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ABSTRACT

This Article is the first study to comprehensively explore the centrality of the patent dialogue at the Court of Appeals for the Federal Circuit, the nation’s principal patent court from empirical, doctrinal, and policy perspectives. It offers several insights into how the Federal Circuit reaches consensus and when it does not, serving as a window into its inner workings, a reference to academics, judges, and attorneys alike. More broadly, this Article provides a template to study the “legal dialogue” of other judges at the Federal Circuit, those in other Circuits, as well as those in other areas of the law.

The Article looks through the lens of one of the Federal Circuit’s founders, Judge Pauline Newman, whose opinions have been instrumental in developing patent law over the last thirty years. These opinions reveal the consistency and coherence of her judicial philosophy and a sincere commitment to the mission of the Federal Circuit, a court she helped to create. Moreover, her dissents, particularly over the last twenty years, serve as an institutional record for course correction even as the court continues to navigate new fault

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lines brought about by the America Invents Act, the globalization of patent litigation, and disruptive technologies that challenge the compact of patent law today.

The study involved a review of 1,789 cases and 4,981 law review articles to give 10,461 datapoints. An in-person interview with Judge Newman, conducted over two sessions, complements the quantitative dimension of this Article. Her frank insights fill the gaps in the facts and quantitative findings. They also provide a fresh and reflective assessment of her dissents.

The data confirms that Judge Newman is the Federal Circuit’s most prolific dissenter and that her dissents resonate with the Supreme Court, her colleagues, and academic commentators more than those of any other Federal Circuit judge. The data identifies her ideological supporters and detractors on the court, but her influence with those people and the industry is more nuanced than it might appear at first blush. The Article also will paint the nuanced picture of her influence on critical challenges in patent law that the Federal Circuit continues to contend with today.

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I. INTRODUCTION

Most dissents do not matter, which is how it should be. Society
benefits most from cases that are correctly decided, even if not all of
them are unanimous. Dissents, when they occur, are rarely heeded
because society is chiefly concerned with the law as it is declared, not
what the dissent thinks it might or ought to be.¹ Thus the dissents
often fade into obscurity and the majority holding becomes the
conventional wisdom over time.

However, the fact remains that judging is an imperfect art. Judges must decide cases whether or not they know the correct

¹ Robert H. Jackson, The Supreme Court in the American System of
Government 18–19 (1955) (“The technique of the dissenter often is to exaggerate the holding of
the Court beyond the meaning of the majority and then to blast away at the excess. So the poor
lawyer with a similar case does not know whether the majority opinion meant what it seemed to
say or what the minority said it meant.”).
answer and usually under pressing time constraints. Dissents matter because, though change is not always obvious, the judicial dialogue sharpens and strengthens the law. Even when the issue is fully canvassed and the dissenting judge’s battle for the majority vote is lost, hers may be the clarion call that turns the tide of ideas.

Nearly every area of law is marked by the lasting effect of dissents. Justice Holmes argued for a freedom of expression that knows few bounds. Justice Black argued that in order to have a fair trial, defendants in criminal trials needed the benefit of counsel. Justice Murphy argued that even wartime concerns did not exonerate the Supreme Court’s complicity with the confinement of Japanese-Americans in internment camps. Justice Harlan objected to segregation flowing from slavery and argued that the Constitution is color-blind, an ideal yet to be achieved.

The same clash takes place at the Court of Appeals for the Federal Circuit. Like the Supreme Court, it is seated in Washington, D.C., but their similarities run deeper still. Constituted in 1982, the Federal Circuit is the Nation’s “de facto supreme court of patents.” It adjudicates more than two hundred patent cases and issues over one hundred precedential patent opinions annually. The court has exclusive jurisdiction over patent appeals, which means that, unlike other circuit courts of appeals, there is no possibility of a circuit split
to attract certiorari.\textsuperscript{10} It has the last word on patent law unless and until the Supreme Court decides to intervene, which only happens for 1.2 out of every hundred patent cases.\textsuperscript{11} By comparison, the Court's general acceptance rate is 2.8 out of every hundred cases.\textsuperscript{12}

Just as dissents at the Supreme Court contribute to the constitutional dialogue, dissents at the Federal Circuit shape the patent dialogue. This jurisprudential tool has enabled the United States to meet the needs of a country that continues to lead the world in technological progress.\textsuperscript{13} The dialogue within the Federal Circuit reflects a broader dialogue taking place among stakeholders in patent law.\textsuperscript{14} With no possibility of circuit splits and only a miniscule number of cases reaching the Supreme Court, patent law dissents within this cloistered arrangement take on a unique and crucial significance.

Judicial decision making at the Federal Circuit has been a topic of significant commentary and popular interest,\textsuperscript{15} and it has in recent times even caught the attention of the mainstream media.\textsuperscript{16}

\begin{thebibliography}{99}
\bibitem{14} See ROBERT H. JACKSON, THE STRUGGLE FOR JUDICIAL SUPREMACY: A STUDY OF A CRISIS IN AMERICAN POWER POLITICS 312 (1941) ("Conflicts which have divided the Justices always mirror a conflict which pervades society.").
\bibitem{15} Jason Rantanen, Empirical Analyses of Judicial Opinions: Methodology, Metrics and the Federal Circuit, 49 Conn. L. Rev. 227, 227 (2016) ("Despite the popularity of empirical studies of the Federal Circuit's patent law decisions, a comprehensive picture of those decisions has only recently begun to emerge.").
However, the patent dialogue is not easily understood. Like tax law and bankruptcy law, the ruminations of patent law judges seem arcane even to the Supreme Court. Yet in a functioning democracy, that dialogue should be made more accessible. This Article offers a “Rosetta Stone” to help demystify that process. It provides an unprecedented analysis of the patent dialogue through the eyes of one judge who is well suited for this endeavor.

Judge Pauline Newman has earned a reputation as the Federal Circuit’s “Great Dissenter” over her more than thirty years with the court, longer than any judge at that court. By the time Judge Newman was nominated to the Federal Circuit by President Ronald Reagan in 1984, she had spent thirty years as a patent attorney and played a role in shepherding the court’s formation. At ninety, she remains an active judge and is the court’s institutional memory bank. The combination of her judicial longevity and her reputation for dissents offers a unique and invaluable perspective into the evolution of the patent dialogue within the Federal Circuit.

“The Federal Circuit Court has six judges who have been on the bench for less than five years, four of whom have been on the bench for three years or less.” Practitioners note that “[t]he large number of newly appointed judges made it difficult to predict how the Federal Circuit would rule on intellectual property issues. Indeed,
many of the highlighted cases included vigorous dissents." At a time when members of the Federal Circuit are being replaced at an unprecedented rate, it is even more important to remember the reasoning behind countervailing currents against which the majority’s decisions stood, and if necessary, to reconsider the reasoning of those decisions.

This Article looks at the doctrinal, empirical, and policy dimensions of the patent dialogue through the lens of Judge Newman’s dissents. Part II introduces the dynamics of a judicial dissent. It explains why judges dissent and looks specifically at the Federal Circuit and its “Great Dissenter.” Part III presents a quantitative study comprised of all Judge Newman’s 210 patent law dissents over three decades. To provide context for the findings, the dissents of her colleagues in appropriate instances are discussed. Overall, the study involved a review of 1,789 cases and 4,981 law review articles to give 10,461 datapoints. Like pieces of a mosaic, they reveal the profound influence of one remarkable woman on the nation’s patent dialogue.

The data confirms that Judge Newman is the Federal Circuit’s most prolific dissenter and that her dissents resonate with the Supreme Court, her colleagues, and academic commentators more than those of any other Federal Circuit judge. She dissents most often in chemical and biopharma industries cases. The data identifies her ideological supporters and detractors on the court, but her influence with them and with the industry is more nuanced than it might appear at first blush.

Judge Newman is consistent, doctrinally. Most of her dissents concern validity issues, especially on issues of novelty and nonobviousness. Other dissents of hers argue that district courts should be given more discretion than the majority sometimes allows, a view that the Supreme Court has vindicated. Judge Newman has also been concerned about the manner in which the Federal Circuit

21. Luk, supra note 20, at 805.
22. See infra Section III.A.
23. See infra Section III.B.
24. See infra Section III.C.
25. See infra Section III.D.
26. See infra Section III.E.
has, at times, restricted the doctrine of equivalents and expanded the defense of inequitable conduct to the detriment of patentees.\footnote{28}{See infra Sections III.E.2–3.}

Each of these views spelled out in Judge Newman’s dissents has been upheld by the Supreme Court,\footnote{29}{See, e.g., Intermatic Inc. v. Lamson & Sessions Co., 273 F.3d 1355 (Fed. Cir. 2001), cert. granted, 537 U.S. 1016, 123 S. Ct. 549 (2002), vacated, 60 F. App’x 805 (Fed. Cir. 2003); Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558 (Fed. Cir. 2000), vacated, 535 U.S. 722, 742; Litton Sys., Inc. v. Honeywell, Inc., 140 F.3d 1449 (Fed. Cir. 1998), abrogated by Festo Corp., 234 F.3d 558; see also infra Section III.E.2.}
as have many of her views in other areas of patent law.\footnote{30}{See, e.g., Commil USA, LLC v. Cisco Sys., Inc., 720 F.3d 1361 (Fed. Cir. 2013), vacated in part by 135 S. Ct. 1920, 1928, 1931 (2015) (good faith of invalidity belief not a defense to inducement); Bard Peripheral Vascular, Inc. v. W.L. Gore & Assoc., Inc., 670 F.3d 1171 (Fed. Cir. 2012), vacated, 682 F.3d 1003, 1005 (Fed. Cir. 2012) (standard for willful infringement includes an estimation of the reasonableness of the accused infringer’s view of patent validity and infringement); Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301 (Fed. Cir. 2012), rev’d, 134 S. Ct. 2111, 2115 (2014) (inducement rests on a finding of direct infringement); Golden Hour Data Sys., Inc. v. emsCharts, Inc., 614 F.3d 1367 (Fed. Cir. 2010), overruled by Akamai Techs., Inc. v. Limelight Networks, Inc., 797 F.3d 1020, 1021 (Fed. Cir. 2015); Integra Lifesciences I, Ltd. v. Merck KGaA, 331 F.3d 860, 878 (Fed. Cir. 2003), vacated, 545 U.S. 193, 206 (2005) (affirming her view of the experimental use exception); see also infra Section III.E.}

In recent years, her dissents have also reflected the evolving nature of the court’s docket, including the relationship between the Patent Trial and Appeal Board (PTAB), an administrative tribunal within the United States Patent and Trademark Office (USPTO), and the courts.\footnote{31}{See infra Section III.E.5.}

As a whole, Judge Newman’s dissents reveal the consistency and coherence of her judicial philosophy and a sincere commitment to the mission of the Federal Circuit to promote innovation. The same judicial philosophy that adheres strictly to statutory intent also compels her dissents to alert stakeholders when her colleagues have departed from it over the years. Moreover, an in-person interview with Judge Newman complements the quantitative dimension of this study. An interview with Judge Newman was clearly an honor not always granted.\footnote{32}{Scott Graham, In Era of Reform, a Patent Pioneer Slips out of Step, LAW.COM (Sept. 19, 2016), http://www.law.com/sites/almsstaff/2016/09/19/in-era-of-reform-a-patent-pioneer-slips-out-of-step/ [https://perma.cc/EN3T-RUE8] (“Newman declined an extended interview.”).}

Her frank insights fill the gaps in the facts and quantitative findings. They also provide a fresh and reflective assessment of her dissents. The most rewarding moments came when she would remark, “I didn’t know that!”

Every dimension the Article forays into raises its own set of limitations. The doctrinal study of her dissents may give rise to a sense that Judge Newman’s majority opinions do not matter. They do, but over the years, they become less frequent and her dissents more
frequent.33 This result is neither unintentional nor unfortunate. As Judge Newman explained, “I may assign the opinion to another member of the panel, in order to have time for those cases that I think need a dissent.”34

Similarly, a thematic study of issues where she dissents necessarily leads to some atomization of the discussion. However, her vision for the arc of patent policy remains cogent throughout her more than thirty years on the court.35 Finally, as with any empirical endeavor, methodology and data impose their own limitations, which are discussed in Part III.

In sum, this Article offers commentators, stakeholders, and the courts an institutional record of the patent dialogue within the Federal Circuit spanning thirty years through the eyes of one extraordinary woman. Judge Newman’s wisdom in her dissents is presented in a comprehensive yet accessible account for those seeking guidance to “course correct” even as the court continues to navigate new fault lines brought about by the America Invents Act, the globalization of patent litigation, and disruptive technologies that challenge the compact of patent law today.

More broadly, this Article provides a template to study the opinions of other judges at the Federal Circuit, those in other Circuits, as well as those in other areas of the law. It establishes that dissents have an impact on the development of the law as well as the public understanding of it and its development. It offers a number of insights about how the Federal Circuit actually reaches consensus and when it does not, serving as an insight into the workings of the court, which is valuable both to attorneys and academics alike.

II. THE DYNAMICS OF DISSENT

Placing Judge Newman’s dissents in the context of history and judicial strategy helps one appreciate more fully why her dissents are so significant. Dissents in the law have an ancient vintage. The Talmud tell us that “[a]n individual opinion is cited along with the majority opinion as it may be needed at some time in the future.”36

33. Id. (“Over the past two years, her dissents have spiked—they outnumber majority opinions more than 3 to 1.”).
34. Id.
35. See, e.g., id. (quoting Fish & Richardson appellate specialist John Dragseth: “She can fit the latest craze into a longer history and point out where it’s not what everyone thinks it is, because she’s seen it all before.”).
36. Menachem Elon, Freedom of Expression and Protection of Minority Rights in Jewish Law, OWL MINISTRY EDUC.,
Dissents are also a critical part of what it means to be American. Colonial settlers in the New World were religious or political dissenters.37 The American Revolution was a violent, bloody dissent from the policies of King George III.38 Soon after the Constitution was ratified, the Founding Fathers swiftly enacted its First Amendment, enshrining the belief that the voice of dissenters must always be part of the Constitutional dialogue, even when waged against truth that appears immutable and universal.39

In the post-Revolution years, the Supreme Court followed the British practice of seriatim, where each judge wrote a separate opinion.40 In many cases, however, the Justices varied so much in their reasoning that it was hard to decipher who won or why they did so.41 Chief Justice Marshall broke with tradition and adopted the practice of announcing unanimous judgments of the Court.42 He delivered the opinions even when he did not write them and even when they were contrary to his own judgment and vote.43 Unanimity was sought as an ideal to be safeguarded, for it consolidated the authority of the Court and aided in the general recognition of the Third Branch as a co-equal partner to the other branches of government.44

38. See generally DAVID MCCULLOUGH, 1776, at 3 (2006).

These early seriatim opinions indicate several things. One, of course, is the inability of the justices to agree on and articulate clear legal rationales for their decisions. Second, the justices did not explicitly acknowledge their disagreement with one another and concluded their opinions with a procedural statement on whether the injunction should issue. In this way, the justices could openly disagree with each other without explicitly dissenting.

Id.
41. Id. at 6.
42. Zoe Bell, Division of Opinion in the Supreme Court: A History of Judicial Disintegration, 44 CORNELL L.Q. 186, 192–93 (1959); see, e.g., Chisholm v. Georgia, 2 U.S. 419 (1793) (demonstrating the Supreme Court’s practice of justices writing separate opinions).
44. William J. Brennan, Jr., In Defense of Dissents, 37 HASTINGS L.J. 427, 433 (1986); see also Samuel R. Olken, Chief Justice John Marshall and the Course of American Constitutional History, 33 J. MARSHALL L. REV. 743, 778 (2000) ("Adoption of majority opinions in place of seriatim ones enabled the justices to present their views in a more uniform fashion, which
Yet, the practice of judicial unanimity that began with Chief Justice Marshall did not last, and despite the aspirations of current Chief Justice John Roberts, there remains an opportunity for dissent.\textsuperscript{45} Today, four in five Supreme Court decisions contain one or more dissents and, as a result, dissents have become enshrined as an important feature of the judicial decision making process.\textsuperscript{46} This is true for the Federal Circuit too, where dissents are fairly common: between 2010 and 2011, "about 25% of precedential decisions included a dissenting opinion."\textsuperscript{47}

A. Why Do Judges Dissent?

It is easy to assume that disagreement is part of social discourse in America.\textsuperscript{48} Justice Brennan noted that it was the ability to encourage debate even after a decision has been reached that makes Americans a "free and vital" people.\textsuperscript{49} The legal system is a quintessential forum for arbitrating disagreements, so it is also natural for us to assume that a degree of dissent should exist between judges as well.\textsuperscript{50} Yet it might properly be asked why, as a practical matter, judges would express their dissent at all.

\begin{flushleft}
\textsuperscript{45} See Edward McGlynn Gaffney, Jr., The Importance of Dissent and the Imperative Judicial Civility, 28 VAL. U. L. REV. 583, 623 (1994) ("With the exception of the very first period of Supreme Court history (1789-1804), dissent has played a vital role in each successive period of the Court's history. Hence it is safe to conclude that judges in American courts should always feel free whenever necessary to disagree openly and publicly—that is, in dissents—with one another."); UROFSKY, supra note 40, at ix ("When John G. Roberts Jr. testified before the Senate Judiciary Committee at his confirmation hearings in 2005, he indicated that he hoped the Court would return to its older practice of speaking with one voice—unanimous opinions founded on narrow grounds. Nearly everyone familiar with the Court and its history—scholars and practitioners alike—surely smiled at Roberts's seeming naïveté, and his dream evaporated almost as soon as he took the oath as chief justice.").

