there is a presumption that the desire to profit from intellectual property rights is "legitimately procompetitive," this presumption is refutable by "evidence that the monopolist acquired the protection of the intellectual property laws in an unfair manner," or by evidence of pretext).

⁶⁸ 535 U.S. 826 (2002).

⁶⁹ How truncated the view will be depends on several factors. First, it will depend on whether Federal Rule of Civil Procedure 13(a), the compulsory counterclaim rule, is interpreted to require a patentee who is accused of using a patent for anticompetitive purposes to assert patent counterclaims in the action. If the patentee is required to do so, then patent disputes that arise in the course of antitrust disputes will be heard in regional circuits; if not, patentees may well save their claims for a separate suit, appealable to the Federal Circuit. In like manner, the level of truncation will depend on how the courts interpret the substantiality prong of *Holmes*. Finally, there is the issue of whether plaintiffs turn *Holmes* into an invitation to forum shop by, for example, omitting claims for declarations of patent invalidity in situations where they may previously have asserted them. See generally Cotropia, *supra* note 3, at 298-300 (discussing forum shopping strategies).

will act as though the nation's commitment to technological progress requires greater emphasis on patents, leading it more often to hold patents valid and infringed. Furthermore, antitrust cases have historically proven to be an important avenue for the introduction of economics into decisionmaking. Whatever dynamic led other courts to rely on this literature might have, over time, operated in a similar manner in the Federal Circuit. If so, then the court might have eventually generalized this use of social science to the resolution of open issues of patent law.

Of course, as Justice Stevens pointed out in his concurring opinion, *Holmes* could also have salutary effects. It reinserts the regional circuits into the disposition of patent disputes, which may provide an "antidote" to the risks that specialized adjudication presents.⁷⁰ Justice Stevens also noted that spreading jurisdiction over patent-related disputes across the circuits opens the door to the kind of conflicting decisions that signal to the Supreme Court that there is an issue worthy of its consideration.⁷¹ Other benefits might also be forthcoming. Thus, the perceived need for uniformity in patent law could well inspire the Federal Circuit to issue more precedential opinions so that fine distinctions in the law are better understood by other courts. To ensure that its decisions are followed, it may also start to back up its holdings with the kinds of policy arguments and empirical data that the regional appellate judges are likely to find convincing. Furthermore, the allocation of patent issues back to the regional circuits puts these tribunals into a position where they can contribute to procedural law on such matters as the admissibility of evidence, the availability of interlocutory review, and the degree of deference owed to administrative decisions. Finally, removing some of the Federal Circuit's authority in antitrust cases allows courts with more experience in competition policy to help design the interface between antitrust and patent law.⁷²

B. Choice of Law

It has been suggested that some of the problems surrounding specialization could be dealt with through choice-of-law rules. These would give the Federal Circuit free reign to interpret the Patent Act. However, when the issues to be decided are not

⁷⁰ 535 U.S. at 839.

⁷¹ *Id.* at 838-39.

⁷² See generally Ronald S. Katz & Adam J. Safer, *Should One Patent Court Be Making Antitrust Law for the Whole Country?*, 69 ANTITRUST L.J. 687 (2002) (discussing the disproportionate amount of antitrust cases heard in the Federal Circuit and the effects on the development of antitrust law).

uniquely related to the administration of patent law, including especially antitrust law, then the law could be kept in the mainstream of federal jurisprudence by binding the Federal Circuit to the law of the circuit from which the appeal arose.⁷³ Now that *Holmes* will put some patent cases on the dockets of the regional circuits (and state courts), the logical extension of this argument is that preserving uniformity in patent law requires the regional circuits to be bound by the Federal Circuit's views on patent matters.⁷⁴

Despite the appeal of such choice-of-law rules, and their antecedents in early Federal Circuit jurisprudence,⁷⁵ there are several problems with this approach. From a theoretical perspective, the entire notion of "circuit law" and "choice-of-circuit-law rules" makes little sense. As Justice Brandeis said, "law . . . does not exist without some definite authority behind it."⁷⁶ The authority underlying patent law is the *United States*; circuit courts are not sovereigns in the sense that they have authority to impose their notions of law on non-hierarchically related bodies. Of course, circuit courts do have the authority to interpret law and to develop common law to fill interstices in legislation, but it was firmly settled in early interpretations of the Evarts Act that each circuit's decisions are made independently of the jurisprudence of the others.⁷⁷

⁷³ See, e.g., *id.* at 696-701 (criticizing the court's decision in *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059 (Fed. Cir. 1998), to apply Federal Circuit law to issues at the patent/antitrust interface).