\textsuperscript{46} UROFSKY, supra note 40, at 3 (2015); see also LEE EPSTEIN, WILLIAM M. LANDES & RICHARD A. POSNER, THE BEHAVIOR OF FEDERAL JUDGES: A THEORETICAL AND EMPIRICAL STUDY OF RATIONAL CHOICE 266 fig.6.1 (2013).


\textsuperscript{48} Brennan, Jr., supra note 44, at 438 ("The right to dissent is one of the great and cherished freedoms that we enjoy by reason of the excellent accident of our American births.").

\textsuperscript{49} Id. at 437 ("We are a free and vital people because we not only allow, we encourage debate, and because we do not shut down communication as soon as a decision is reached.").

\textsuperscript{50} POSNER, supra note 2, at 5–7 ("The reason is the adversary nature of American law. Disagreement and debate are fundamental to it, just as rivalry is fundamental to professional sports.").
\end{flushleft}
To a skeptic, dissents are an exercise in self-indulgence. The majority, presumably as competent as the dissent, reviewed the same material and decided the case differently. Future courts look to the majority, not the dissent, for the law. Dissents risk undermining public confidence in the judicial system, may weaken the force of the decision, and detract from the Court's institutional prestige. Even Justice Holmes, known as "the Great Dissenter," remarked that dissents are generally "useless" and "undesirable." Dissents could also incite some to continue holding on to their belief about what the law should be and even act upon it. For instance, Chief Justice Warren was concerned that a dissent suggesting that school segregation was constitutional might provide those in favor of continued segregation with ammunition to disrupt the already dicey implementation of the law. Some continental legal systems are very concerned that dissents might damage the law if the


52. UROFSKY, supra note 40, at 45.

Marshall strongly believed, as have many others, that the ruling in a case should be seen by the public as the decision of a collective court rather than of the author. The unanimity of a court added to its prestige and influence. In this institutional approach, dissents can be viewed as undermining the legitimacy of the Court's voice. Dissents are the products of one or more justices who openly disagree with the majority and shatter the illusion of a unanimous tribunal speaking in one voice.

53. LEARNED HAND, THE BILL OF RIGHTS 72 (1958) (arguing that dissent "cancels the impact of monolithic solidarity on which the authority of a bench of judges so largely depends"); Brennan, Jr., supra note 44, at 429 ("Some contend that the dissent is an exercise in futility, or, worse still, a 'cloud' on the majority decision that detracts from the legitimacy that the law requires and from the prestige of the institution that issues the law.").


55. MARK TUSHNET, I DISSENT: GREAT OPPOSING OPINIONS IN LANDMARK SUPREME COURT CASES, at XIV (2008) (giving the example that government officials may rely on a dissent as a signal to lower courts that they need not be too stringent in applying a rule).


A number of school districts in the Southern and border states desegregated peacefully. Elsewhere, white resistance to school desegregation resulted in open defiance and violent confrontations, requiring the use of federal troops in Little Rock, Arkansas, in 1957. Efforts to end segregation in Southern colleges were also marred by obstinate refusals to welcome African Americans into previously all-white student bodies.
public perceived the majority’s decision as being driven by personal preferences. Some jurisdictions even criminally sanction judges who dare to publish a dissent or even to make it known that there was disagreement in the court.

Even where it is legal to dissent, dissents can damage the amicability among those on the bench. Judges, like the rest of us, do not like to be criticized. Dissents fray the collegiality central to small-group appellate decision making. The judge writing for the majority will likely have to revise the opinion to parry punches thrown by the dissent, or worse, risk losing the other judge or judges to the dissent.

Beyond disadvantaging the majority writer, dissents can cause trouble for dissenters. Dissenting judges may find their views less influential, or worse, lose the tipping vote in future cases. Justice McReynolds’s petulant dissents failed to have much impact “in part because of their strident tone.” Similarly Justice Frankfurter “managed to alienate most of his colleagues by both his abrasive personality and his endless and pedantic separate opinions.” Unless the dissent can show convincingly that the majority is mistaken or failed to consider a different point of view, it will rarely rise beyond an angry tirade. Left to fester, the consequences can be grave indeed. Dissenting creates bitter factions and may over time lead the dissenting judge to prematurely leave the court itself.

Unsurprisingly, new judges are warned “against dissenting at the drop of a hat, and against bluster, exaggeration, anger, and snideness directed toward their colleagues whether in person or in

57. TUSHNET, supra note 55, at XIII.
58. Id.
60. UROFSKY, supra note 40, at 13.
61. Id. at 20.
62. See Lance N. Long & William F. Christensen, When Justices (Subconsciously) Attack: The Theory of Argumentative Threat and the Supreme Court, 91 OR. L. REV. 933, 958 (2013) ("[A]lienated from the majority, a Supreme Court Justice subconsciously (and irrationally) resorts to the universally censured intensifier in an attempt to bolster the losing argument. The theory of argumentative threat is consistent with social psychology theories suggesting that language use changes in response to a perceived threat.").
63. POSNER, supra note 2, at 235.

An unfounded belief in the rightness of one’s judicial ideas or methods (often, paradoxically, a belief that is a consequence of insecurity) can be a source of bitter disagreement with other judges. The result can be to multiply separate opinions, slow down the work of the court, and even drive judges to resign, or to retire prematurely.

Id.
opinions." But even when refraining from such emotions in the opinions, dissents take time and energy, and disrupt the court's schedule by holding up decisions. This may be so even with the help of capable clerks and judicial interns. If dissenting is costly to the judge in all these ways, one may be left asking why judges dissent at all.

1. To Formally Express Disagreement

Judges may dissent because they see weaknesses in the majority opinion and feel strongly enough to formally disagree. Those weaknesses may be faulty reasoning or a failure to understand the facts of the case. The dissent says to the majority, "I think you have this wrong. You need to look at that case or provision again. You need to ask other questions."

Judicial decision making is not an algorithmic relationship between facts and law that produce a particular result. The result is far more organic and less predictable. Judges are not simply human calculators churning out opinions like times tables. Rather, like us, they are people with biases and principles. And why not? Clergymen differ on theology. Professors argue over philosophy. Hard questions cause disagreement, and the hardest questions are the ones that percolate up to the court system. So it is unsurprising that judges disagree and do so publicly. Chief Justice Hughes wrote that:

64. RICHARD A. POSNER, REFLECTIONS ON JUDGING 35 (2013).
65. CASS R. SUNSTEIN, WHY SOCIETIES NEED DISSENT 185–86 (2003) (arguing that the potential of a colleague to dissent can "reduce the likelihood of ... an incorrect or lawless decision [and render a decision] more likely to be right, and less likely to be political in a pejorative sense").

The cases that reach the court rarely are simple application of law to fact. Instead, today's appeals take us to the boundaries of the law, to the grey areas where competing policies abut and there are sound legal arguments on both sides. With close questions, diversity of judicial viewpoint is more frequent. Such diversity produces the "percolation" that scholars feared would be lost to the Federal Circuit, and indeed can lead to consensus strengthened by the deliberations in reaching it.

Id.
69. POSNER, supra note 2, at 185.

It is highly unlikely, for example, that people opposed to abortion shrugged their shoulders and say to themselves: "I don't like the decision in Roe v. Wade but I am resigned to the fact that the law left the Justices with no choice." I especially don't see
When unanimity can be obtained without sacrifice of conviction, it strongly commends the decision to public confidence. But unanimity, which is merely formal, which is recorded at the expense of strong, conflicting views, is not desirable in a court of last resort, whatever may be the effect upon public opinion at the time. That is so because what must ultimately sustain the court in public confidence is the character and independence of the judges. They are not there simply to decide cases, but to decide them as they think they should be decided, and while it may be regrettable that they cannot always agree, it is better that their independence should be maintained and recognized than that unanimity should be secured through its sacrifice.70

As an exercise of independence, dissents also serve to highlight the limits of judicial wisdom. By definition, an opinion, even if unanimous, merely represents a perception of legal truth. Some judges see dissenting as an obligation because Congress makes the laws and judges interpret them.71 Since majority opinions may be wrong, dissents inject accountability and thus integrity into the judicial process.72 Justice Scalia observed that such dissents “augment rather than diminish the prestige of the Court,”73 since “[w]hen history demonstrates that one of the Court’s decisions has been a truly horrendous mistake, it is comforting . . . to look back and realize that at least some of the [J]ustices saw the danger clearly and gave voice, often eloquent voice, to their concern.”74 In theory, the same might be said for the Federal Circuit. However, the propositional challenge is the same whether the dissent occurs at the Federal Circuit or at the Supreme Court. Until the last page of history is written, all that might be said is that at a given point in time, the dissent seemed to have found itself on the right side of the course of events, and that may be sufficient reward.

71. Brennan, Jr., supra note 44, at 435 (“I elevate this responsibility to an obligation because in our legal system judges have no power to declare law.”).
72. Id. (“It restrains judges and keeps them accountable to the law and to the principles that are the source of judicial authority. The integrity of the process through which a rule is forged and fashioned is as important as the result itself; if it were not, the legitimacy of the rule would be doubtful.”).
74. Id.
2. To Influence the Outcome

Judicial dialogue is often more nuanced than a note saying “I am going to dissent.” Once the panel of deciding judges has voted, the judge writing for the majority strains under multiple burdens. For example, the author cannot stray too far from the tentative majority view and yet must take into account the dissent in order to prevent the other judges from changing their minds. Since this may lead to the strategic assignment of a case to a judge whose views are closest to the dissent, the majority opinion ends up taking a middle approach.

The debate between judges deciding the case improves the final product by forcing the majority to deal with the hardest questions urged by the dissent. In compelling the majority to react to these judicial speed bumps and warning signs, dissents sharpen the final majority opinion. As a result of that conversation, the opposing judge may not agree with the final holding but may successfully restrict the jurisprudential rationale.

In order for the majority to take their threat to dissent seriously, dissenting judges must be prepared to publish their dissent even if they fail. Justice Holmes was known to prepare his dissents ahead of time so that he could send a draft to his colleagues as soon as

75. UROFSKY, supra note 40, at 14 (“Nearly all justices have at one time or another said that when writing a majority opinion, they have little leeway, because they have to present an argument that will hold the other justices in the majority.”).

76. Id. at 17; see also POSNER, supra note 2, at 235 (“The judge who banishes all doubt from his opinions—who writes with an assurance that borders on cocksureness—not only gives a misleading impression of the law’s certainty and the cogency of legal reasoning but also irritates the judges who disagree with him.”).

77. UROFSKY, supra note 40, at 18.

I write an opinion and you write a dissent. I read what you say and I think, ‘Did I really say that? Oh dear. He has a good point. I better rewrite what I did. I better be certain that my argument is as good as I thought it was the first time.’ The impact of your dissent will be, at the least, to make me write a better opinion.

Id. (quoting Justice Stephen Breyer).

78. See id. (“Nearly all judicial opinions will undergo at least minor revision as a result of comments upon the initial draft.”).

79. Vanessa Baird & Tonja Jacobi, How the Dissent Becomes the Majority: Using Federalism to Transform Coalitions in the U.S. Supreme Court, 59 DUKE L.J. 183, 185–86 (2009) (“A game theoretic twist on this view is that publication is necessary to make those drafts credible threats.”). But see id.

But that argument necessarily assumes that dissenting is costly to the court, presumably by harming judicial legitimacy and challenging the fiction of judges as apolitical discoverers of law. Presumably, this harm applies as much to the dissenting judge as to the majority judge, and so the theory cannot really explain why two-thirds of all cases involve published dissents.

Id.
the majority arrived. Occasionally, the dissent succeeds in turning
the tide and changing the majority vote. Justice Brennan said that
"it is a common experience that dissents change votes, even enough
votes to become the majority." At the Federal Circuit, however, this rarely happens, according
to Judge Newman. The panel debates the various views and
concludes the majority position before any opinions are circulated.
"By that time, there isn't much room for swinging the majority via a
dissenting opinion. It's very rare to see a switch in the decision." Unlike Justice Holmes, Judge Newman does not prepare her dissents
ahead of time. "Until a case has been decided, whether unanimously
or by majority, I won't know whether I will be a minority view, or the
grounds with which I don't agree."

3. To Send a Signal

Dissents communicate to the losing party that its arguments
have been heard. It also promotes clarity in the law since readers
know what the judges actually decided. This "safeguards the integrity
of [the] judicial decision making process by keeping the majority
accountable for both the rationale and consequences of its decision."

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80. See Healy, supra note 4, at 198.
81. Urofsky, supra note 40, at 14 ("Clearly, from the dissenter's point of view, the best
result is that members of the majority will change their minds before the decision is handed
down, even if there is no written dissent. It is not a common occurrence, but it does happen."); see also Healy, supra note 4, at 72 ("Someone who knew that Holmes had written a dissent, joined
by Brandeis and the chief justice, and who suggested, improbably, that enough justices might
change their votes before the decision was announced to turn the dissent into a majority
opinion.").
82. Forrest Maltzman, James F. Spriggs & Paul J. Wahlbeck, Crafting Law on the
Supreme Court: The Collegial Game 69 (2000); see, e.g., Martin v. City of Struthers, Ohio, 319
U.S. 141 (1943) (Justice Stone's draft dissent persuaded Justice Black, who had been assigned
the opinion, thus turning the dissent into the majority opinion); Ginsburg, supra note 73, at 4.
83. Interview with Judge Pauline Newman, Circuit Judge, United States Court of
84. Id.
85. Id.
86. Id.
87. Id.
89. Brennan, Jr., supra note 44, at 430.
Dissents are also written with one eye on the present and the other on the future. Chief Justice Hughes noted that:

A dissent in a court of last resort is an appeal to the brooding spirit of the law, to the intelligence of a future day, when a later decision may possibly correct the error into which the dissenting judge believes the court to have betrayed. Nor is this appeal always in vain.90

Thus the dissent furnishes future litigants and courts with practical guidance on distinguishing subsequent cases and seeking relief in a more amenable forum.91

Chief Justice Hughes’s intuition has recently been validated by contemporary empirical scholarship. Reflecting on their study on judicial dissents, Professors Vanessa Baird and Tonja Jacobi suggest that “at least some dissents may be explained as signals from judges to litigants about how to frame future similar cases to increase the chance of success for the argument the dissenting judge supports.”92 They point out that in some cases, the dissent’s view may gain traction with the appointment of new judges.93

This is particularly true for the Federal Circuit. There has been a significant turnover in recent years: seven in twelve judges have six years of experience or less.94 Data suggests that these judges are less stubborn and may be more open to reconsidering the dissent.95

As a result, the dissent can also identify “a potential fissure in the majority coalition that can be exploited by future litigants.”96 The dissent thus has the ability to “summon litigation with new case facts amenable to an alternative legal argument, enabling the court to reach an alternative conclusion.”97 In an appellate court like the Federal Circuit, the dissent can tell the Supreme Court or future panels that the majority’s rule needs to be examined carefully and should be revised or overturned.

90. HUGHES, supra note 70, at 68.
91. Brennan, Jr., supra note 44, at 430 (“[T]he dissent . . . is offered as a corrective—in the hope that the Court will mend the error of its ways in a later case.”).
92. Baird & Jacobi, supra note 79, at 185–86; see also David Fontana, The People’s Justice?, 123 YALE L.J.F. 447, 454 (2014) (“If Justices persuade these lawyers, they might present in their brief or oral argument the precise arguments that the Justices themselves articulated in their extrajudicial communications.”).
94. Hartz, supra note 19, at 57.
95. See Hartz, supra note 19, at 57 (“If the statistics for Judges O’Malley and Reyna indicate that these judges are willing to depart from their current colleagues, they may be more willing to depart from precedent and consider dissents of the past.”). See infra Section III.D.
96. Baird & Jacobi, supra note 79, at 186.
97. Id.
B. Why Study Dissent at the Federal Circuit?

But more than influencing new judges or even the Supreme Court, the voice of dissent has a unique role in the Federal Circuit found there and nowhere else. The Federal Circuit is unique among the circuit courts. It is the only one whose jurisdiction is defined by subject matter rather than geography.98 Prior to the Federal Circuit, the regional federal appellate courts handled patent appeals except those from the USPTO, which were reserved for the Court of Customs and Patent Appeals.99 Patent cases were inconsistently adjudicated by the regional circuit courts of appeals based on whether they were “pro-” or “anti-patent”100 leading to a “mad and undignified race” to choose the forum in patent cases.101

This forum shopping meant that “the fate of duly examined and issued patents had become so uncertain in the courts as to place a cloud on patent-based investment.”102 Further, “patent validity could be attacked in court after court, even after having been litigated and upheld. Patent property had lost the reliable protection of a stable law, and was cynically described as no more than a license to sue.”103 The costs of such a system were enormous, as Judge Newman


101. Federal Courts Improvement Act of 1979: Hearings on S.677 and S.678 Before the Subcomm. on Improvements in Judicial Machinery of the Senate Comm. on the Judiciary, 96th Cong. 194 (1979). Patents and the laws that govern them are often described as complex. Indeed, one of the reasons cited for why Congress established the Federal Circuit was because it “felt that most judges didn't understand the patent system and how it worked.” Pauline Newman, Origins of the Federal Circuit: The Role of Industry, 11 FED. CIR. B.J 541, 542 (2002).


103. Id.
explained: "the cost of guessing wrong about the law and its application is rarely recoverable."\textsuperscript{104}

This commercial uncertainty rattled business leaders, who lobbied Congress to address the issue.\textsuperscript{105} President Jimmy Carter referred the matter to a new committee, the Domestic Policy Review, which found that "patents had lost significant value as support for the creation and commercialization of new technologies, that no reasonable alternative existed or could be readily implemented, and that some form of economic incentive was needed in order to support investment in new technologies and improved productivity."\textsuperscript{106} The Domestic Policy Review thus proposed to increase USPTO funding through maintenance fees, to institute a system of reexamination of issued patents, and for a national court for patent appeals.\textsuperscript{107} The committee hoped that a court experienced in technology "would understand the policies underlying the patent law, eliminate forum differences, and contribute stability and thus provide incentive to patent-based commerce."\textsuperscript{108} As a result, the Court of Claims and the Court of Customs and Patent Appeals were combined to create the Federal Circuit.\textsuperscript{109} Since then, the Federal Circuit has been regarded as the de facto final adjudicative body in patent law.\textsuperscript{110} It has exclusive jurisdiction over appeals of all cases in the district courts that "arise under" the patent law, in whole or in part.\textsuperscript{111}

The establishment of a single appellate court for patent law allowed the same law to be "routinely applied in review of

\begin{thebibliography}{99}
\bibitem{105} \textit{THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, A HISTORY: 1982-1990}, at 11 (Marion T. Bennett ed., 1991) (Judge Marion Bennett, writing the court's official history, noted that the court was "pressed by patent-dependent industry and much of the patent bar"). At that same event, Senator Bob Dole recognized the "strong interest of business representatives in this legislation" in passing the FCIA. \textit{The Ninth Annual Judicial Conference of the United States Court of Customs and Patent Appeals}, 94 F.R.D. 347, 355 (May 25, 1982).
\bibitem{106} Newman, \textit{supra} note 68, at 822–23; see also Newman, \textit{supra} note 102, at 516.
\bibitem{107} \textit{See U.S. DEPT OF COMMERCE, ADVISORY COMMITTEE ON INDUSTRIAL INNOVATION: FINAL REPORT} 155 (1979).
\bibitem{108} Newman, \textit{supra} note 68, at 822–23; see also \textit{S. REP. NO. 97-275}, at 2–6 (1981) (stating that the purpose of the Federal Courts Improvement Act of 1982 was to create administrative efficiency through uniformity).
\bibitem{109} Beighley, Jr., \textit{supra} note 99, at 673; see also Newman, \textit{supra} note 102, at 516 (noting that the court would be "founded on its patent jurisdiction, built on the framework of the combination of the Court of Claims and the Court of Customs and Patent Appeals, both already national courts of specified jurisdictions").
\bibitem{110} J. WOODFORD HOWARD, JR., \textit{COURTS OF APPEALS IN THE FEDERAL JUDICIAL SYSTEM} 58 (1981). The Supreme Court decides only a small number of appeals, which leaves the courts of appeals as "mini-Supreme Courts in the vast majority of their cases." \textit{Id}.
\bibitem{111} Newman, \textit{supra} note 102, at 522.
\end{thebibliography}
patentability in the Patent and Trademark Office and review of patent validity in litigation.”

Judge Newman noted that “[t]he practical importance of this step is manifest when one considers that over 150,000 patent applications are processed annually by the patent examining system, yet each patented invention that is successful in the marketplace is subject to second-guessing in the courts.”

The Federal Circuit also “advanced the jurisprudence at a rate that would have been impossible were not all appeals concentrated in one court.”

The early years were spent returning patent law “to its jurisprudential roots.” Crucially, “[p]atent law was placed in the perspective of the marketplace: the destination contemplated in the Constitution.”

However, there were dangers to this monolithic structure. First, it prevented the creation of “circuit splits” that form the basis of many petitions for certiorari and trigger the involvement of the Supreme Court. This lack of a jurisprudential “conversation” between the Federal Circuit and both the Courts of Appeals and the Supreme Court has been noted throughout the Federal Circuit’s history. Second, “stare decisis [has] occasionally been overtaken. This counsels caution, for the value of the court depends on the success with which it provides a stable and consistent law on which the technology community can rely.”

However, despite the call for commentators challenging the exclusive channeling of patent appeals to the Federal Circuit, the status quo shows no sign of change, imbuing dissenting opinions with special importance.

Since the Federal Circuit has the last word, its views must be subject to revision over time, or else patent law risks slowly ossifying into anachronism. When a Federal Circuit judge perceives that an


113. Id.

114. Id.

115. Id. The court eliminated special rules such as synergism, and clarified many of the rules of patentability. Id. The court removed many of the artifices and doctrines that had puzzled inventors and confounded jurists. Id.

116. Id.


118. Janis, supra note 8, at 389. The American Bar association’s opposition to the creation of the Federal Circuit originally was due, in part, to the lack or ‘percolation’ of issues with the other circuits. Newman, supra note 102, at 516–17.


interpretation of the Patent Act or the Supreme Court’s opinion on an equitable doctrine has departed from its essential scope, the dissent acts as the first line of defense, sounding the alarm to the rest of the court. Judge Newman maintains that “the Federal Circuit itself airs divergent viewpoints in important cases,” so issues “that may warrant further judicial or legislative consideration” receive sufficient attention.121 Professor Paul R. Gugliuzza agrees, writing that “percolating forces do exist in the patent system. For example, in the Federal Circuit, dissents critiquing existing doctrine are frequent and often lead to en banc proceedings reexamining and sometimes correcting the doctrine at issue.”122

Judge Newman is ever mindful of the Federal Circuit’s “special obligation to provide predictability and consistency in patent adjudication” based on the “nationwide effect” of its decisions.123 For example, she once exhorted the court to “rethink, en banc, the optimum approach to accuracy, consistency, and predictability in the resolution of patent disputes, with due attention to judicial structure, litigants’ needs, and the national interest in invention and innovation.”124 Nationwide jurisdiction, she argued, also warrants an “obligation” to undertake en banc reviews to maintain that stability.125 They serve both to “eliminate intra-circuit conflicts” as well as to

121. Newman, supra note 68, at 823, 826 (“With close questions, diversity of judicial viewpoint is more frequent. Such diversity produces the 'percolation' that scholars feared would be lost to the Federal Circuit, and indeed can lead to consensus strengthened by the deliberations in reaching it.”).


124. Id. (“I do not share the view, expressed here by some colleagues, that this court should not intrude upon panel decisions when major errors of claim construction are pointed out on petition for rehearing en banc.”).

125. Pfizer, Inc. v. Apotex, Inc., 488 F.3d 1377, 1379–81 (Fed. Cir. 2007) (Newman, J., dissenting from the denial of rehearing en banc) (“This adds weight to our obligation to undertake en banc review, both to reestablish consistency in the law and to correct errors in panel decisions.”); Eli Lilly & Co. v. Medtronic, Inc., 879 F.2d 849, 851 (Fed. Cir. 1989) (Newman, J., dissenting from the denial of rehearing en banc).

The Federal Circuit has a role in our judicial system that is unique among the circuits, in that our decisions are of national effect. There rests upon us a special responsibility, for there is no other forum in which litigants may seek a different result. We must be vigilant to our own errors, and receptive to self-correction. Both the principle, and the specific question here raised, are of exceptional importance, and require rehearing by the full court.

Id.
“correct and deter panel opinions that are pretty clearly wrong.”

According to Judge Newman, en banc cases should be heard when the issue “has percolated through various panels of this court, on a variety of facts.” This is because “[t]he differences of opinion among the judges of the Federal Circuit, are, in microcosm, the ‘percolation’ that scholars feared would be lost by a national court at the circuit level. Percolation is the great justifier of conflict among the regional circuits.” Yet even when the court sits en banc, its decisions can still go wrong.

The data collected for this study reveals that Judge Newman argued that the en banc court should hear the issue in thirty-four out of her 210 dissents (16.19 percent). Despite her exhortations about the importance of using en banc rehearings to resolve conflicting case law, however, the data shows that the court has generally been unresponsive, granting en banc hearings only once.

This unresponsiveness may also have contributed to the Supreme Court being more active in accepting cert petitions from losing parties at the Federal Circuit. However, dissents like those written by Judge Newman may also play a role in the increased Supreme Court scrutiny. Professor Rochelle Dreyfuss wrote that
"[o]ne thing the Federal Circuit has learned to do is to write dissents that attract Supreme Court review."\textsuperscript{132}

In the first twenty years since its establishment, the Supreme Court allowed the Federal Circuit a fair amount of latitude in establishing its corpus of jurisprudence. In the last decade, however, the Court has "repeatedly rebuked the Federal Circuit on issues of patent law."\textsuperscript{133} The Supreme Court's constant refrain is one against the Federal Circuit penchant for applying rigid rules\textsuperscript{134} and for expanding its jurisdiction.\textsuperscript{135} Judge Frank M. Coffin, who served for forty years on the US Court of Appeals for the First Circuit, noted that, when there are good arguments on both sides and the court is divided, "all the judges will welcome dissent."\textsuperscript{136} The dissent may "stimulate the Supreme Court to accept the case for review. On such occasions, it happens that even judges on the majority side do not hesitate to make suggestions that help strengthen the dissent."\textsuperscript{137} Like genetic studies, the insulated nature of the Federal Circuit provides a useful laboratory-like setting with which to study the patent dialogue between the majority and the dissent. However, within the ranks of the Federal Circuit judges, one judge's dissents stand out more than any other.

\textsuperscript{132.} Rochelle Cooper Dreyfuss, \textit{The Federal Circuit as an Institution: What Ought We to Expect?}, 43 \textit{LOY. L.A. L. REV.} 827, 840 (2010) (collecting cases); Hartz, \textit{supra} note 19, at 57 ("The importance of dissents in changing the law at the Federal Circuit may be even greater than in other circuits given the Federal Circuit's tendency to rely on its own cases and develop a specialized law that is 'substantially out of the mainstream.'").

\textsuperscript{133.} Paul R. Gugliuzza, \textit{Rethinking Federal Circuit Jurisdiction}, 100 \textit{GEO. L.J.} 1437, 1441 (2012); see also Rochelle Cooper Dreyfuss, \textit{What the Federal Circuit Can Learn from the Supreme Court—and Vice Versa}, 59 \textit{AM. U. L. REV.} 787, 792 (2010) (noting that the Supreme Court "has recently begun to intervene regularly" in matters of patent law and that "it has reversed, vacated, or questioned nearly every" Federal Circuit decision reviewed).


\textsuperscript{136.} UROFSKY, \textit{supra} note 40, at 18.

\textsuperscript{137.} \textit{Id.}
Patent law's "Great Dissenter," Judge Pauline Newman, sits at the Federal Circuit. Born in New York to Maxwell and Rosella Newman, she enrolled in Vassar College and remembers that "I was in college in World War II and women moved into every traditional male job . . . . It made clear to everyone, particularly to other women as well, that there were no obstacles to doing the kind of work that had been viewed as men's work . . . . I was a child of that era . . . [and] . . . I think it had a profound impact on the sort of person that I was."  

Graduating in 1947 as a double major in chemistry and philosophy, she went on to obtain an M.A. in pure science from Columbia University in 1948. Initially, she sought to be a physician, but changed her mind and enrolled at Yale where she obtained a Ph.D. in physical organic chemistry in 1952. Thereafter, Newman landed a job at American Cyanamid in 1951. She was the only female Ph.D. in "that very large chemical research operation." She worked there from 1951 to 1954, before moving to FMC Corp., where, after finishing law school at New York
University, she spent fifteen years as a patent attorney and in-house counsel, and another fifteen years as director of its Patent, Trademark and Licensing Department.¹⁴⁴

While at FMC, she joined the patent committee of the Domestic Policy Review.¹⁴⁵ As a member of the committee President Carter put to address the task of reviewing the issue of patent adjudication, she said, “We decided that the problem wasn’t with the patent system. The problem was with the judges. So the easy solution was that we would get rid of all those judges. So they took patent appeals from the regional circuit courts and gave it to the Court of Appeals for the Federal Circuit. And that the was impetus for the formation of that court.”¹⁴⁶

Judge Newman represented “102 companies and institutions” at FMC, which together “represent a large—a very large—segment of US technology-based industry” and “two of the major academic research institutions of the country” before the Senate Subcommittee on Courts.¹⁴⁷ She spoke in support of a centralized court for appeals in patent cases.¹⁴⁸ She explained that patent law affects day-to-day operations: “before the research is started, and during the steps of creative development, as the technology evolves, as the millions of R & D dollars are committed; and finally when the capital needs and payout time and return on investment are calculated.”¹⁴⁹

¹⁴⁴. Pauline Newman, supra note 139; Pauline Newman, Circuit Judge, supra note 19.
¹⁴⁵. Newman, supra note 102, at 514.
¹⁴⁶. NYU Sch. of Law, supra note 139.
¹⁴⁹. Id.; Newman, supra note 102, at 517–18.
A patent "particularly aids new businesses, for it supports entry of new products against established competitors, and facilitates entrepreneurial investment—but only to the extent that the patent grant is legally reliable."\(^{150}\) Unreliability prior to the Federal Circuit was driving inventors to choose trade secret protection, which was problematic because "secrecy negates the public disclosure that accompanies patent issuance, and does not enlarge the nation's technological base."\(^{151}\) Patents are preferable because "any enhanced economic prospect that is available from a patent will favorably affect the risk/return calculation, and thus will weigh on the side of allocating resources toward innovation."\(^{152}\)

While in practice, Newman was asked to appear before the Senate Committee on the Judiciary. She remembered that "out marched the corporate patent counsel... We brought the industrial might of the nation. We brought our chief executives and our research directors and our union leaders. The industries that were now working to create this court represented three-quarters of the nation's industrial product."\(^{153}\) She noted that "[t]echnology was grown from 17 percent of the Gross Domestic Product to somewhere between 60 and 78 percent depending on how much weight you put on the intellectual property component of technology based industry... the source of our great domestic strength has changed the nation."\(^{154}\)

Howard Markey, the Federal Circuit's inaugural Chief Judge, alluded to her contribution. In a speech, he recognized those who had "contributed so much to what will be the Court of Appeals for the Federal Circuit on October 1, 1982," a group that included representatives from Monsanto, DuPont, FMC Corporation, and Combustion Engineering Corporation.\(^{155}\) She would soon join him on its bench.

In 1984, Judge Newman was appointed to the first vacancy on the Federal Circuit after it replaced and subsumed the United States Court of Claims and the United States Court of Customs and Patent Appeals.\(^{156}\) She was nominated by President Reagan, the first judge to be appointed directly to the Federal Circuit.\(^{157}\) Yet, the resistance she faced as a woman continued. She said, "When I was nominated to

\(^{150}\) Id. at 515.
\(^{151}\) Id.
\(^{152}\) Id.
\(^{153}\) Gugliuzza, supra note 133, at 1458.
\(^{154}\) NYU Sch. of Law, supra note 139.
\(^{156}\) Pauline Newman, Circuit Judge, supra note 19.
\(^{157}\) Hartz, supra note 19, at 48.
be a judge, a number of people spoke out, including some who I thought were my friends, saying that they didn’t think that I could handle the job.” 158 Yet, when she was appointed, there was another female judge on the court. “I wasn’t the first woman on the court. There was a trademark lawyer, Helen Nies, who had been on the court... so I was the second woman on that court. I think we showed... that we could handle whatever job was thrown at us.” 159

Judge Newman’s early experiences would come to shape her judicial outlook in at least three important ways. First, her experience as a trailblazer, obtaining professional employment in a predominantly male environment, demonstrated that she would not shrink from taking a contrarian viewpoint. That experience, however, had no apparent effect on the substance of her opinions. Second, her experience as a research scientist convinced her that the law must foster an environment that facilitates innovation. 160 Third, her experience in creating the Federal Circuit made its mission central to her decisions. She declared that “the [Federal Circuit] was formed for one need, to recover the value of the patent system as an incentive to industry... This was our mission—our only mission.” 161 Her reverence for the mission of the Federal Circuit was made clear where, in one of her dissents, she acknowledged that “[a]lthough I’ve occasionally criticized our treatment of the law, I never forget why we were formed, or the state of the patent law before we arrived.” 162

In order to properly assess the influence of a dissenting judge, one must consider not only a sizable number of dissents but also the length of his or her term on the court. While in theory an earth-shattering dissent by a judge who has warmed his seat for a day may be possible, even brilliant judges need time to settle in and ideas need time to percolate and gain traction. As Professor Mark Tushnet noted, “[t]he more recent the dissent, the harder it is to know what social, economic, and political developments will occur that will lead to the dissent to fall to the wayside or become important.” 163 Judge Newman meets both criteria in spades with more than thirty years on the bench and more dissents than any Federal Circuit judge, past or present.
1. The Federal Circuit’s “Most Prolific Contrarian”

Law360 published an article in 2016 reporting that Judge Newman “built her reputation as the appellate court’s most prolific contrarian.” It observed that Judge Newman had filed more dissents in the preceding year than any of her colleagues—even trebling the amount written by Judge Timothy Dyk, who ranked second for number of dissents that same year (see Figure 1 below).

In the same article, Professor Arti Rai noted that Judge Newman traditionally had a rate of dissent higher than those of her colleagues. A decade before, Jones Day patent litigator Gregory Castanias reported that Judge Newman wrote half of all the dissents in patent cases that year.

According to Judge Newman, “the formalized expression of contrary views is part of jurisprudential culture, and may advance and clarify the law.” She explained that she dissents when she thinks the majority is wrong without regard to the composition of the panel. She sees her job as a judge as an obligation to reach the right decision, and to speak out if that has not been achieved. She does not distinguish between a case where “the impact is billions of dollars, or a single vaccine-injured child.” She is uninterested in leaving a legacy: “My concern is to get things right in the present.”