⁷⁴ See Cotropia, *supra* note 3, at 309-10; see also FTC and Dept. of Justice Antitrust Div., *Public Hearings: Competition and Intellectual Property Law in the Knowledge-Based Economy* 20-34 (July 11, 2002) (statement of Robert Taylor, American Bar Association, Section of Intellectual Property Law) (discussing the lack of uniformity in patent law prior to the Federal Circuit). Because of the greater attention that will now be paid to the well-pleaded complaint rule, achieving true uniformity will also require *state* courts to be bound by Federal Circuit patent law.

⁷⁵ See *Atari, Inc. v. JS & A Group, Inc.*, 747 F.2d 1422, 1437-40 (Fed. Cir. 1984) (en banc) (applying the law of the circuit of origin to the non-patent issue), *overruled by Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059 (Fed. Cir. 1998); *Panduit Corp. v. All States Plastic Mfg. Co.*, 744 F.2d 1564, 1574-75 (Fed. Cir. 1984) (per curiam) (ruling that the Federal Circuit will renew procedural issues not unique to patent law under the law of the circuit of origin).

⁷⁶ *Erie R.R. v. Tompkins*, 304 U.S. 64, 79 (1938) (quoting *White Taxicab Co. v. Brown & Yellow Taxicab Co.*, 276 U.S. 518, 533 (1928) (Holmes, J., dissenting)).

⁷⁷ See, e.g., *Haberle Crystal Springs Brewing Co. v. Clarke*, 30 F.2d 219, 222 (2d Cir. 1929) (noting a duty to form an independent judgment and not blindly follow other circuits), *rev'd on other grounds*, 280 U.S. 384 (1930). For a full discussion, see also Samuel Estreicher & Ricky Revesz, *Nonacquiescence by Federal Administrative Agencies*, 98 YALE L.J. 679, 736 n.275 (1989) (discussing the absence of intercircuit stare decisis). State courts do not see themselves as in a hierarchical relationship to federal appellate courts. See, e.g., *Green v. Hendrickson Publishers, Inc.*, 770 N.E.2d 784 (Ind. 2002) (asserting jurisdiction over copyright counterclaim under *Holmes* but rejecting application of Seventh Circuit law to the question of whether a contract is preempted by copyright law). See generally Act of Mar. 3, 1891, ch. 517, 26 Stat. 826 (establishing circuit courts of appeal).

The analogy between intercircuit conflicts and choice-of-law analysis is incomplete in any event: if the issue in these cases was really choice of law, then the rule of applying forum law (that is, the district court's circuit law) would be curious. Forum law is generally applied to procedural issues, but it is not routinely applied to substantive matters, such as substantive questions of anti-trust law. Rather, a court would normally look to other criteria, such as where the events (such as restraints on trade) took place, where the parties are domiciled, or which jurisdiction has the greatest interest in the dispute.⁷⁸ To be sure, the locus of patent infringement would have to be considered the United States as a whole, otherwise, there would be *no* role for the Federal Circuit to interpret patent law. But on other issues, such as antitrust issues, if it were decided that national innovation policy requires a change in settled procedure under the Evarts Act, district court forum law should not be applied reflexively. Among other things, alternatives tied to the place where primary activity took place would permit competitors to predict the consequences of their actions before litigation is commenced and a forum is chosen. Such approaches would also reduce incentives to forum shop.

But even if the conceptual problem with conceiving of inter-circuit conflict as a choice-of-law issue is overcome, there are practical reasons to reject the analogy. First, where the Federal Circuit has used this approach, it has not found it easy to decide when an issue is so related to patent law, its own law should apply.⁷⁹ A choice-of-law analysis would, in other words, inject new sources of uncertainty into the system. Much more important, the benefits of the *Holmes* rule that are described above could not be realized under such a system. Bound by regional circuit non-patent law, the Federal Circuit would never be required to think through other matters, such as antitrust issues, and thus, perhaps, would never come to better appreciate the effects of competition on innovation or the insights that social science might offer to law. Bound by Federal Circuit patent law, the circuit courts would not dissipate residual favoritism for patents. Nor would the courts engage in dialogue with one another on issues of patent and other law, or the relationships among the various legal regimes that affect innovation. Furthermore, federal judges sitting on diversity cases have never enjoyed the role of "ventriloquist's dummy;"⁸⁰ it

⁷⁸ See generally RESTATEMENT (SECOND) OF CONFLICT OF LAWS (1971).

⁷⁹ See, e.g., *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1067 (Fed. Cir. 1998) (reversing prior practice of applying circuit law on antitrust issues).