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164. Gurrieri, supra note 18.
165. Id.
Over the past year, Judge Newman, known as the “great dissenter,” sat on the panel that issued opinions for 73 patent cases and she dissented at least in part to the majority’s decisions in 13 of those cases. Her rate of filing dissents—17.8 percent—for eclipsed that of any other Federal Circuit judge, with Judge Timothy B. Dyk coming in second with four dissents in 76 patent cases he heard in which opinions were issued, or about 5 percent.

166. Id.
168. Interview with Judge Pauline Newman, supra note 83.
169. Id.
170. Id.
171. Id.
172. Id.
Federal Circuit's Great Dissenter Focuses on PTAB

Judge Pauline Newman proved to be a particularly fierce jurist in 2015, writing more dissents than any other judge in patent cases. Many of the dissents penned by Judge Newman in 2015 spotlighted issues raised by PTAB proceedings.

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<th>Judge</th>
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FIGURE 1: JUDGE NEWMAN’S DISSENTS IN 2015

SOURCE: VIN GURRIERI, NEWMAN CEMENTS STATUS AS FED. CIRC.’S GREAT DISSENTER, LAW360 (MARCH 8, 2016)

Judge Newman’s great number of dissents are not confined to the court’s patent docket. In an article titled “The Federal Circuit’s Great Dissenter and Her ‘National Policy of Fairness to Contractors,’” Crowell & Morning Senior Counsel Stanfield Johnson observed that “Judge Pauline Newman has dissented in a remarkable series of appeals implicating important rights of government contractors. Her dissents represent such a significant percentage of contract-related appeals in which she participated that the government contracting legal community may appropriately view her as the Federal Circuit’s ‘great dissenter.’”

2. Of Suppressed Dissents

The study of dissents can be problematic because they may be

written but buried by their authors. Some judges may prefer to avoid dissents except in cases of strong disagreement. A two-judge majority on an appellate panel may compromise with a third judge to avoid a dissent.\textsuperscript{174} Justice Ginsburg pointed to "[a]n entire volume" that had been devoted to the unpublished separate opinions of Justice Brandeis.\textsuperscript{175} She noted that "[h]e would suppress his dissent if the majority made ameliorating alterations or, even when he gained no accommodations, if he thought the Court's opinion was of limited application and unlikely to cause real harm in future cases."\textsuperscript{176}

Judge Posner observed that "[m]ost judges do not like to dissent" for a variety of reasons, including the perception that it amplifies the majority opinion.\textsuperscript{177} Perhaps it was this aversion to dissent openly that led him to observe that there is "[a] certain staleness in the current judicial culture—a tendency of judges to recite propositions of doubtful veracity just because they had been repeated before; a lack of curiosity and imagination; a lack of clarity and candor; and a weak sense of fact."\textsuperscript{178}

Judge Newman, however, does not duck a fight. Fish & Richardson Principal John Dragseth noted that judges "sometimes sit on certain disagreements they may have with colleagues on particular cases, but Judge Newman is one who 'wants to make sure she explains herself.'"\textsuperscript{179} Dragseth explained that "[s]he's been a patent lawyer forever—since the 1970s . . . . She really understands the patent system and feels it in her bones. She has strong views and will say if she feels something isn't quite right."\textsuperscript{180}


\textsuperscript{175} \textit{See, e.g.,} ALEXANDER BICKEL, \textit{THE UNPUBLISHED OPINIONS OF MR. JUSTICE BRANDEIS} (1957); \textit{see also} UROFSKY, \textit{supra} note 40, at 18.

In some instances, he decided to quash his opinion for strategic purposes, in that the issue did not rank as high in his priorities as did other matters. But in some, the draft dissent led the Court to change its mind, not necessarily coming over fully to Brandeis's position, but modifying its ruling to meet some of his objections.

\textit{Id.}

\textsuperscript{176} Ginsburg, \textit{supra} note 73, at 3–4; \textit{see also} CLARE CUSHMAN, \textit{COURTWATCHERS: EYEWITNESS ACCOUNTS IN SUPREME COURT HISTORY} 161 (2011) (Louis Brandeis told Holmes, "'I think this case is wrongly decided . . . . But you have restricted the opinion so closely to the facts of the case, that I am inclined to think it will do less harm to let it pass unnoticed by dissent.'").

\textsuperscript{177} \textit{POSNER, supra} note 64, at 32.

\textsuperscript{178} \textit{POSNER, supra} note 2, at ix–x.

\textsuperscript{179} Gurrieri, \textit{supra} note 18.

\textsuperscript{180} \textit{Id.}
In an interview, she said, "I have not hesitated to comment when I think that a panel isn't going in quite [the] appropriate direction. Others have felt that perhaps I haven't gone in quite the appropriate direction . . . . [A]ll in all it seems to me that it's quite healthy to present a certain amount of turmoil to practitioners in the short run. But in the long-run I think the law is better for it."181 Elsewhere, she emphasized the importance of this patent dialogue:

In all areas of patent law, new challenges will arise as new facts take litigated cases to the boundaries of precedent. It is these cases that generate differences of judicial opinion, for they reside at the abutment of conflicting legal theories and policies. As the court reaches decisions that will narrow the grey areas and tighten the boundaries, added predictability will be achieved; but with added struggle. This struggle is usually expressed in dissenting opinions, whereby judges publish the differences that they have been unable to reconcile.

The differences of opinion among the judges of the Federal Circuit, are, in microcosm, the "percolation" that scholars feared would be lost by a national court at the circuit level. Percolation is the great justifier of conflict among the regional circuits. An issue will move up and down the various circuit courts, refining the arguments and the policies and the nuances, testing variations of law in diverse factual situations, until ripe for the Supreme Court. An excellent idea—but slow and highly selective. There's been a good deal of percolation in the Federal Circuit, and there has been relatively little Supreme Court review. Our differences of opinion are, I believe, healthy, and necessary. They weigh against the risks of complacency and disaffection envisioned by opponents of the formation of the Federal Circuit.182

The Federal Circuit's precedent maintains a balance between access and incentives,183 and her dissents serve as a yardstick of the Federal Circuit's history and purpose.184 In one, she wrote:

183. Pfizer, Inc. v. Apotex, Inc., 488 F.3d 1377, 1379–81 (Fed. Cir. 2007) (influencing "the conduct of R & D, the costs of drug development, and the balance between generic access to established products and the incentive to development of new products"); see also id.
The reasons for the judicial restructuring that established this court... illuminate the court's role in the judicial system, and indeed allow me to presume to the personal role of critic, drawing on my participation during the creation of the court, my knowledge of the problems that this new judicial structure was intended to solve, and my active support for its purposes.\textsuperscript{185}

It is with this mantle of guardianship that Judge Newman holds the Federal Circuit to its founding purpose. She wrote that "[a] centralized court that understands the processes of invention and innovation, and the economic and scientific purposes of a patent system, would be expected to apply a more consistent interpretation of the standards of patentability and the other complex provisions of the patent statute."\textsuperscript{186}

She also corrects the majority on the science, because "I believed, as a lawyer in the private sector observing decisions in patent cases, that not all judges understood the ways of technologists, or investors, or the workings of the patent system."\textsuperscript{187} She noted that "there appears to have been a failure of the 'two cultures' of law and science to understand each other." She stated that "[t]oday we cannot afford this gap, for scientific and technologic issues underlie large segments of modern jurisprudence, as well as of our economy."\textsuperscript{188} In one instance, the majority based its holding on the premise that neutralization of an acid produced only a salt. She wrote that "the panel majority has misunderstood the chemistry, in holding that neutralization of 14.5% of the maleic acid groups means that the totality is a salt and not an acid. This flawed science led to an incorrect conclusion of law."\textsuperscript{189}

\textsuperscript{185} Newman, supra note 104, at 683–84; see also Pfizer, 488 F.3d at 1380.

\textsuperscript{186} Id.; Perkin-Elmer Corp. v. Westinghouse Elec. Corp., 822 F.2d 1528, 1543 (Fed. Cir. 1987) (Newman, J., dissenting) ("Failure of this court to reach consistent decisions based on a consistent application of precedent will be as destructive of the purposes of a patent system as was the forum-shopping and inconsistent judgments of the past.").

\textsuperscript{187} Newman, supra note 102, at 523–24.

\textsuperscript{188} Id.

\textsuperscript{189} Kao Corp. v. Unilever U.S., Inc., 441 F.3d 963, 976 (Fed. Cir. 2006) (Newman, J., concurring in part, dissenting in part) ("Of course a reaction between an acid and a base produces a salt. But a reaction between 14.5% of the acid and matching amount of base produces 14.5% salt, leaving 85.5% unreacted acid. From my colleagues' inaccurate science, and the conclusion drawn therefrom, I must, respectfully, dissent."); Ecolochem, Inc. v. S. Cal. Edison
Beyond scientific knowledge, Judge Newman seeks to ensure that the commercialization of patented technology is not prejudiced by the court's errors. She noted that "[i]n today's technology-based commerce, rational economics requires that the patent provide a reliable basis for investment. The patentee is in control of the specification that describes the invention." In another dissent, she zeroed in on the costs of adjudication on parties. The majority had held that the fact that there were opposing expert witnesses required trial despite the "depositions, briefs, written opinion, final judgment, and appeal." Judge Newman regarded this as "expensive redundancy," and "not a trivial matter to require the parties, the trial judge, and perhaps ultimately this court, to repeat in the trial context much of what they have already done."

Sometimes, Judge Newman would write a dissent taking the majority to task on the science, law, and practice. In a case involving chemical compositions, the majority held that a claim to a chemical formulation composition could not be infringed "if there is interaction between any of the ingredients after they are added to the composition, such that any ingredient changes in chemical form or ratio from that listed in the claim." She wrote that it was "gravely incorrect as a matter of law, as a matter of chemistry, and as a matter

id.

192. Id. Judge Newman is sensitive to the efficacy of a rule. In Zenon Environmental, Inc. v. U.S. Filter Corp., 506 F.3d 1370, 1386 (Fed. Cir. 2007), the majority required that "all subject matter must be reproduced in all continuing applications." She wrote that "adds nothing to the knowledge disclosed to the public, adds nothing to the information provided to the patent examiner, and adds nothing to compliance with 35 U.S.C. § 120; it simply adds costs and pitfalls to inventors, as they attempt to walk new judicial tightropes." Id. (Newman, J., dissenting)
of patent practice.” She warned that the majority’s “new rule” of “claim construction” will cast a cloud upon many thousands of existing patents, and major classes of chemical invention will confront unclear, unnecessary, confusing, expensive, and perhaps impossible scientific requirements.

While all her dissents are temperate, on one exceptionally rare instance, her disdain seeps through. In *Bard Peripheral Vascular, Inc. v. W.L. Gore & Associates, Inc.*, the majority found against an inventor who invented, developed, and commercialized the product that it was now found to willfully infringe. This, according to Judge Newman, amounted to an “insult to [the] judicial process.” She twice quotes Shakespeare in her dissent, and calls the majority’s opinion “a scarecrow of the law.” On appeal to the en banc court, the majority’s decision was vacated. She expressed satisfaction that “[t]he court now acts to correct its ruling on the subject of willful infringement.

Judge Newman’s large number of dissents and her willingness to dissent openly makes the count of her dissents and the variables they offer more accurate than it may be for many other judges. However, as valuable as both traits are to the scientific inquiry, they would be incomplete without the third feature: her standing as a judge. Just as not all majority opinions are created equal, neither are

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194. *Id.* at 453.

Most or all chemicals interact to some extent in solution, wherein ions and molecules rearrange based on forces of various kinds. Under the court’s new law, table salt dissolved in water will not be an adequate description of the composition for infringement purposes, since the sodium chloride molecule no longer ‘exists’: in dissolution the sodium and chloride ions will have broken their bonds to each other, in interaction with molecules of water... It is without precedent, and it is contrary to the way that chemical formulation composition claims are understood within the chemical and the legal communities.

195. *Id.* at 451.

196. See generally 670 F.3d 1171 (Fed. Cir. 2012), vacated in part, 682 F.3d 1003 (Fed. Cir. 2012).

197. *Id.* at 1199 n.1. (Newman, J., dissenting).

198. *Id.* (“I take note of the panel majority’s observation that this saga has overtones of a Shakespearian tragedy, for these events indeed illustrate that ‘to be honest, as this world goes, is to be one man picked out of ten thousand.’ W. Shakespeare, *Hamlet*, Act II, sc. ii.”); *id.* at 1199 n.2 (“We must not make a scarecrow of the law, / Setting it up to fear the birds of prey, / And let it keep one shape, till custom make it / Their perch and not their terror.’ W. Shakespeare, *Measure for Measure*, Act II, sc. ii.”).

all dissents.200 Who the dissenting judge is has a significant impact on its influence.

3. "Not a Burger"

An account is told of how three Justices of the Supreme Court visited the redbrick townhouse of Justice Holmes on the evening of November 7, 1919, as federal agents launched a nationwide raid on the homes and meeting halls of Russian immigrants.201 With the United States gripped with fear of communism, Justice Holmes circulated a draft dissent proposing a radically expansive interpretation of the First Amendment that would protect all but the most immediately dangerous speech. His colleagues were worried that a dissent "from a figure as venerable as Holmes, might weaken the country's resolve and give comfort to the enemy."202 That dissent subsequently became immortalized in the case of Abrams v. United States.203

Professor Melvin Urofsky noted that "[a] Ginsburg, a Kennedy, or a Scalia presents the possibility of a strong and well-reasoned separate opinion, a possibility that no writer of a majority opinion would take lightly. Warren Burger, on the other hand, has never been considered a jurisprudential heavyweight, and a threat [of dissent] by him, as in this case, could be dismissed with a polite 'Sorry, but no.'"204 Judge Newman is no Burger. She was elected by her peers to the IP Hall of Fame, only one of five Federal Circuit judges accorded that honor, three of whom were Chief Judges and the other was Judge

200. Brennan, Jr., supra note 44, at 429 ("Not only are all dissents not created equal, but they are not intended to be so.").
201. HEALY, supra note 4, at 1–5.
202. Id. at 5; see also id. at 7.

The power of his words and the force of his personality gave his opinion an authority far beyond the normal judicial dissent. Civil libertarians immediately embraced it as an article of faith, and Holmes's tribute to the "free trade in ideas," along with his concept of "clear and present danger," became not only cultural catchphrases but, in time, the law of the land. Indeed, it is no exaggeration to say that Holmes's dissent—the most important minority opinion in American legal history—gave birth to the modern era of the First Amendment, in which the freedom to express oneself is our preeminent constitutional value and a defining national trait. Nor can it be disputed that, nearly a century later, his dissent continues to influence our thinking about free speech more than any other single document.

203. Id. at 7 ("Nor can it be disputed that, nearly a century later, his dissent continues to influence our thinking about free speech more than any other single document.").
204. UROFSKY, supra note 40, at 21.
Giles Rich who co-authored the Patent Act. The Pauline Newman IP American Inn of Court was founded in honor of “one of the most distinguished intellectual property judges in the country.” Her legal accomplishments have been recognized by the Chemistry and the Law Division of the American Chemical Society (ACS), and her alma mater Vassar college recognized that she used her “insights and knowledge she garnered as a scientist to do incisive work” to “encourage[e] the movement of discoveries and innovations into the marketplace.”

Judge Newman also won the respect of her colleagues at the Federal Circuit. Judge Lourie noted that “[s]he has made her mark by articulate exposition of policy.” Former Chief Judge Michel noted that “Judge Newman may hold the record for the most dissents. But her dissents have great force and often persuade other colleagues over time.” Judge Moore concurred, saying, “What people may not realize is that many of her dissents have later gone on to become the law—either the en banc law from our court or spoken on high from the Supremes.” She noted that “Merck v. Integra comes to mind. It’s a case where she wrote a very strong dissent. The Supreme Court took it and not only changed the state of the law to reflect what she had written, but they cited her outright in the opinion.”


Inductees are chosen by members of the IP Hall of Fame Academy, which comprises individuals already inducted into the IP Hall of Fame and other acknowledged IP leaders. The Academy makes its selection based on the nominations it receives from the global IP community and chooses those nominees considered to have made an outstanding contribution to the development of today’s IP system.

206. The Pauline Newman IP Inn of Court, AM. INNS CT., http://info.newmaninn.org/home/about [https://perma.cc/AUD3-XVDY] (last visited Aug. 3, 2016); see also Gurrieri, supra note 18 (“Judge Newman is a treasure for the patent community. She is definitely one of the most principled persons you’ll ever meet.”).