⁸⁰ *Austrian v. Williams*, 198 F.2d 697, 703 (2d Cir. 1952) (Clark, J., dissenting) ("But the question arises as to why Congress conferred jurisdiction on the federal courts to hear suits by

is a mistake to create new situations where it is necessary for one group of judges to decide a case based on a forecast of another group's resolution. True, this procedure would eliminate splits with regional circuits, but at the cost of decreasing the information available to the Supreme Court when it entertains certiorari petitions or considers the merits of patent law questions.

Besides, a middle approach is available. Jurisprudence under the Evarts Act never prohibited a regional circuit from concluding that a sister court had found the right result. A modest extension of that proposition would be for each court to start with a presumption that the Federal Circuit should be followed on patent issues, and that regional law should be followed on other issues. These presumptions could, however, be overcome, either because a court was persuaded the presumptively applicable rule was wrong, or because in the circumstances of the case, the issues were so intertwined, that using Federal Circuit law on some issues and regional circuit law on others was inappropriate. In this way, there would be no need to sharply and bindingly characterize particular issues as patent-related or not. Much more important, the Federal Circuit would have the motivation to publish enough opinions to fully articulate its law, and to construct opinions that are persuasive to other judges.⁸¹ By the same token, because the regional courts would be forced to specify reasons for rejecting Federal Circuit precedent, effective dialogue would be encouraged.

C. Enhancing the PTO's Law-Making Authority

Some have argued that the real problem with patent law is that the Federal Circuit is badly positioned to develop it well, and that the Patent Office and its full-time staff of patent specialists would be better at fashioning law resonant with industrial needs and accepted economic thinking.⁸² Channeling disputes on patentability

trustees if such courts are merely to be 'ventriloquists' dummies' for the state courts."); HENRY J. FRIENDLY, *FEDERAL JURISDICTION: A GENERAL VIEW* 142 (1973) ("When the state law is plain, the federal judge is reduced to a 'ventriloquist's dummy to the courts of some particular state.'" (quoting *Richardson v. CIR*, 126 F.2d 562, 567 (2d Cir. 1942))).

⁸¹ Cotropia argues that independent interpretation of patent law issues will lead to races to the courthouse, as every potential patent defendant wishing to avoid Federal Circuit patent law will have an incentive to file first, and force the patentee to assert compulsory patent counterclaims. However, the number of such cases is likely to be small. Cotropia counted fewer than ten cases reported prior to *Holmes* in which jurisdiction over patent claims would have shifted. Cotropia, *supra* note 3, at 298. Of course, *Holmes* can be read as an invitation to manipulate, but the opportunity to avoid Federal Circuit patent law is limited, as not every potential defendant has a nonfrivolous suit to bring. Cotropia also argues that chaos will ensue as circuits return to their pre-Federal Circuit case law. *Id.* at 301-02. *Holmes* did not, however, render the prior work of the Federal Circuit a nullity.

⁸² See, e.g., John F. Duffy, *On Improving the Legal Process of Claim Interpretation: Ad-*

to the PTO would have the added benefit of eliminating jury trials on technical questions, where lay judgments are likely to produce inferior outcomes.

There are several ways in which the PTO's input into patent jurisprudence could be enlarged. At the wholesale justice level, the PTO could be given rule-making authority. Under *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.* and its progeny, the PTO's articulation would then be entitled to deference.⁸³ At retail, a post-grant opposition procedure, which would allow third parties to challenge patents in an inter partes proceeding in the PTO, could be instituted. It would presumably lead to decisions about the application of law to facts to which the Federal Circuit would be required to defer.⁸⁴ An alternative would be to enhance the administrative recourse available under the current statute.⁸⁵ This could be accomplished by following the Ninth Circuit's lead in copyright, and developing a doctrine of primary jurisdiction. The doctrine would require a court—or the parties to a dispute—to seek administrative resolution before pursuing judicial intervention.⁸⁶

Unfortunately, there are several problems with relying on the Patent Office to cure perceived defects in Federal Circuit adjudication. The first two ideas rely on congressional action, which may not be quickly forthcoming, given the other demands on legislators' attention. The third approach allows the court to help itself, but the absence of congressional participation is also problematic. The PTO finds it difficult to fulfill the demands of the current application process expeditiously; without more funding and support it is not likely to be able to take on new duties, and would certainly not be able to execute them in a manner that improves on the Federal Circuit's performance.⁸⁷

ministrative Alternatives, 2 WASH. U. J.L. & POL'Y 109, 133 (2000) (arguing the PTO is superior to the courts in expertise and ability to achieve uniformity).

⁸³ *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842-845 (1984) (discussing deference to agency regulations); see also *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944) (finding it is proper to rely on the Administrator of the Fair Labor Standards Act, although not controlling).

⁸⁴ See *Dickinson v. Zurko*, 527 U.S. 150, 152 (1999) (finding that the Federal Circuit reviews findings of fact by the PTO according to Administrative Procedure Act standards).

⁸⁵ See generally 35 U.S.C. §§ 251-252, 301-307, 311-318 (2000) (reissue, ex parte reexamination, and inter partes reexamination, respectively).

⁸⁶ See *Syntek Semiconductor Co. v. Microchip Tech. Inc.*, 285 F.3d 857, 863 (9th Cir. 2002) (referring questions about the validity of copyright registrations to the Register of Copyrights under a doctrine of primary jurisdiction), amended by 307 F.3d 775 (9th Cir. 2002). See generally *Duffy*, *supra* note 82, at 136-48 (discussing application of primary jurisdiction doctrine to patent claim interpretation).

⁸⁷ The Copyright Office has already indicated that it is not prepared to deal with the cases that might flow out of the Ninth Circuit's decision in *Syntek*. See *Copyright Office Signals*

More generally, the PTO has serious institutional constraints. Until quite recently, it was not even clear that it was an agency within the meaning of the Administrative Procedure Act (“APA”), and therefore entitled to any form of deference.⁸⁸ Because it was established long before the advent of the administrative state and passage of the APA, it was not organized with a modern vision of the role that agencies can or should play in governance. The absence of such a vision continues to be felt in its institutional culture. There are a very large number of examiners, most of whom are not lawyers or the recipients of vigorous legal training. The incentive structure provided is geared to helping the PTO’s clients—which is to say, patent applicants.⁸⁹ The PTO’s publications give the appearance that short shrift is given to the task of protecting the public domain.⁹⁰ And since it is one of the few agencies that does not employ any economists, it is not likely to be better at factoring social science information into its thinking.⁹¹ Thus, while *Chevron* may well have been right to decide that an expert agency exercising duly delegated power was a better statutory interpreter than a generalist court, it does not directly follow that the Patent Office, which was not constituted to be the recipient of delegated authority, would do a better job than an expert tribunal. To put this another way, if Congress decided to act on this approach, it would need to dramatically restructure the Patent Office.

D. Designations

Another way to provide the Federal Circuit with a rich array of experiences is to make greater use of designation practice.⁹²

Unwillingness to Cancel Flawed Copyright Registrations, 63 Pat., Trademark & Copyright J. (BNA) at 527 (Apr. 19, 2002) (interview with General Counsel David Carson).

⁸⁸ See *Dickinson*, 527 U.S. at 154 (recognizing the PTO as an agency subject to the APA); see also Arti Rai, *Addressing the Patent Gold Rush: The Role of Deference to PTO Patent Denials*, 2 WASH. U. J.L. & POL’Y 199 (2000) (noting the failure to follow the APA’s requirements of deference to agency decisionmaking).

⁸⁹ See generally Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 BERKELEY TECH. L.J. 577 (1999).

⁹⁰ See, e.g., U.S. PAT. & TRADEMARK OFFICE, THE 21ST CENTURY STRATEGIC PLAN 2, available at http://www.uspto.gov/web/offices/com/strat21/stratplan_03feb2003.pdf (last visited Jan. 29, 2004). The plan states at the outset that “[i]t is built on the premise that American innovators want to obtain enforceable intellectual property rights here and abroad as seamlessly and cost-effectively as possible.” *Id.* Nowhere does it say that innovators also need to ensure that public science remains public. To the contrary, the recommendations are largely geared to churning out patents more rapidly.

⁹¹ See Rai, *supra* note 12, at 1132-33 (citing a communication with Stephen Kunin, USPTO Deputy Commissioner for Patent Policy). See generally *id.* at 1068-86 (discussing whether the Federal Circuit should defer to the PTO).