208. NYU Sch. of Law, supra note 139.

209. Id.

210. Id.

211. Id.
Chief Judge Michel and Judge Moore were referring to the patent dialogue that takes place within the court. Their comments indicate that Judge Newman’s dissents carry the weight both within the Federal Circuit and at the Supreme Court. Judge Newman’s dissents have also been recognized by the patent community. In a blog post headlined “Nominating Pauline Newman for PTO Director,” Gene Quinn wrote:

Pauline Newman has continued to dazzle with her understanding of patent law and issues, particularly when she is in dissent and willing to stand up to the rest of her colleagues on the Federal Circuit. She has keenly identified time and again the fact that Federal Circuit panels decide cases in ways that directly contradict both the rules of the Court and established precedent.\(^\text{212}\)

In 2013, NYU School of Law conferred upon Judge Newman the “Law Women Alumna of the Year” Award.\(^\text{213}\) That same year, ChIPs, an organization set up “to recognize the exceptional accomplishments of individuals who have contributed significantly to the field of intellectual property and have shown a demonstrated commitment to the ChIPs mission” gave its inaugural award to Judge Newman.\(^\text{214}\) In 2015, she was invited to introduce Justice Ruth Bader Ginsburg, who—along with her daughter, Columbia Law Professor Jane Ginsburg—won the award that year. Justice Ginsburg said of Judge Newman, “[H]er intelligence, her diligence, her devotion to a very difficult area of the law has really paved the way for the [women] in this room.”\(^\text{215}\)

It would be unfortunate if these honors were simply dismissed as faint praise. They are factual datapoints that individually and collectively point to a judge whose dissents have not diminished her stature in the patent community, contrary to conventional wisdom on judicial dissenters discussed in Section II.A. Blake Hartz summed up that “[i]f there is a ‘dialogue’ about, among, or between the Federal Circuit and anyone else, Judge Newman is one of the discernible voices.”\(^\text{216}\)


\(^{213}\) NYU Sch. of Law, supra note 139.

\(^{214}\) ChIPs, ChIPs 2013 Hall of Fame Inductee—Hon. Pauline Newman, YOUTUBE (Feb. 12, 2014), https://www.youtube.com/watch?v=C0RuqUzi3h8 [https://perma.cc/RZ99-7Y2L].

\(^{215}\) ChIPs, ChIPs Women in IP Global Summit 2015 | Hall of Fame Presentation: Justice Ruth Bader Ginsburg, YOUTUBE (Feb. 12, 2016), https://www.youtube.com/watch?v=dENsAfyJuXg [https://perma.cc/Y96Y-4F8Z].

\(^{216}\) Hartz, supra note 19, at 49.
III. AN EMPIRICAL PORTRAIT OF JUDGE NEWMAN'S DISSENTS: ANALYSIS AND IMPLICATIONS

This empirical study draws on one core dataset and several satellite datasets. The core dataset is comprised of Judge Newman's 210 dissents from 1985, when she issued her first dissent, to the end of 2016, a period of thirty-two years. Only opinions authored by Judge Newman were considered. En banc dissents she signed onto were omitted. The study covered both reported and unreported decisions published by WestlawNext. The opinions were hand-coded for:

1. Case names, citations, and dates;
2. Citations of her dissents in the same case, in a different Federal Circuit case, and at the Supreme Court;
3. Outcomes of the cases in which the majority voted against her before the en banc court and at the Supreme Court;
4. Judges who joined her en banc opinions and those who voted in the majority against her;
5. Legal doctrine: validity, infringement, exceptions and defenses, remedies, evidence and procedure, design patents, and prosecution;
6. The industries the cases concerned; and
7. The lower tribunals from which the appeals originated.

The data was coded on Excel and the graphs generated either on Excel or Statistical Package for the Social Sciences (SPSS). To provide context for some of the categories of data gleaned from Judge Newman's dissents, the study also looked at the dissents by nine other Federal Circuit judges who served comparable tenures. This required compiling a full roster of every judge that served on the Federal Circuit as well as raw data about the number of opinions they authored, their dissents, and tenure on the court (Figure 2, below).

The numbers for the top ten judges including Judge Newman were filtered for dud results, such as cases that did not relate to that particular judge or to a patent law dissent.

217. This is in keeping with other empirical studies. See, e.g., Jason J. Czarnezki & William K. Ford, The Phantom Philosophy? An Empirical Investigation of Legal Interpretation, 65 Md. L. Rev. 841, 865-66 (2006) ("[W]e only code those opinions written by the judges themselves, not all opinions in which they joined.").

218. The following search was used to find the cases in which a judge's patent dissent was mentioned: adv: newman /7 dissent! & patent & DATE(after 12-31-1983 & before 01-01-2016). The following exemplary search was used to find cases in which judges dissented in patent cases: adv: DISSENT(newman) & patent! & DATE (after 12-31-1983 & before 01-01-2017). The name was changed for each judge studied.

219. These ten judges were Judges Newman, Lourie, Friedman, Archer, Plager, Rader, Mayer, Smith, Davis, and Dyk.
### Figure 2: Top 10 Judges: Length of Service & Dissents (Raw Data)\(^{220}\)

#### A. Record of Number of Dissidents

Conventional wisdom points to Judges Newman and Dyk as being known for their dissents.\(^{221}\) However, no Federal Circuit judge, past or present, comes close to filing as many dissents as Judge

\(^{220}\) An "*" and blackened row indicate the judges who were included in this study.

\(^{221}\) Crouch, supra note 47 ("[I]n 2/3 of those cases either Judge Newman or Judge Dyk was involved in the dissent.").
Newman. As Figure 3 shows, a few judges have served terms similar to Judge Newman's. Yet she holds the largest number of patent dissents, more than double that of Judges Dyk and Mayer. Justice Harlan's 316 dissents over thirty-four years seem to eclipse Judge Newman's 210 dissents over thirty years until one considers that these are only her patent law dissents. Since patent cases make up about 30 percent of the Federal Circuit's docket, it is conceivable that the true number of her dissents may be more than three times larger.

The difference in the number of dissents written by Judge Newman and her colleagues becomes even more stark when one looks

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222. Hartz, supra note 19, at 48 (finding more than a third of the dissents between 1998–2009 came from Judge Newman); see also id. ("Judge Newman dissents more than anyone else on the court.").

223. The data was filtered to exclude cases where the judge did not in fact write the opinion. For instance, "Smith" might have been a party in a case, or the judge was mentioned in a case where another judge had dissented.

224. Newman, supra note 68, at 824 (noting that "patent appeals from the district courts are about twenty-five percent of our caseload, with another five percent the patent and trademark appeals from the tribunals of the Patent and Trademark Office, and another one percent from the International Trade Commission.").
at their opinions rendered at five-year intervals (Figure 4 below).

It is possible that judges need time to get their bearings. Justice Brennan did not dissent in any of the sixteen opinions rendered in his first term, but later “dissented forty-two times out of fifty-six cases in a single term.”

The year 1995 marks an important inflection point in the history of Judge Newman’s dissents, as there was a marked increase in the number of her dissents. An examination of data, discussed in more detail in Section III.C, reveals that the spike consisted of dissents concerning patent validity, infringement, and issues concerning evidence and procedure. By the 2011–2016 period, her dissents more than doubled compared to the first runner up, Judge Dyk.

Here, a methodological point may be made. An earlier version of the study covered Judge Newman’s tenure in intervals of five years: 1980–1985, 1986–1990, 1991–1995, 1996–2000, 2001–2005, 2006–2010, and 2011–2015. These five-year intervals were chosen for ease of reference. Judge Newman first dissented in 1985, making the cases in the first interval disproportionality small. Nonetheless, the thirty-year period shows the trend of her dissents. The same may be said for the other nine judges studied, as seen in Figure 4 below. When the dataset was updated to include 2016 data, the 2011–2015 interval was extended to 2011–2016. Judge Newman issued eight dissents in 2016, and 202 dissents before. Compared to her average of 12.4 dissents per year over the 2011–2015 period, her 2016 dissents dipped slightly. Of the active judges in 2016, Judge Dyk had four dissents and Judge Lourie none, putting Judge Newman ahead by a significant margin.

The numbers also reveal another interesting feature: the rate of her dissents increased the longer she remained on the bench. This finding corroborates an earlier article on Judge Newman’s dissents showing that they are both increasing in absolute numbers, as well as increasing as an increasing proportion of her opinions.

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225. The cases were assigned numbers according to their date ranges, coded, and the graph generated using Excel.


227. Hartz, supra note 19, at 51 (“Judge Newman’s rate of dissent, as measured against the number of majority opinions she has authored in a given year... has generally increased with her length of service on the court.”).
At the same time, Judge Newman noted that her seniority on the bench may have contributed to the perception of her being a prolific dissenter and to some of the numerical trends observed. By convention, the most senior judge on the panel assigns the majority or unanimous opinion. She usually assigns these cases to the other judges to give them exposure and so that she can focus on the cases where she dissents, which, by virtue of her seniority, is every judge except the Chief Judge. Saddled with the task, they may have less capacity and inclination to dissent in other cases. Conversely, she would have the capacity to dissent in more cases. She herself notes that "they're hard to write, and take time away from writing opinions of precedential value."

In terms of dissents as proportion of total number of opinions filed (Figure 5), Judge Newman does not rank the highest. Only 31.11 percent of her opinions are dissents. Judge Mayer is the highest at 33.94 percent and Judge Dyk follows at 19.13 percent. The fact that Judge Mayer has not surfaced in conventional wisdom as a "great dissenter" suggests that while numbers are helpful, more is needed to garner that recognition and respect.

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228. Interview with Judge Pauline Newman, supra note 83.
229. Id.
230. WestLaw search results were manually filtered to get the cases in which the judge concerned had written the opinion or the dissent.
The influence of a dissent is difficult to measure. First, as discussed in Part II, it may have been suppressed or transformed into the majority opinion. It can also cause the majority to "refine its opinion, eliminating the more vulnerable assertions and narrowing the announced legal rule."\footnote{Urofsky, supra note 40, at 18.} As Justice Breyer noted, "[y]ou never see the best points the dissents make, because they've been written out of the majority [opinion] so that there is no need to make that dissenting point anymore."\footnote{Robert Barnes, The 'Intensifying' Art of the Dissent, WASH. POST (July 21, 2013), https://www.washingtonpost.com/politics/the-intensifying-art-of-the-dissent/2013/07/21/d7eac2b8-ef16-11e2-9008-61e94a7ea20d_story.html [https://perma.cc/E397-EWRM].} This happens at the appellate level as well. Ninth Circuit Judge Fletcher noted, "Somewhat paradoxically, a judge or justice may write a dissent in order not to have to write one. . . . [A]ll appellate judges have the experience of writing a draft dissent that ends up persuading the majority to his or her point of view."\footnote{Urofsky, supra note 40, at 17.}\footnote{Id. at 32 ("Trying to gauge the impact of Court decisions and of dissenting opinions on the public is difficult to do in any quantitative manner, but as historians we can see that certain cases at particular times in our history have had an impact far beyond the litigants involved.").} Second, a dissent may live long after its author fades.\footnote{Id. at 32} It may be picked up by a social movement drawn to something it already possesses in its vision. That movement might influence a political
party whose elected candidates may fill the legislature or judiciary that eventually decides that the view advanced by the dissent should prevail. For instance, while the dissenting opinion of Justice Curtis in the *Dred Scott* decision did not stop the Civil War, it was reprinted and received wide circulation, and its arguments can be found in the Lincoln-Douglas debates and in the 1860 presidential campaign.

Third, judges may respond to the dissent’s arguments without citing the dissent. This tactical omission is done to avoid drawing attention to the dissent and to avoid interrupting the reading of the majority opinion “to see what the author is responding to . . . , or to suspend belief pending the reading of the dissenting opinion.” Thus, surmised Judge Posner, “[t]he way to deal with arguments in the dissenting opinion that are worth replying to is to state them without attribution and then refute them if you can.”

These dissents are all potent in their own way, but any measure would be highly controversial. As we saw in Section II.C., Judge Newman dissents unreservedly, making it easier to track the influence of her dissents. At the same time, because other dissenting judges have different styles and goals, this Article readily acknowledges the limited ability to accurately gauge the relative influence of dissents among judges.

On the flip side, while judges writing the majority opinion strategically muffle the dissent by paying it no attention, from time to time, these judges may feel compelled by the force of the dissent to respond. Indeed, Judge Newman has on occasion made known that she expects the majority to respond to her dissents. She reasoned

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235. TUSHNET, supra note 55, at 222 (noting that “courts rarely hold out for long against a sustained movement in national politics”).


237. POSNER, supra note 64, at 269.

In a case in which the panel is split, avoid referring in the majority opinion to the dissenting opinion, a practice that has become common in Supreme Court opinions. Such references invite the reader to interrupt his reading of the majority opinion to see what the author is responding to (often heatedly), or to suspend belief pending the reading of the dissenting opinion. The way to deal with arguments in the dissenting opinion that are worth replying to is to state them without attribution and then refute them if you can.

Id.

238. Id.

239. Id.


The majority does not respond. . . . This court’s leading decision on equivalency, factually on all fours with the case at bar, is dismissed as having been written by a judge who suffered from the “everyone-knows-that syndrome,” and as having been
that this patent dialogue was necessary to ensure "coherent guidance in patent law" and condemned the "stonewall of silence."\textsuperscript{241} Still, sometimes they ignore her dissents or refuse to address them.\textsuperscript{242}

There are three methods through which one can measure the influence of Judge Newman's dissents. Citations by her fellow Federal Circuit judges in the same or in other cases provide a useful proxy to measure the traction garnered by her views. Another proxy of Judge Newman's influence comes from citations by law review articles. These references may indicate her views resonated with commentators and with law school instructors and students. Lastly, of course, an obvious indication of Judge Newman's influence would be the traction her dissents garnered at the Supreme Court. For instance, the Court may reverse the majority panel decision, citing her dissent with approval, as it did in \textit{Merck KGaA v. Integra Lifesciences I, Ltd.}, mentioned by Judge Moore in Section II.C.3 of this Article.\textsuperscript{243}

1. Citations in the Same Case

Figure 6 shows the dissents of the ten judges with the longest tenure on the court and the number of times their dissents were cited by the majority in that same case.\textsuperscript{244} The fact that these figures were obtained from the same court over a similar time period helps normalize some of the discrepancies.

At seventy-three cites, Judge Newman has the highest count. At thirty-five cites, Judge Dyk comes in next. Judge Mayer comes next at nineteen cites. They have average cites per dissent of 0.35, 0.47, and 0.25, respectively. Here, one might point out that it should hardly be surprising that Judge Newman has a higher citation rate since she wrote more dissents. However, there are at least three problems with this assumption.

\textit{241. Id. ("The technology-based community cannot be reassured by our avoidance of the responsibility, so recently assigned to this court, for coherent guidance in the patent law. Critical changes should not be made within a stonewall of silence.").}
\textit{242. See, e.g., Fresenius USA, Inc. v. Baxter Int'l, Inc., 721 F.3d 1330, 1346 (Fed. Cir. 2013) ("[I]t is appropriate to say a few words about the dissent, which reiterates a view, expressed by Judge Newman in various other cases, that PTO reexamination cannot affect pending infringement suits. The dissent candidly acknowledges that this position has been consistently rejected.").}
\textit{243. 545 U.S. 193, 201 (2005).}
\textit{244. A text search was used to see if the majority opinion cited the dissent. The search included permutations such as "dissent," "dissenting," the name of the judge, and "colleague."}
First, citation per dissent may exaggerate the influence of a dissent where the number of dissents were very low. For instance, while Judge Mayer dissented seventy-five times, his average was 0.25 cites per dissent. Conversely, Judges Friedman and Smith who have dissented only four and five times, respectively, have a remarkably high average of 0.75 and 0.6 cites per dissent. Consider also Judge Davis who dissented eleven times and had an average of 0.09 cites per dissent or Judge Lourie who dissented thirty-six times but had an average of 0.03 cites per dissent.

Second, frequent dissenters may find themselves marginalized by the other members of the court.\textsuperscript{245} Hence, one might expect a frequent dissenter like Judge Newman to be cited less over time. It is interesting that while Judge Mayer's results seem consistent with this idea, Judges Newman and Dyk appear to buck that trend. Further, as noted in Section II.C.3, Judge Newman's colleagues at the Federal Circuit hold her in esteem.

Finally, it is a fallacy that higher citations per dissent necessarily translates into greater influence without consideration of the absolute number of citations. A hunter may shoot his duck with a sniper rifle or with a shotgun. It matters little to the duck whether it is brought down by a single, clean shot from the rifle, or a volley of shotgun pellets. In other words, the influence of a dissenter is no less potent because she offers a library of wisdom, rather than a single tome from which a citation may be drawn. The dissenter has either earned the attention of the majority or not. All this means that Judge Newman's dissents are the most numerous and enjoy a high number of cites compared to many of her other colleagues with a high number of dissents.

\textsuperscript{245} See supra Section II.A.
Dissent Cited in Majority Opinion (Same Case)

FIGURE 6: DISSENT CITED IN MAJORITY OPINION (SAME CASE)

2. Citations in a Different Case

Dissents cited in other cases are also important because the force of an earlier dissent may not prove decisive until later (Figure 7 below).\footnote{WestLaw was used to search for cases that had cited the dissenting opinion though a search of every case that had cited to that opinion.} Again, Judge Newman holds the count for the most citations at twenty-eight (or 0.13 cites per dissent). Judge Plager has sixteen (or 1.07 cites per dissent) and Judge Rader has ten cites (or 0.23 cites per dissent). As to be expected, the citation count on the whole is significantly lower than for a majority citing the dissent in the same case. This is because, as noted in Section III.A., the majority may deliberately choose not to respond to the dissent explicitly to avoid raising its prominence.
3. Citations by the En Banc Court and Supreme Court

Looking at citations by the en banc Federal Circuit (Figure 8 below), Judge Newman has not been cited. However, that is not unusual. Seven out of the ten judges with the longest tenures on the Federal Circuit have never been cited by the en banc court, and the other three have only been cited once.
Looking at citations at the Supreme Court (Figure 9 below), Judges Newman and Rader lead the pack with three citations each. Judge Mayer has two citations while Judges Plager and Dyk each have one citation. The rest have none.