⁹² See 28 U.S.C. §§ 291-297, 636 (2000) (provisions for assignment of judges to other courts). On this issue, I would like to thank Jan Horbaly, Circuit Executive of the Federal Cir-

Currently, the power to appoint and utilize visiting judges is invoked mainly in cases of recusal and to deal with workload imbalances.⁹³ According to statistics of the Administrative Office, the Federal Circuit is not currently participating in this practice to the extent that other courts do:

Table 1

	Participation in Appeals in Other Circuits		Receiving Service from Other Circuits	
	# of Appeals Judges disposed of		# of Appeals Judges disposed of	
1st Circuit	12	58	16	101
2nd Circuit	46	714	45	840
3rd Circuit	15	189	23	255
4th Circuit	34	246	34	253
5th Circuit	40	490	38	460
6th Circuit	56	1492	59	1626
7th Circuit	20	187	3	3
8th Circuit	51	732	39	424
9th Circuit	56	829	52	646
10th Circuit	19	145	28	222
11th Circuit	27	312	49	739
D.C. Circuit	—	—	9	15
Federal Circuit	7	17	—	—

Services Provided by Visiting Judges in Appeals Terminated During the 12-Month Period Ending September 30, 2001.⁹⁴

Note that these statistics are not complete: they apparently omit the extent to which the Federal Circuit utilizes visiting judges.⁹⁵ To get a rough measure of its designation of judges and to assess the court's practice over time, a Westlaw search on the term "sitting by designation" was conducted. It provides a meas-

cuit, for his input.

⁹³ See *Shorthanded and Overworked, Courts Look to Visiting Judges for Help*, 33 THE THIRD BRANCH 7 (July 2001) (discussing the use of visiting judges to deal with recusals and caseload issues), available at <http://www.uscourts.gov/ttb/july01ttb/july01.html> (last visited Jan. 29, 2004).

⁹⁴ ADMIN. OFFICE OF THE U.S. COURTS, JUDICIAL BUSINESS OF THE U.S. COURTS 2001, ANNUAL REPORT OF THE DIRECTOR tbl. V-2 (2002), available at <http://www.uscourts.gov/judbus2001/appendices/v02sep01.pdf> (last visited Jan. 29, 2004).

⁹⁵ According to the Office of the Circuit Executive of the Federal Circuit, the missing data are zeros (no visiting judges were used in the twelve months ending September 30, 2001).

ure (albeit, a measure that is probably very inaccurate) of the number of cases each circuit decided utilizing a judge sitting by designation:

Table 2

	Cases Involving a Judge Sitting by Designation
1 st Circuit	2901
2 nd Circuit	3419
3 rd Circuit	2247
4 th Circuit	2612
5 th Circuit	2293
6 th Circuit	3546
7 th Circuit	3336
8 th Circuit	5040
9 th Circuit	5407
10 th Circuit	3148
11 th Circuit	5023
D.C. Circuit	916
Federal Circuit	228

Cases Decided by a Panel Including a Judge Sitting by Designation, 1982-Present

Again, the Federal Circuit is at the low end of the spectrum.⁹⁶

Extending designation practice to deal with issues other than recusal and workload problems is costly because it requires judges and clerks to travel and stay in hotels. It can also be risky: frequent visits could disrupt the operations of the court from which the designated judge comes, and interfere with the collegiality of both the bench from which the visiting judge is drawn and the

⁹⁶ The Federal Circuit supplied me with information on its use of visiting judges from 1982-1999. This information can be summarized as follows:

	Number of Judges Provided to the Federal Circuit	Judge-Days Provided to the Federal Circuit
District Courts	31	113
Circuit Courts	12	36
Court of International Trade	5	38
Supreme Court	1	1

Although the court has made some use of designation authority, it may not have had the effect suggested in text as several of the judges appointed were drawn from another specialized court.

court to which that judge is assigned.⁹⁷ Nonetheless, it has long been recognized that the problems of specialization are ameliorated when the judges on a specialized tribunal circulate to other courts, where they hear and decide cases outside their specialty.⁹⁸ Sitting on other circuit courts would help the Federal Circuit judges stay abreast of jurisprudential trends across the country, thereby improving the cohesiveness of federal law generally. It would also expose them to other analytical approaches to decisionmaking. Post-*Holmes*, it might also be helpful for the other appellate courts to have a vehicle for becoming reacquainted with patent law. Having judges on the Federal Circuit sit on trial courts might also be beneficial, as it would help the court assess the impact of its practices (such as its refusal to hear interlocutory appeals from claim constructions) on the trial process, and on litigants and jurors.⁹⁹

To a somewhat lesser extent, it would also be worthwhile for the Federal Circuit to increase its utilization of visiting judges. The interchange would be almost as useful at acquainting the court with practices elsewhere, and the information would be more efficiently communicated. At the same time, however, the practice might be especially disruptive. If it is true that the judges of the Federal Circuit have greater facility with the technical materials involved in patent disputes, then the outcome of the cases on which a judge from another circuit participated might be compromised, or viewed as compromised. If the designated judge were from a district court, that problem is potentially exacerbated. There is empirical evidence tending to show that visiting district judges can be overly deferential to the appellate judges on a panel.¹⁰⁰ Differences in the selection criteria and experience of district court judges may also contribute to a sense that lower quality justice was being dispensed.¹⁰¹

⁹⁷ See Richard B. Saphire & Michael E. Solimine, *Diluting Justice on Appeal?: An Examination of the Use of District Court Judges Sitting by Designation on the United States Courts of Appeals*, 28 U. MICH. J.L. REFORM 351, 372-74 (1995) (arguing that District Court judges sitting by designation may cause doctrinal inconsistencies in the Court of Appeals); see also Maxwell L. Stearns, *Appellate Courts Inside and Out*, 102 MICH. L. REV. (forthcoming 2004), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=416320 (June 16, 2003).

⁹⁸ See, e.g., PAUL D. CARRINGTON ET AL., JUSTICE ON APPEAL 169-72 (1976); see also COHEN, *supra* note 12, at 191-200 (describing both the costs and benefits of specialization).

⁹⁹ Only two active judges—Mayer and Rader—have experience as trial judges, and both were on the U.S. Claims Court, which is also specialized as to both law and procedure. U.S. Court of Appeals for the Federal Circuit, Judicial Biographies, at <http://www.fedcir.gov/judgbios.html> (last visited Jan. 29, 2004).

¹⁰⁰ Saphire & Solimine, *supra* note 97, at 375-81.

¹⁰¹ *Id.* at 397-98, 402. Significantly, the Judicial Conference of the United States has taken up the issue of designations. See JUDICIAL CONFERENCE OF THE UNITED STATES, LONG RANGE PLAN FOR THE FEDERAL COURTS 98-100 (Dec. 1995) (discussing in Recommendation 62 vari-

E. Vacancies

The Federal Circuit's perspective could also be expanded by appointing judges familiar with innovation law more generally, including individuals with backgrounds in antitrust litigation, economic analysis, and economic and industrial history. Furthermore, it might be helpful to fill some of the openings on the Federal Circuit with regional district judges. Elevation is not uncommon within the regional circuits, but it has not been the practice at the Federal Circuit, perhaps because the Federal Circuit is not in a specific hierarchical relationship with any of the regional trial courts.¹⁰² Adding one or more experienced regional trial court judges to the Federal Circuit bench would provide the court with greater perspective on the problems its rulings engender at trial, and a broader sense of the law outside the fields in which it specializes. Because patent disputes are such an important part of the Federal Circuit's docket, appointments from within the PTO (such as from the Board of Patent Appeals and Interferences) should also be considered.¹⁰³ The opportunity for elevation would improve the incentive structure within the PTO.¹⁰⁴ Again, it would provide the Federal Circuit with more information on the practical impact of its decisions.

F. Venue Rules

It can be argued that several of the Federal Circuit's problems stem from a defect in institutional design. Capacity for expertise was created at the appellate level, even though the technical problems that arise in patent cases generally occur in connection with matters that can be classified as factual. Since factual findings are

ous approaches to streamlining temporary assignment of judicial authority), available at <http://www.uscourts.gov/lrp/CH08.PDF>.

If the Federal Circuit is to use more district judges, the designation statute needs to be clarified. Section 292 permits the chief judge of a circuit to designate "one or more district judges within the circuit to sit upon the court of appeals . . ." 28 U.S.C. § 292 (2000). However, it is unclear who is a district judge of the Federal Circuit: no one? Is it the judges of the Court of Federal Claims and the Court of International Trade? Or, perhaps, all of the district judges of the United States (on the theory that all of their patent cases can be appealed to the Federal Circuit)?

¹⁰² As mentioned in note 99, two active judges had trial court experience before elevation to the Federal Circuit, but not with jury-tried cases. In addition, Judge Rader has sat by designation as a trial judge. See *Loral Fairchild Corp. v. Victor Co. of Japan*, 906 F. Supp. 813 (E.D.N.Y. 1995); *Ristvedt-Johnson, Inc. v. Brandt, Inc.*, 805 F. Supp. 557 (N.D. Ill. 1992).

¹⁰³ Two active Federal Circuit judges—Gajarsa and Linn—have experience as patent examiners, but not as adjudicators. U.S. Court of Appeals for the Federal Circuit, *Judicial Biographies*, at <http://www.fedcir.gov/judgbios.html> (last visited Jan. 29, 2004).