Legal scholarship informs and points the way for future research. It also signposts the limitations of those endeavors. A case in point is the level of traction Judge Newman’s dissents have in the lower courts. Professor Melvin Urofsky noted that lower courts “may try to distinguish the facts of a case so that they can follow the dissent rather than the majority.”

However, given the number of lower tribunals and the possibility that many may distinguish the facts to achieve the same result as the dissent without expressly attributing the dissent makes the task of drawing any meaningful conclusions an arduous and dicey one.

Sheer numbers are not the only data point that should be considered, however; length of the dissent is also important because one invests more in what one believes. This can be seen at the Supreme Court level. For example, in Parents Involved in Community Schools v. Seattle School District, No. 1, the Supreme Court battled in

247. UROFSKY, supra note 40, at 31 ("For them, the Supreme Court's constitutional rulings are supposed to provide guidance, and in most cases they do. When, however, there is a convincing dissent, these jurists may try to distinguish the facts of a case so that they can follow the dissent rather than the majority.")
a 5-4 opinion over the issue of whether using race as a factor in assigning students to public schools was a denial of equal protection of the laws to Whites.\textsuperscript{248} The majority, concurring, and dissenting opinions cover over two hundred pages. Justice Breyer’s dissent spanned over seventy pages and marshalled empirical evidence to match contrary evidence from the concurring opinions.\textsuperscript{249} At the appellate level, a lengthy dissent provides the losing side with the material and impetus it needs to attempt to overturn the majority opinion at the en banc or Supreme Court level.

For this study, a dissent was considered lengthy if it was at least five pages long. Since length is relative, it was determined that measuring it against Judge Newman’s own opinions would give a more constant and thus meaningful measure of how she felt about the dissent compared to using the majority opinion as a yardstick. Figure 10 (below) reveals that when Judge Newman’s dissent was “lengthy,” the Supreme Court granted cert twice as often: 30 percent of the cases, compared to 14.81 percent when it was not lengthy. However, short dissents may also carry a punch.\textsuperscript{250} The data based on Judge Newman’s dissents suggests a positive correlation between the length of a dissent and the likelihood of it having more impact.

\textsuperscript{248} See generally 551 U.S. 701 (2007).
\textsuperscript{249} Id. at 803–76 (Breyer, J., dissenting).
\textsuperscript{250} Posner, supra note 64, at 181 (for example, Justice Holmes’ famous dissent in \textit{Lochner} is only a page long, “barren of references to constitutional text, the framers’ understanding of it, or principles of interpretation”).
Figure 10: Relationship between Length and Cert. Application

4. Citations by Law Reviews

Academics can criticize or praise the opinions of the courts in many ways. Academic opinions can have the effect of leavening or dampening the public's regard for an opinion and may sometimes be the very channel through which the public hears of that opinion in the first place. Beyond the written word, academics' opinions also play

251. See Fontana, supra note 92, at 454.
Academics can draw attention to comments by the Justices by writing about what they are saying, thereby generating recognition and status for members of the Court. Consider, for instance, the significant quantity of legal scholarship devoted to originalism, conferring status on Justice Scalia as an important Justice because of his interest in originalism.

Id.
Thus, it was important to consider the frequency with which academics cited dissenting opinions of the Federal Circuit. Law reviews, rather than casebooks, were used because the casebooks are vulnerable to the idiosyncrasies that necessarily come with a small number of academics picking on a small number of cases, of which very few, if any, would carry dissents. Many casebooks also understandably omit citing references entirely, as any law student encumbered by the staggering weight of casebooks can well appreciate. The citations for each dissent of each judge was identified on WestlawNext, and the law review was perused to determine if the citation was indeed of the judge’s dissent. If “yes,” the law review is added to the dataset. If “no,” the result is a dud and discarded.

Once again, Judge Newman has the greatest number of citations in law reviews at a whopping 1,103 (or 5.25 cites per dissent) (Figure 11 below). The next highest is Judge Rader at 567 citations (or 12.89 cites per dissent) and third is Judge Dyk with 262 citations (or 3.49 cites per dissent).

![Dissent Cited in Law Review Articles](image)

**Figure 11: Dissent Cited in Law Review Articles**

5. Outcomes on Appeal

This Article also studied the outcome of dissents on appeal to the en banc court and Supreme Court. The fact that the point of contention was subsequently altered by a higher tribunal in the direction recommended by the dissent is a proxy of its influence. Sometimes the connection is direct—the higher tribunal cites the proposition advanced by the dissent and reverses the majority. At other times, that tribunal does not mention the dissent but moves in its favor. At yet other times, a later case abrogates the majority opinion and is picked up by Westlaw and displayed as a "red flag."

Figure 12 shows that of the trickle of dissents that caught the Supreme Court's attention, Judge Newman's dissents have the greatest effect in convincing the Court to reverse or vacate the majority's opinion, as it did eight out of nine times. Judge Rader also had the majority opinion reversed in three cases. Notably, Judge Dyk's dissents, while numerous, had only one affirmance and one reversal of the majority opinion.

![Outcome of Dissents (SCOTUS)](image)

**FIGURE 12: OUTCOME OF DISSENTS (SCOTUS)**

Figure 13 (below) shows a different picture. The en banc Federal Circuit was less amenable to Judge Newman's dissents, overturning only the majority opinion in her favor twice. Why might that be, despite Judge Newman's relatively high number of citations? One obvious answer is that being noticed is being different than being validated. Judge Dyk fared much better at the Federal Circuit than at the Supreme Court, with four out of five cases turning in his favor. Judge Lourie had the case overturned in his favor both times. Judges
Rader, Plager, and Archer had a single majority opinion in the case they dissented reversed each time. Judges Friedman, Davis, and Smith's dissents had no ostensible influence at the Federal Circuit.

**Figure 13: Outcome of Dissents (En banc)**

**C. Industries & Lower Courts**

The industries Judge Newman's dissents address broadly fall into seven different categories:

1. Construction & Machinery
2. Software & Business Methods
3. Communications & Entertainment
4. Medical Devices, Measurements, Instrumentation, & Optics
5. Semiconductor, Electrical, & Computers
6. Chemical & Biopharma
7. Articles of Manufacture

Figure 14 (below) shows the industries that her dissents have touched on over time. It is clear that, while featured in every period, "Chemical & Biopharma" represents the most significant proportion of

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253. These categories are based on the fourteen areas defined in DARYL LIM, PATENT MISUSE AND ANTITRUST: DOCTRINAL, EMPIRICAL, AND POLICY PERSPECTIVES 346–48 (2013) (detailing how the OECD Patent Statistics Manual and PTO classification system were adapted for the study).
her dissents between 2001–2016 (32.91 percent of cases during that period). It is difficult as a practical matter to distinguish clearly between chemical cases and biopharma cases. Inventions covering colchicine products for prophylactic treatment of gout, methods of using folates to lower levels of homocysteine in the body, and glycemic control for diabetes straddle both classifications.\footnote{254} Suffice it to say that it raises an interesting question whether Judge Newman felt more compelled to disagree with the majority when the issue more closely concerns the chemical arts, an area she knows and has strong policy views about.

Oblon’s Post-Grant Patent Group Chair Scott McKeown suggests that the answer is “yes.” In the Law360 interview mentioned in Part II, he noted that Judge Newman’s “deep technical background in chemistry,” and her background as a patent lawyer, “brings a very practical and unique perspective” to the Federal Circuit.\footnote{255} McKeown’s views are also corroborated by Judge Newman’s expressed willingness to correct the majority on what she perceived to be a misguided understanding of science and the undermining of the conditions conducive to the research, development, and commercialization of innovation.\footnote{256} Software and business methods have also featured more prominently in the mix since 2006 up to the end of 2016 (at 15.83 percent of cases during that period). These frequencies may be related to developments in the industry.


\footnote{255} Gurrieri, supra note 18.

\footnote{256} See supra Section II.C.
Figure 14: Industries (Over Time)

Figure 15 (below) shows the issues that arise in each industry category. "Validity" issues—those that cover the requirements for patentability—make up the largest number of her dissents (25.32 percent), followed by infringement (19.74 percent). A significant proportion of each issue category concerns the “Chemical & Biopharma” industries, with “Validity” once again showing the highest percentage of all (52.25 percent). “Software & Business Methods,” “Chemical & Biopharma,” and “Articles of Manufacture” feature evenly in “Exceptions & Defenses,” but “Articles of Manufacture” more prominently in “Infringement.” “Chemical & Biopharma” and “Articles of Manufacture” feature most prominently in “Remedies” (53.85 percent). The “Other Issues” category covers many miscellaneous issues but it is clear that “Medical Devices,” “Chemical & Biopharma,” and “Articles of Manufacture” (19.79, 19.79, 17.71 percent, respectively) feature most prominently there.
Figure 16 (below) shows the industries categories as they relate to the lower courts. Most of her dissents respond to appeals from district courts in the Ninth Circuit (18.31 percent), followed by the BPAI/PTAB (17.37 percent), and distantly by the district courts in the Third Circuit (9.86 percent). Judge Newman respects the fact-finding role of the district courts and takes seriously the Federal Circuit’s role in guiding the lower courts with its opinions. In one dissent she wrote:

I write for I do not share my colleagues’ criticism of the terseness of the district court’s opinion on the issues of patent validity and am concerned with our lack of guidance on remand. I also believe that we are remiss in declining to review the construction of the claims on this appeal.257

The majority had criticized the absence of detail in the district

court's analysis of the invalidity defenses raised. Judge Newman demurred, writing that:

While the district court's analysis was brief, it relied on the elaborate record that had been developed in the Patent and Trademark Office in connection with Dornoch's attempted interference involving the inventions in suit, a record that was fully before the district court. Although my colleagues fault the court for relying on this record, they offer no guidance as to why that reasoning was deficient, thus providing an appellate opinion that is even sketchier than the opinion it criticizes.258

She concluded by noting that "[o]ur authority, as well as obligation, is to give plenary review of the grant of summary judgment. Thus, if my colleagues believe that the district court erred in relying on the patent examiner's analysis of why the inventions were not the same, we should explain where the error arose."259

Judge Newman's disdain for the court usurping the role of the jury was evident in a case involving the experimental use of an inventive feature of a boat engine. She wrote that "[i]n converting the factual question of experimental purpose into a matter of law, our court has cut another notch in the removal of patent issues from the trier of fact."260 She identified consistency as a reason in favor of such an outcome,261 but warned that the Federal Circuit was not equipped to weigh the underlying factual determinations required in conducting these de novo reviews.262 If the Federal Circuit wanted to change that rule, "then the court should speak with one voice so that trial courts and parties will know how to try and appeal the issue."263 Judge

258. Id.
259. Id. at 939.
261. Id. at 1523.
262. Id. at 1524. If the Federal Circuit wants to make de novo determinations of factual matters, isn't this a good thing? Won't it add consistency to patent decisions by removing harried trial judges and sympathetic juries from another area of patent litigation? Is it not a force for stability if the Federal Circuit will decide all fact-driven questions de novo?
263. Id. at 1524 ("[T]he majority of this court believes that the special niche of de novo review is nonetheless the correct place for the factual question of experimental use, then the
Newman also sets a higher threshold than the majority in overturning jury findings.\textsuperscript{264}

The relationship that Judge Newman has with the USPTO is nuanced. She defers to the agency where the matter is "highly technical," as in the case of priority contests, where "scientific expertise" is needed to understand the inventions.\textsuperscript{265} She also noted that "the arcana of corroboration and diligence and reduction to practice, are the soul and substance of the administrative agency. The
court should speak with one voice so that trial courts and parties will know how to try and appeal the issue."\textsuperscript{264}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{lower_courts_and_industries.png}
\caption{Lower Courts and Industries}
\end{figure}

\textsuperscript{264} Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc., 344 F.3d 1186, 1197 (Fed. Cir. 2003) (Newman, J., concurring in part, dissenting in part) ("[T]he court provides no sufficient basis for overturning the findings of the jury and overturning the affirmance by the district court with respect to the question of anticipation . . . .").

correct place to determine priority of invention in the first instance is the PTO."266 Similarly, courts should defer to the judgment of the examiners on issues of the sufficiency of disclosure where "the expertise of patent examination is normally superior to that of judges."267

Judge Newman refrains from intervening in the USPTO's administrative functions. One dissent concerned whether the USPTO could accept an unsigned check.268 Judge Newman dissented because "[t]he majority inappropriately intrudes into the management of the PTO, overruling a discretionary act of the Commissioner which had been upheld by the district court in a mandamus suit."269 The applicant had not executed the check correctly, and Judge Newman wrote that "[a]lthough I share my colleagues' sympathy for the applicant, I see only mischief in this benevolence. The PTO receives hundreds of thousands of fee payments each year."270 She cautioned that "[c]ourts should not readily intervene in the day-to-day operations of an administrative agency when the agency practice is in straightforward implementation of the statute."271

However, Judge Newman has taken issue over perceived attempts to usurp the supervisory function of the federal district courts and the Federal Circuit. Professor Rai noted that Judge Newman "is, in general, suspicious of perceived shortcuts that the PTAB might take," adding that her dissents "are not inconsistent" with her long-standing views of the USPTO.272 Similarly, patent attorney Blake Hartz noted that "Judge Newman has expressed concerns about different standards of review and the relationship of the court to Patent & Trademark Office."273

Since the America Invents Act (AIA) came into effect, post-

266. In re Keil, 808 F.2d 830, 831–33 (Fed. Cir. 1987) (Newman, J., dissenting); see also Prolitec, Inc. v. Scentair Techs., Inc., 807 F.3d 1353, 1371 (Fed. Cir. 2015) (Newman, J., dissenting) ("I support bringing PTAB expertise to bear in a post-grant review system.").
267. Ergo Licensing, 673 F.3d at 1372.

This destruction of a granted patent based on a presumably flawed disclosure in the application, at a time when it cannot be remedied, is not only a disservice to inventors who expect a reliable patent upon examination and grant, but an injury to the public that is served by patent-supported innovation. I must, respectfully, dissent.

Id.

269. Id. at 1566.
270. Id. at 1567.
271. Id. at 1568.
272. Gurrieri, supra note 18.
273. Hartz, supra note 19, at 56.
grant proceedings have revolutionized patent law by changing where and how patent validity is litigated. Third parties can knock out a claim they believe is unduly broad or otherwise unpatentable. These proceedings were created as a more efficient and less costly means to weed out suspect claims. The view in practice is that “[i]n most cases, post-grant proceedings are now presumed to be the best mechanism for challenging the validity of an issued patent.” Thus, “[d]istrict courts commonly stay litigation until post-grant proceedings conclude, so most patent infringement lawsuits do not proceed unless the asserted patents first survive an IPR or other post-grant proceeding.”

Once a determination on validity has been made by the courts, the USPTO should not be able to override it through subsequent reexamination. The fact that the USPTO employs a different standard of proof, or different procedures, cannot justify a different outcome. Such judgments are “final and conclusive upon the rights of the parties,” and “[a] system of override by an administrative agency interferes with the power and obligation of the courts to ‘render dispositive judgments.’” Writing in absolute terms, she


277. Id.

278. In re Baxter Int’l, Inc., 698 F.3d 1349, 1352 (Fed. Cir. 2012) (Newman, J., dissenting from the denial of rehearing en banc) (“[T]he Federal Circuit’s final decision of patent validity, upon full trial and appeal, is of no effect on subsequent redetermination of patent validity by the Patent and Trademark Office,” even if the “issues . . . have been litigated and finally adjudicated . . . .”); see also id. at 1354–55 (“These departures from the constitutional requirements of judicial authority require attention, for the holding that reexamination can override the finality of final adjudication is having enlarged impact.”).


My colleagues justify the PTO’s authority to overrule judicial decisions on the argument that the standard of proof is different in the PTO than in the courts. That theory is flawed, for obviousness is a question of law, and the PTO, like the court, is required to reach the correct conclusion on correct law. Any distinction between judicial and agency procedures cannot authorize the agency to overrule a final judicial decision.

Id.

noted that “[n]o authority, no theory, no law or history, permits administrative nullification of a final judicial decision. No concept of government authorizes an administrative agency to override or disregard the final judgment of a court. Judicial rulings are not advisory; they are obligatory.”

Judge Newman gave three primary reasons for curbing this trend of overturning judicial determinations of validity through post-grant review.

First, administrative efficiency warranted her dissents “with the unconstrained free-for-all that this court has created, for PTO records show pervasive duplication of litigation and reexamination of the same patents.” She noted that “instead of finality after full litigation, full trial in the district court, and full appeal in the Court of Appeals, now the question of patent validity remains open, vulnerable to contrary disposition, unconstrained by any form of estoppel or restraint flowing from the finality of adjudication.”

Second, as a matter of patent policy, “[t]he ensuing instability replaces innovation incentive with litigation cost, along with adverse effect on the patent based incentive for technological advance. Such gaming of a system designed to provide investment incentive through property rights warrants thoughtful remediation, not facilitation.”

Third, as a matter of separation of powers, “[i]n the administrative state, vigilance is required to balance authority and responsibility among the branches of government. The pragmatism of delegation to administrative agencies of complex procedures, is balanced against the responsibility of the courts to assure compliance with law.”

She chided her colleagues for “appear[ing] unperturbed by the agency’s nullification of this court’s final decision . . . . Thus the court violates not only the constitutional plan, but also violates the rules of litigation repose as well as the rules of estoppel and preclusion—for the issue of validity, the evidence, and the parties in interest are the same in this agency reexamination as in the finally resolved litigation.”

In one pointed dissent, she called two judges to account because “both Judge Dyk and Judge O’Malley misstate my position on the role of reexamination.” She reminded them:

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281. In re Baxter, 678 F.3d at 1366.
282. Fresenius, 733 F.3d at 1383.
283. Id. at 1382.
284. Id. at 1383.
286. In re Baxter, 678 F.3d at 1366.
287. Fresenius, 733 F.3d at 1383.
I was one of the initiators of the reexamination system, the product of the Carter Commission on which I served. My concern is its abuse. I have never opined that there are no circumstances in which the PTO may reexamine a patent that has been through litigation, and I have intentionally avoided discussion of speculative situations. Here, this court's final decision followed full litigation, and no reason is offered for departure from the law of the case, in favor of subsequent PTO reexamination on the same issues and evidence, requested by a party litigant.288

Judge Newman's second contention with the USPTO was with the level of deference owed to the PTAB in reviewing its decisions. The standard was not deferential, but rather by a preponderance of evidence.289 Since “[t]he PTAB is not an examining body, but an adjudicatory body, an objective arbiter between opposing parties...[o]n questions that are close, as here illustrated, the standard of review can affect the result.”290

Her third and fourth contentions were the standard the PTAB should use in construing claims, and whether its decisions were appealable to the Federal Circuit. Judge Newman argued that the PTAB could not apply a different standard than the courts—the “broadest reasonable interpretation” (BRI) rather than the narrower version—“where validity is determined on the legally correct claim construction,” because “the ‘broadest’ construction is designed to facilitate examination before grant, not to confound litigation after grant.”291 In practical terms, this means more prior art can be used to invalidate patents after they have been granted. She also argued that “[t]he stated purpose of the ‘final and nonappealable’ provision is to control interlocutory delay and harassing filings. However, review is not barred of material aspects that were decided in connection with the petition to institute.”292 She was concerned that “[t]his restraint could bar review of information material to the final PTAB judgment, and may in turn impede full judicial review of the PTAB’s decision.”293

The Supreme Court recently gave its views to both these contentions in Cuozzo Speed Technologies, LLC v. Lee.294 It held that the PTAB could apply the BRI standard, even though “the use of the

288. Id.
289. Merck & Cie v. Gnosis S.P.A., 808 F.3d 829, 845 (Fed. Cir. 2015) (Newman, J., dissenting) (“My colleagues err in applying deferential review, instead of assuring that the PTAB's factual findings are supported by the preponderance of the evidence, as the statute requires.”).
290. Id.
292. Id. at 1291.
293. Id. at 1284.
294. See generally Cuozzo Speed Techs., 136 S. Ct. 2131.
broadest reasonable construction standard in inter partes review, together with use of an ordinary meaning standard in district court, may produce inconsistent results and cause added confusion,” such as a patent claim being upheld in district court and later invalidated by the PTO, but the Supreme Court concluded that this possibility is inherent to Congress’s regulatory design. It also held that the PTAB’s decision whether to institute post-grant proceedings bars review of all institution decisions, even after the Board issues a final decision.

Bloggers Steve Brachmann and Gene Quinn have defended Judge Newman’s view, noting that unlike claim amendments during prosecution, “the administrative board has the power to nix a patent owner’s ability to amend claims altogether, so to conflate [inter-partes review (IPR)] with initial examination is further proof of the Supreme Court’s misunderstanding of the patent landscape created by PTAB.” Professor Lisa Ouellette cautioned that courts and PTAB will both need to be alert that precedents used to invalidate or uphold the validity of challenged patents in one forum could result in unwittingly upholding or invalidating patents because they applied a precedent using a different interpretative rule.

Cuozzo has entrenched post-grant proceedings as a means for challenging patent validity. A legal realist might see this as a shift in the balance of power through the force of judicial activism. In any case, it is clear that the PTAB’s rulemaking and statutory implementation will be largely immune to judicial determination. The Innovation Act H.R. 9, pending before the House of Representatives, would make the PTAB’s interpretation standard the same as the district court’s, as well as narrow the estoppel effect of PTO proceedings.

295. Id. at 2146.
D. “Allies” & “Adversaries”

Dissents reveal a more human side to the study. Through the majority and dissenting opinions of the court, this Article provides a glimpse of its ideological fault lines, and through them, Judge Newman’s “allies” and “adversaries.”

The use of scare quotes has three purposes. First, they help make clear that any agreements or disagreements between the judges are ideological and not personal. Indeed, the personal friendship between the late Justice Scalia and Justice Ginsburg is well known despite their equally well-known ideological differences. Similarly, while Judges Newman and her colleagues may have ideological disagreements, they enjoy a cordial relationship.

Second, a recent study shows that ideology and interpretive philosophy are not significant predictors of agreement. Rather agreement depends on who is judging on the bench together, suggesting that “judging is more about pragmatic problem solving and maintaining a collegial work environment.” The same study suggests that judicial collegiality likely plays a substantial role on courts of appeals, since “judicial opinions on multimember courts are written in an environment that creates incentives for strategic interaction.” It showed that in all cases decided in a seven-year period between 1997–2003, no two judges agreed any less than ninety percent of the time. Third, it demonstrated that those ideological differences are likely to be issue- or case-specific. The discussion of the quantitative data that follows illustrates this.

It is fairly simple to identify Judge Newman’s “adversaries” on


During their time together on the United States Supreme Court, Justice Scalia, a staunch conservative, and Justice Ginsburg, a staunch liberal, rarely found themselves on the same side of controversial issues. But in an era when political divisions drive many in Washington apart on a personal level, their disagreements remained intellectual.

Id.

300. Graham, supra note 32 (noting from an interview with Former Chief Judge Michel that “she was always cordial in personal interactions”); see also id. (“She was lots of fun to work with, even when we disagreed about the outcome of a case.”).

301. Czarnezki & Ford, supra note 217, at 841.

302. Id.

303. Id. at 865–66.

304. Id. at 870 (“Numerous sources speak of the importance of collegiality among chambers and judges.”); see also Harry T. Edwards, Collegiality and Decision Making on the D.C. Circuit, 84 VA. L. REV. 1335, 1335, 1338 (1998).
the court. One need only look at who is most consistently in the 2-1 majority or on the opposite side of an en banc court when Judge Newman is in the dissent. The shortlist consists of judges who have been in the majority in at least thirty cases where she was on the dissent. A repeated pattern over years, sometimes decades, makes for a compelling case. The evidence of her “allies” is more tenuous. Unlike the Supreme Court where more than one Justice can join a dissent and thus indicate his or her allegiance, the 2-1 split on the Federal Circuit makes this same count impossible. One must turn to en banc dissents for an approximation of the trends observed in Supreme Court dissents.305

Figure 17 (below) shows that Judge Lourie has signed on most frequently to Judge Newman’s en banc dissents between 1991–2016, suggesting that they are long-standing ideological allies. That Judge Lourie’s professional and educational background is similar to Judge Newman’s should come as little surprise.306 Figure 17 shows a spike in the number of judges who signed on to Judge Newman’s en banc dissents between 2006–2016. In addition to Judge Lourie, Judges Rader, Garjarsa, Linn, Mayer, O’Malley, Wallach, and Reyna have contributed toward breaking a period of more than twenty-five years where she had no co-signatories to her dissents.307 The fact that Judges O’Malley, Wallach, and Reyna represent the next generation of judges gives hope that some of her dissents may one day become mainstream doctrine, as others already have. They may also have been more willing to join her if they perceived her expertise in the field and as a senior patent judge to be persuasive.

305. This would include both dissents in an en banc decision or a dissent to a denial for rehearing en banc.

306. Judge Lourie was appointed in 1990 by President George H.W. Bush, who, like President Reagan (who appointed Judge Newman), is Republican. See Alan D. Lourie, Circuit Judge, U.S. Ct. App. Fed. Cir., http://www.cafc.uscourts.gov/judges/alan-d-lourie-circuit-judge [https://perma.cc/RTQ2-MREY] (last visited Aug. 3, 2016). Judge Lourie was formerly Vice President, Corporate Patents and Trademarks, and Associate General Counsel of SmithKline Beecham Corporation, and holds a Ph.D. in chemistry. Id. Judge Lourie had been a member of the board of directors of the Intellectual Property Owners Association and Vice Chairman of the Industry Functional Advisory Committee on Intellectual Property Rights for Trade Policy Matters (IFAC 3) for the Department of Commerce and the Office of the U.S. Trade Representative. Id. Like Judge Newman, he was also a member of the U.S. delegation to the Diplomatic Conference on the Revision of the Paris Convention for the Protection of Industrial Property. Id.

307. See infra Figure 17. Between 1986–1990, Judge Bennett signed on to one; between 1990–1995, Judges Rich and Lourie signed on to one each; between 1996–2000, Judge Rader signed on to one; no one signed on to her en banc dissents between 2000–2005. Id.
Judges Who Joined Judge Newman's Dissents

FIGURE 17: JUDGES WHO JOINED JUDGE NEWMAN IN HER EN BANC DISSENTS
What of Judge Newman’s “adversaries”? Conventional wisdom puts Judges Newman and Dyk at polar ideological opposites. In contrast to Judge Newman, Judge Dyk was appointed by Democratic President Bill Clinton sixteen years after her appointment. He was never in industry, having been at Jones Day for ten years before his appointment and Wilmer Cutler & Pickering prior to that. Judge Dyk also served as Law Clerk to Chief Justice Earl Warren, who oversaw some of the most interventionist periods in patent history.

A survey of precedential patent decisions between January 2010–September 2011 reveals that, of the twenty-five decisions where the two were on the same panel, “the pair disagreed on the outcome or application of the law in 19[,] i.e., the two judges disagreed in more
than 75% of the cases. According to Judge Newman, this may overrepresent the level of disagreement since summary affirmances, as well as cases where they are on the majority together are not included. However, she also acknowledged ideological differences between herself and Judge Dyk, which the data confirms as bearing out in the cases.

The data in this Article reveals a more nuanced conclusion. Looking at Figure 19, Judge Dyk does indeed disagree with Judge Newman significantly, and is ranked top in terms of the number of case where he voted in opposition to her views (sixty cases). Chief Judge Prost comes in next at fifty-seven cases. Like Judge Newman before, Chief Judge Prost was appointed by a Republican president—President George W. Bush, in 2001. Unlike Judges Newman and Dyk, however, Judge Prost’s career took the government track. She served as Minority Chief Counsel, Deputy Chief Counsel, and Chief Counsel of the Committee on the Judiciary, United States Senate, and in various labor-related positions. Judges Lourie and Rader, who joined Judge Newman’s en banc dissent, feature prominently here, at fifty-five and fifty-two cases, respectively. This is strong evidence that at least for those judges, both points of disagreement and agreement are issue based rather than ideological.

312. Crouch, supra note 47.
313. Interview with Judge Pauline Newman, supra note 83.
314. Only those judges who had appeared in the majority in thirty or more cases where Judge Newman dissented were included.
316. A future study could delve into some of the points of contention between the judges. See, e.g., Jeffrey Rosen, The Supreme Court: The Personalities and Rivalries That Defined America (2007).
Professors Czarnezki and Ford posited that "perhaps judges who have spent more time together on a court can more effectively determine how to recognize and write these mutually acceptable judgments." The theory is that over time, members of the same court learn how to find points of agreement and navigate the ideological idiosyncrasies of particular colleagues. When one looks at trends over time (Figure 21 below), one sees that between 2001–2016, it is apparent that Chief Judge Prost and Judge Dyk have been in disagreement from the start of their appointments in 2001 and 2000 and continue to the end of 2015. Time trends also show that Judge Bryson is another judge consistently in opposition to Judge Newman since his appointment in 1994. These trends suggest that where there are fundamental differences in ideology or viewpoint, these differences continue to be reflected in opinions.

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Beyond the number of dissents, citation counts, and the outcomes on appeal, a more granular analysis of Judge Newman's dissents yields a wealth of other findings. For instance, the coded data shows she dissented most on patent validity and equally on novelty and nonobviousness. The law on infringement was another area she was very much concerned about, dissenting on issues related to the doctrine of equivalents and claim construction far more than anything else in that subcategory. With respect to exceptions and defenses, she regarded accusations of inequitable conduct as a

318. See infra Section III.E.1.
319. See infra Section III.E.2.
"plague" that attracted most of her dissents. However, she sided with defendants when they sought the protection of research exemption. This Section also presents the reasons for her disagreements with the majority.

Figure 21 shows the profile of issues covered by Judge Newman's dissents. A number of trends are worth mentioning. First, the number of dissents addressing patent validity issues has remained an enduring concern to her, rising from three cases between 1986–1990 to twenty cases between 2011–2016. Second, between 2006–2016, the number of dissents covering miscellaneous issues has risen. This indicates a shift from doctrinal to procedural issues. Third, the proportion of infringement-related dissents were the highest in the initial period between 1986–1990, gradually falling as a proportion of her dissents over the years. Fourth, between 1996–2005, the number of dissents related to infringements and claim construction rose in absolute terms. One may surmise that many of those issues were either resolved or were idiosyncratic and did not arise again, leading to a leveling-off of those numbers even as the total number of her dissents has risen.

Figure 21: Dissents: Issue (Over Time)
1. Validity

The fact that validity features with the highest frequency is not surprising. Every infringement and prosecution case touches on patent validity. Invalidity is a defense raised by patent infringers, while validity is the prerequisite in order to successfully prosecute a patent at the USPTO. Judge Newman has dissented on every aspect of patent validity except utility (Figure 22). This may have been because Judge Bryson's opinion in *Juicy Whip, Inc. v. Orange Bang, Inc.*, decided in 1999, settled the issue for the court. It also supports the view that the ideological differences between judges do not extend to every area of patent law, but indeed, are likely instead to be limited to specific doctrines. Judge Newman confirmed that "utility is rarely an issue." 

![Dissents: Validity (Over Time)](image)

**Figure 22: Dissents: Validity (Over Time)**

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320. 185 F.3d 1364 (Fed. Cir. 1999).
It may be asked how often Judge Newman’s dissents would uphold a patent the majority is striking down. Some may see a high percentage of dissents as a rap against her. If it is true, then it bolsters the argument about her overall view of how the system should run.\footnote{322} Looking at the data of the ten longest serving judges (Figure 23), Judge Newman clearly has the highest number of dissents (31) upholding patent validity. However, when normalizing those dissents as a percentage of total dissents (Figure 24 below), her percentage (14.8 percent) puts her at the median. Former Chief Judge Rader (43.2 percent) and Judge Dyk (17.3 percent) score higher, while Judges Lourie (13.9 percent) and Mayer (12.0 percent) are comparable. All these mean that her dissents on patent validity when compared with other judges in purely quantitative terms do not mark her as an outlier. Any conclusions about her views on this issue require a closer examination.

\textbf{FIGURE 23: DISSENTS TO UPHOLD PATENT VALIDITY (BY JUDGE)}

\footnote{322. I am indebted to Rochelle Dreyfuss for this insight.}
Judge Dissents to Uphold No. of Dissents %

<table>
<thead>
<tr>
<th>Judge</th>
<th>Dissents to Uphold</th>
<th>No. of Dissents</th>
<th>%</th>
</tr>
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<tr>
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<td>210</td>
<td>14.76</td>
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<td>Lourie</td>
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<td>36</td>
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<tr>
<td>Friedman</td>
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<tr>
<td>Archer</td>
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<tr>
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<td>44</td>
<td>43.18</td>
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<tr>
<td>Davis</td>
<td>2</td>
<td>11</td>
<td>18.18</td>
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<tr>
<td>Dyk</td>
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<td>75</td>
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</tr>
<tr>
<td>Mayer</td>
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<td>12.00</td>
</tr>
<tr>
<td>Smith</td>
<td>2</td>
<td>5</td>
<td>40.00</td>
</tr>
</tbody>
</table>

**Figure 24: Dissents to Uphold Patent Validity (Percentages)**

*a. Novelty*

The law on novelty disqualifies an invention from patentability if it has been anticipated through a single reference that antedates one or more claims in the patent or patent application. Judge Newman’s primary concern here lies in novelty destroying prior art such as “inherent anticipation.” Occasionally, a dissent would touch on procedural fairness in adjudicating the novelty issue. See, e.g., Schendel v. Curtis, 83 F.3d 1399, 1406–09 (Fed. Cir. 1996) (Newman, J., dissenting) (“When this right is denied summarily, the law requires that the procedure is fair, and fairly administered. . . . Since on the evidence of record summary judgment was improperly granted, I respectfully dissent from the affirmance of the Board’s decision.”); see also Brown v. Barbacid, 276 F.3d 1327, 1338–41 (Fed. Cir. 2002) (Newman, J., dissenting) (arguing that in an interference proceeding, it was the senior party who had to prove “by a preponderance of evidence, conception and/or reduction to practice before the date that had been proven by the junior party”).

323. See Hansen, Scafidi & Lim, supra note 66.

324. Occasionally, a dissent would touch on procedural fairness in adjudicating the novelty issue. See, e.g., Schendel v. Curtis, 83 F.3d 1399, 1406–09 (Fed. Cir. 1996) (Newman, J., dissenting) (“When this right is denied summarily, the law requires that the procedure is fair, and fairly administered. . . . Since on the evidence of record summary judgment was improperly granted, I respectfully dissent from the affirmance of the Board’s decision.”); see also Brown v. Barbacid, 276 F.3d 1327, 1338–41 (Fed. Cir. 2002) (Newman, J., dissenting) (arguing that in an interference proceeding, it was the senior party who had to prove “by a preponderance of evidence, conception and/or reduction to practice before the date that had been proven by the junior party”).
undiscovered.” An inventor’s actions to isolate a chemical compound existing \textit{in vivo} as a degradation product of loratidine, determine its structure, and find its biological properties were novel. She explained in another dissent that:

> [E]very biological property is a natural and inherent result of the chemical structure from which it arises, whether or not it has been discovered. To negate the patentability of a discovery of biological activity because it is ‘the natural result’ of the chemical compound can have powerful consequences for the patentability of biological inventions.