¹⁰⁴ Cf. *Merges*, *supra* note 89, at 606-14 (suggesting that patent quality would improve if PTO incentives were enhanced and proposing a series of such changes).

reviewed on a deferential standard,¹⁰⁵ this design potentially wastes much of the expertise fostered by specialization.¹⁰⁶ The Federal Circuit implemented a series of practices to avoid that wastage, but they produced many of the difficulties outlined earlier. Thus, the court began to engage in careful scrutiny of factual findings, but that raised the problem of insufficient deference and to increased use of jury trials. The court mandated reliance on certain forms of evidence, but that changed the substance of the law for purely procedural reasons. Finally, the court classified certain issues at the margin of fact and law as issues of law requiring de novo review, but that created difficulties concerning the timing of appeals.

All in all, it might have been better had Congress created an expert trial court, whose decisions would be reviewed in a court of general jurisdiction. That way, the facts would be found by those with technical expertise, while the law would be developed by generalist judges who could have kept it in the mainstream.¹⁰⁷ But be that as it may, a case has yet to be made for abolishing the Federal Circuit and starting all over again by replacing it with a specialized trial court. Of course, a specialized trial court should be *added* to the system, but dual-level specialization would take patent law even further out of the mainstream by depriving it of any leavening by generalist judges.

Another possibility would be to utilize a variant on a strategy proposed by Paul Carrington, Daniel Meador, and Maurice Rosenberg in their influential study, *Justice on Appeal*. The authors suggested that one way to avoid the problems of specialization would be to give courts of general jurisdiction special power over particular subject areas.¹⁰⁸ The authors were thinking about appeals, but their idea could be used to create expert patent trial courts that do not sacrifice the potential for generalist contributions to the law. This could be accomplished by designating one district in each circuit as the patent court. If the venue statute were then changed to lay venue in a particular circuit (such as a circuit where the defendant's acts of alleged infringement took place), patent litigation would be concentrated in twelve districts, one for

¹⁰⁵ FED. R. CIV. P. 52(a).

¹⁰⁶ See generally Dreyfuss, *The Federal Circuit*, *supra* note 1, at 46-52 (observing that the Court of Appeals for the Federal Circuit has more expertise than regional district courts in reviewing technical evidence, and the presumption in favor of the factual findings of the district courts mandated by Rule 52(a) does not take advantage of that expertise).

¹⁰⁷ See generally Rai, *supra* note 12 (advocating for improved fact finding expertise through the institution of specialized trial courts).

¹⁰⁸ CARRINGTON ET AL., *supra* note 98, at 172-73.

each region of the country. These courts would continue to hear their normal load, but they would have enough patent cases to develop expertise in patent adjudication. A further suggestion would be to have each of the designated districts choose a single judge or small group of judges to hear patent cases. These judges could be rotated through this assignment every five to ten years to reduce the problems associated with their specialization.¹⁰⁹

In fact, this system is not as gross a departure from the current situation as might be supposed. Under the venue statute now in effect, venue for patent cases is “in the district in which the defendant or his agent resides or may be found.”¹¹⁰ But because federal law also provides that for venue purposes, “a defendant that is a corporation shall be deemed to reside in any judicial district in which it is subject to personal jurisdiction at the time the action is commenced,”¹¹¹ plaintiffs have substantial flexibility in choosing the location of their suits. Were these provisions operating to distribute patent cases around the country evenly, a typical district court would hear no more than one case a year.¹¹² Surprisingly, however, the cases are not dispersed in this way. Instead, Kimberly Moore’s study of forum shopping shows that between 1995 and 1999:

¹⁰⁹ Because venue would not then lie in some states, it is possible that this change would engender challenges to the designated district courts’ personal jurisdiction. But as the Moore data indicates, patent litigants tend to be subject to jurisdiction in many locations. *See infra* note 112. If there is a residual problem, then Congress could change the personal jurisdiction rules to provide for nationwide or circuitwide jurisdiction. *Cf.* FED. R. CIV. P. 4(k)(1)(C) and (D). Because patents are nationwide rights, and patent infringement a problem of national dimension, such a change would meet constitutional standards. *Cf., e.g.,* *Omni Capital Int’l, Ltd. v. Rudolf Wolff & Co.*, 484 U.S. 97, 103-110 (1987) (acknowledging congressional authority to create nationwide service of process rules to enforce federal law).

¹¹⁰ 28 U.S.C. § 1400(a) (2000).

¹¹¹ 28 U.S.C. § 1391(c) (2000).

¹¹² Moore, *supra* note 6, at 902 (indicating that for the 16 years from 1983-1999, 1409 cases made it to trial in the country’s 94 district courts).

[M]ost patent cases are brought in only a handful of jurisdictions The top five district courts have 29% of all patent cases terminated in the ninety-four district courts during this five-year period, but only 15% of all civil case terminations during the same period.¹¹³

Although the reasons for this concentration are not clear, it has, in fact, produced a significant level of expertise within the district court system. According to Moore, these courts adjudicate cases more quickly than other courts, they resolve disputes at an earlier phase of the litigation, and do so at a lower cost.¹¹⁴ And in fact, there have been federal district court judges who have enjoyed substantial reputations in patent law.¹¹⁵ Specialization by a small community of district judges could potentially produce the kind of collegiality and interchange with the Federal Circuit that is conducive to improving many aspects of administering patent law.

CONCLUSION

As the production of information becomes an increasingly prominent component of the economy, the smooth operation of a court uniquely dedicated to the development of innovation law becomes essential. Over all, observers largely agree that in its twenty years of existence, the Federal Circuit has vastly improved the patent system. But as with all experiments, there is always room for improvement. To a large extent, departures from mainstream trends—whether documented or suspected—can be reme-

¹¹³ *Id.* at 903-04. Moore provides the following table:

District	# patent cases	% patent cases	% civil cases	Ratio patent to civil cases
1 C.D. Cal	870	9.1	4.2	2.2
2 N.D. Cal	606	6.3	2.3	2.7
3 N.D. Ill	569	5.9	3.4	1.7
4 S.D.N.Y.	394	4.1	4.1	1.0
5 D. Mass	319	3.3	1.4	2.4
6 D. Del	308	3.2	0.3	10.7
7 S.D. Fla.	302	3.1	2.5	1.2
8 E.D. Va.	288	3.0	1.7	1.8
9 D.N.J.	286	3.0	2.6	1.2
10 D. Minn.	276	2.9	1.0	2.9

Civil and Patent Caseloads from 1995-1999

Id. at 903.

¹¹⁴ *See id.* at 908-16. Moore also suggests venue changes, albeit different from the ones suggested here. She would rewrite the venue statute to eliminate forum shopping by specifying that the action must be brought at the domicile of the infringer. *Id.* at 934-36.

¹¹⁵ To name just three: Judge T.S. Ellis III of the Eastern District of Virginia, Roderick McKelvie, who just left the District of Delaware, and William C. Conner, who sat on the Southern District of New York.

died by relatively straightforward changes in institutional design. The Supreme Court's decision in *Holmes* represents just such a change. It re-injects the Federal Circuit into a potentially enriching dialogue with the regional courts of appeals and, in Justice Stevens' words, provides an "antidote" to the problematic aspects of specialized adjudication.¹¹⁶ Other modifications, such as greater use of the designation authority to keep patent law resonant with national jurisprudential trends, can be made by the courts through the auspices of the Judicial Conference and the Administrative Office.

Some steps, such as adding a patent trial court or modifying the venue statute to concentrate patent litigation, would require intervention by Congress. And even more drastic changes may be in order. For example, it has been suggested that the role of juries should be revised or eliminated, approaches that would possibly require an amendment to the Constitution.¹¹⁷ To make the case for these kinds of changes, more empirical evidence is needed. Studying adjudication empirically poses tremendous problems, in part because it is difficult to scrutinize the substance of decisions objectively and in part because the raw data are not always available. Nonetheless, there are now many talented researchers in this field. Their work, coupled with the evidence emerging from the recent hearings of the Federal Trade Commission and the National Academy of Sciences, will hopefully yield fresh ideas, as well as a firm basis for the sound implementation of the nation's innovation policy.

¹¹⁶ *Holmes Group, Inc. v Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 839 (2002) (Stevens, J., concurring).

¹¹⁷ See Mark D. Janis, *Rethinking Reexamination: Toward a Viable Administrative Revocation System for U.S. Patent Law*, 11 HARV. J.L. & TECH. 1, 87-93 (1997) (suggesting that the PTO be given a greater role in validity determinations so as to bypass juries). See generally John B. Pegram, *Markman and Its Implications*, 78 J. PAT. & TRADEMARK OFF. SOC'Y 560 (1996) (proposing readings of *Markman* that would divert issues from the jury). Compare Patrick Devlin, *Jury Trial of Complex Cases: English Practice at the Time of the Seventh Amendment*, 80 COLUM. L. REV. 43, 106-07 (1980) (arguing for a complexity exception), with Morris S. Arnold, *A Historical Inquiry into the Right to Trial by Jury in Complex Civil Litigation*, 128 U. PA. L. REV. 829, 848 (1980) (arguing against a complexity exception to the Seventh Amendment jury trial right).