Similarly, according to Judge Newman, a product that existed in trace amounts, although unknown and undetected and unisolated, was not inherently anticipated. Otherwise, “[t]he patentability of antibiotics, hormones, antibodies, and myriad other previously unknown or unisolated products would be called into question . . . giving rise to uncertainty as to existing patents, as well as negation of searches for the beneficial components of existing materials.” Instead, “[o]nly after a compound is identified does it become subject to patenting; if its existence is not reasonably known to persons of skill in the field, its later discovery cannot be retrospectively ‘inherently anticipated.”

According to Judge Newman, newly discovered chemical processes involving known ingredients that achieved a different result were similarly novel. The majority disqualified the invention—“because the ingredients were known, it is irrelevant that a significant change in conditions produces a result that is different from that achieved under the conditions of the prior art.” Judge Newman condemned “[s]uch a view of ‘inherency’” as “contrary to legal as well as scientific principles.” She reasoned that the prior art could not anticipate what it could not produce. Neither could prior

\begin{thebibliography}{99}
328. Id.
329. Id.
331. Id.
332. Id. at 1380 (“A non-enabling reference cannot serve as an invalidating anticipation, either expressly or inherently. My colleagues on this panel, holding otherwise, do not explain how they plug this scientific and legal gap. Such an unexplained finding of inherent anticipation does not add clarity to this jurisprudence.”).
\end{thebibliography}
art that had been practiced in secret.\(^{333}\) Her aversion to including “secret” prior art may also be seen in her dissent against laboratory use of inventions creating novelty-destroying prior art. She contended that this “creat[ed] a new and mischievous category of ‘secret’ prior art” contrary to law on novelty.\(^{334}\) As a policy matter, she “discern[ed] no benefit to society, or to the interest of justice, in this new unreliability of the patent grant.”\(^{335}\)

Judge Newman brought the majority to task when it barred product-by-process claims. She declared that “the exceptions in connection with ‘anticipation’ of claim content are rare, and represent a pragmatic adjustment to the needs of science, not law.”\(^{336}\) Such an exception arose when the claims were directed to “a novel product that, although patentable as a product, cannot be adequately described other than by the way it was made; the process may or may not itself be novel, but that aspect is deemed irrelevant to the claim to the new product.”\(^{337}\)

Reliability is a repeated theme in her dissents. Judge Newman rejected the majority’s view that individual variations in industry practice controlled whether there was an offer for sale.\(^{338}\) These “industry-specific, local, and subjective criteria are a regression toward the imprecision of the discredited ‘totality of the circumstances,’ a standard purposefully rejected by the Supreme Court,” and that “[i]n developing uniform national law it is as important that the law be consistent across industry boundaries as it is across state boundaries.”\(^{339}\) Because federal-state tensions would undermine consistency in the application of the law on novelty,\(^{340}\) she

\(^{333}\) Id. ("Whatever may or may not have been done in secret in Korea does not convert a secret and still unknown process into prior art.").

\(^{334}\) Baxter Int'l, Inc. v. COBE Labs., Inc., 88 F.3d 1054, 1061 (Fed. Cir. 1996) (Newman, J., dissenting); see also Solvay S.A. v. Honeywell Int'l Inc., 742 F.3d 998, 1008 (Fed. Cir. 2014) (Newman, J., dissenting) (accusing the majority of "creat[ing] a new class of secret prior art, holding that a privately performed experiment, without publication or public knowledge or use or sale or inclusion in a United States patent application, is invalidating prior art").

\(^{335}\) Baxter Int'l, 88 F.3d at 1063.


\(^{337}\) Id.

\(^{338}\) Lacks Indus., Inc. v. McKechnie Vehicle Components USA, Inc., 322 F.3d 1335, 1352 (Fed. Cir. 2003) (Newman, J., concurring in part, dissenting in part) ("My colleagues on this panel depart from this simple standard and its important policy purpose, and instead hold that individual variations in industry practice control whether there has been an offer of sale under § 102(b), whether or not the contract law-based requirement of Group One is met.").

\(^{339}\) Id.

\(^{340}\) Id.
concluded that “[s]uch pitfalls are not required by the Patent Act, and should not be created by this court.”

b. Nonobviousness

The law on nonobviousness disqualifies an invention from patenting, even if it were otherwise novel, “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” Judge Newman noted that nonobviousness is a factually complex area and her dissents focus on technical rather than policy differences. She noted that the court “must ultimately place [itself] in the mind of a person of ordinary skill in such fields as electronics or biotechnology or metallurgy, and decide whether that which is new would have been obvious to such a person.” This is unlike the “reasonable person” in other fields of law, where “judges are quite at home.”

Perhaps for this reason, many of her dissents reflect her experience with the scientific enterprise. She once wrote that “[t]he court’s approach reflects misperception of the scientific process as well as the patent purpose.” As she explained, “[s]cientific methodology usually starts with a hypothesis based on what is already known; . . . [h]owever, none achieved this long-sought goal, and the

While principles of federalism counsel against imposing a possibly alien legal standard upon transactions that are primarily matters of state law, such as the law of sales, the panel majority is not here invoking the guidance of state law, but of practices ostensibly peculiar to a segment of the automotive industry—practices unencumbered by state law, indeed unknown, uncodified, and variable.

See also

341. Id. at 1354; see also Newman, supra note 102, at 525 (“[A]pplication of the criteria of ‘obviousness,’ 35 U.S.C. § 103, remains one of the most difficult aspects of patent law.”).


343. Pfizer, Inc. v. Apotex, Inc., 488 F.3d 1377, 1381 (Fed. Cir. 2007) (Newman, J., dissenting from the denial of rehearing en banc) (“Our cases are rarely factually simple . . . .”).

344. Newman, supra note 102, at 525.

345. Id.

346. PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1378 (Fed. Cir. 2007) (Newman, J., dissenting) (“It is often far easier to recognize the problem than to find and demonstrate the solution. . . . My colleagues go too far in limiting the patent system to the serendipitous and the unexpected.”); see also Novo Nordisk A/S v. Caraco Pharm. Labs., Ltd., 719 F.3d 1346, 1361 (Fed. Cir. 2013) (Newman, J., concurring in part, dissenting in part) (“All scientific experiments are conducted with a purpose of inquiry, and all experimenters have a theory of possible outcomes. Such experiments may partake of varying degrees of vision, hope, or expectation on the part of the experimenter, but these are not criteria of patentability.”).
record shows the extreme skepticism concerning even the possibility of this achievement.”

A key priority for her is to “place the invention in the proper context for adjudication” by considering “[t]he contemporaneous views of the engineers who use and understand the technology . . . along with the prior art.” That “proper context” may involve looking beyond the structural similarity of chemical compounds and compositions to their properties, appreciating the complexity of a biochemical process, or looking beyond commercial motivation for profit or achieving an economic advantage as a motivation to combine prior art references to “knowledge in the prior art.” Testimony of scientists is helpful and should be given considerable weight.

347. PharmaStem Therapeutics, 491 F.3d at 1378.
349. In re Dillon, 919 F.2d 688, 699 (Fed. Cir. 1990) (Newman, J., dissenting) (“[D]etermination of prima facie obviousness of new chemical compounds and compositions and their uses cannot be based on chemical structure alone, but must also include consideration of all their properties, including those discovered by the applicant.”).

The complexity of this mechanism was oversimplified by the Board, leading the Board to combine, in perfect hindsight, a reference showing that GPCR can cause changes in cAMP, and a reference showing that cAMP can cause changes in reporter gene levels. From these references, the Board adduced the claimed invention . . . [i]n this complex case of biological advance, the Board’s decision is not supported by substantial evidence, and should be reversed. From the panel majority’s contrary holding, I must respectfully dissent.

Id.

351. Lamb-Weston, Inc. v. McCain Foods, Ltd., 78 F.3d 540, 550 (Fed. Cir. 1996) (Newman, J., dissenting) (rejecting the majority’s view that “the prior existence of raw and fully cooked waffle-cut potatoes provided the motivation to combine previously uncombined references to make the new parfried frozen product under the selected conditions described and claimed in the ’084 patent,” and stating: “That inventors hope to profit from their invention is irrelevant to the determination of obviousness. The motivation to which precedent is directed is that which would make obvious the technologic advance, not the motivation to achieve a competitive advantage”).


I do not share their view that it would have been obvious to do that which was indisputably unobvious to the experienced formulation scientists whose assignment was to formulate the known product drospirenone. . . . Yet my colleagues, employing their own expertise, hold that since the scientists working in this field turned out to be mistaken, it would have been obvious that it was not necessary to take steps to prevent acid degradation. The [majority] discount[ed] the testimony of the scientists themselves, ignore[d] the knowledge . . . ignore[d] the textbook teachings . . . . That is not the law of obviousness.
An invention’s ingenuity may be seen by the fact that it had not been accomplished anywhere in the world.\textsuperscript{353} Probative evidence of nonobviousness included inventions that were “long-sought” and “achieved amid general scientific skepticism, despite the extensive research that was being conducted by many scientists in this field,” and those “met with universal acclaim and widespread utilization, including the founding of many commercial enterprises, all of which are reported to have licensed the patents except for these defendants.”\textsuperscript{354} Indeed, despite this meritorious litany, she noted with some disdain:

Unimpressed by these considerations, my colleagues on this panel now reconstruct these inventions by selection and inference, with perfect hindsight of the discoveries...simply reweigh[ing] selectively extracted evidence, ignor[ing] the actual peer response and acclaim at the time these inventions were made, and decid[ing] that this long-sought advance would have been obvious to this court.\textsuperscript{355}

Simple elegance could sway Judge Newman. In one dissent, she wrote that the patented product had “an ingenious safety design, whereby the device is simple to operate by adults but not by children, unlike prior art utility lighters, and locks automatically after use, unlike prior art utility lighters.”\textsuperscript{356} The known need for an improved safety mechanism did not serve to provide a reason to modify the prior art, thereby pointing toward the obviousness of the invention where that need had not been met.\textsuperscript{357} She warned that despite its relative simplicity, it was unreasonable “to trivialize” the improvement—“[t]o

\textit{Id.}; see also PharmaStem Therapeutics, 491 F.3d at 1378. Judge Newman then buttresses her accusation by noting:

Even if this court were not required to recognize the substantial evidence in support of the jury verdict, even if APA deference were not required to the three PTO reexaminations, one must pause at the powerful evidence of the acclaim that was accorded to this achievement, by these defendants as well as by scientific peers.

\textit{Id.}

\textsuperscript{353} \textit{In re} Suong-Hyu Hyon, 679 F.3d 1363, 1371 (Fed. Cir. 2012) (Newman, J., dissenting).

This approach has never been attempted, not only in Japan, but also in other countries. The idea to endow the polyethylene molded article for artificial joints with molecular orientation or crystal orientation is the very creative, and it is sure that this invention, if actually carried out, will be applied to artificial joints all over the world.

\textit{Id.}

\textsuperscript{354} \textit{PharmaStem Therapeutics, 491 F.3d at 1367.}

\textsuperscript{355} \textit{Id.}

\textsuperscript{356} Tokai Corp. v. Easton Enters., Inc., 632 F.3d 1358, 1373 (Fed. Cir. 2011) (Newman, J., dissenting).

357 \textit{Id.} at 1380 ("To the contrary, the continuing need weighs against the obviousness of this successful device.").
the contrary, the fact that this improvement eluded discovery, and that its advantages were immediately apparent to the marketplace and to the competition, weigh in favor of nonobviousness."\footnote{358}

Another reason why so many of her dissents touch on nonobviousness is that, according to Judge Newman, the majority should have followed precedents set by the early Federal Circuit panels and its predecessor court. Reflecting on the Federal Circuit's history, she wrote that "[m]any of the early Federal Circuit decisions brought the patent law into the legal mainstream. In my view, this adoption of mainstream law to replace the special treatment often given to patent issues is an important contribution of the Federal Circuit to the stability and correctness of patent jurisprudence."\footnote{359}

Judge Newman's discomfort with the majority's comparatively relaxed approach toward finding nonobviousness may be seen in two recent cases. In \textit{In re Efthymiopoulos}, she castigates the majority for ruling that it was obvious to administer an influenza drug via oral inhalation.\footnote{360} She notes that there was no dispute it was believed that the influenza virus infected primarily the nasal passages, and that there was no reasonable expectation oral inhalation to the lower respiratory tract would be effective.\footnote{361} The only disclosure was by the inventor, and this was used against the inventor.\footnote{362} In another case, her dissent noted that "[o]nly perfect judicial hindsight renders it obvious to do so—although not even judicial hindsight can find a teaching or suggestion that these procedures should be combined to highly beneficial effect."\footnote{363}

\textit{c. Disclosure}

The patent specification describes the invention, including the claims. The description needs to enable a person having ordinary skill in the art to make and use the invention, to convince such a person that the inventor truly possesses the invention, and the claims must be stated with sufficient precision so as to map out the metes and
bounds of the invention.\textsuperscript{364} It must also describe the best mode known to the inventor.\textsuperscript{365}

Here too, Judge Newman emphasized the need for the law to remain attuned to the realities of science. She noted that with the maturing of biotechnology “the need for special accommodation, such as the deposit of cell lines or microorganisms, may diminish.”\textsuperscript{366} At the same time, there needs to be “sufficient disclosure, including experimental data when appropriate, that reasonably support[s] the scope of the requested claims.”\textsuperscript{367} She objected to requiring “inventors to identify and include in their claims the chemical interaction products formed in such a complex mixture . . . in order distinctly to state what the inventor regards as his invention,”\textsuperscript{368} as this was “a serious disruption of chemical patent-dependent activity flowing from this decision and the massive taint upon existing property rights.”\textsuperscript{369}

Judge Newman has been on the right side of history in instances where it counted, such as whether there was a written description requirement that was separate from enablement. She disagreed that “there is not now and never has been a ‘written description’ requirement in the patent law. It has always been necessary to disclose and describe what is patented. It has never been the law that one can claim what is not made known and set forth in the patent.”\textsuperscript{370} The en banc court in \textit{Ariad Pharmaceuticals, Inc. v. Eli Lilly & Co.} upheld her views six years later.\textsuperscript{371}

\begin{itemize}
\item \textsuperscript{364} 35 U.S.C. § 112(a) (2012).
\item \textsuperscript{365} Id.
\item \textsuperscript{366} \textit{In re Wands}, 858 F.2d 731, 741 (Fed. Cir. 1988) (Newman, J., concurring in part, dissenting in part).
\item \textsuperscript{367} Id.
\item \textsuperscript{368} \textit{Exxon Chem. Patents, Inc. v. Lubrizol Corp.}, 77 F.3d 450, 453 (Fed. Cir. 1996) (Newman, J., dissenting from the denial of rehearing en banc).
\item \textsuperscript{369} Id.
\item \textsuperscript{370} \textit{Univ. of Rochester v. G.D. Searle & Co.}, 375 F.3d 1303, 1304 (Fed. Cir. 2004) (Newman, J., dissenting from the denial of rehearing en banc).
\item \textsuperscript{371} 598 F.3d 1336, 1344 (Fed. Cir. 2010).
\end{itemize}

Reading the statute to give effect to its language that the specification ‘shall contain a written description of the invention’ and hold that § 112, first paragraph, contains two separate description requirements: a ‘written description [i] of the invention, and [ii] of the manner and process of making and using [the invention].’ 35 U.S.C. § 112, ¶ 1.

\textit{Id.}
The law on patentable subject matter requires that the claimed invention be directed to one of four statutory categories. Judge Newman defended business method patents as statutory subject matter when the majority held that “process” in the patent statute, excluded “all processes that do not transform physical matter or that are not performed by machines,” thus effectively wiping out business method patents. She argued that a “process for determining risk in commodity transactions does not become an abstraction because it is broadly claimed in [the patentee’s] first claim. It may be claimed so broadly that it reads on the prior art, but it is neither a fundamental truth nor an abstraction.”

The Supreme Court wrote that “[t]he Court of Appeals incorrectly concluded that this Court has endorsed the machine-or-transformation test as the exclusive test,” instead clarifying that “[t]his Court’s precedents establish that the machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101. The machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible ‘process.’” The Court upheld the majority on its conclusion but eviscerated its reasoning.

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375. In re Bilski, 545 F.3d at 997; see also In re Schrader, 22 F.3d 290, 297 (Fed. Cir. 1994) (Newman, J., dissenting) (observing that “judge-made law has retreated from specifying how a mathematical algorithm must interact in the claimed invention in order to constitute statutory subject matter, and advanced toward the test of whether the overall process is for a technologically useful art,” then arguing, accordingly, that “[a]ll mathematical algorithms transform data, and thus serve as a process to convert initial conditions or inputs into solutions or outputs, through transformation of information . . . in a technological process to produce a useful result”).


377. Id.
In *Ariosa Diagnostics, Inc. v. Sequenom, Inc.* she dissented from denial of the petition for rehearing en banc. While agreeing with the court on the outcome, she argued "discoveries of natural phenomena or their application in new ways or for new uses" may be eligible for patenting if it "is novel and unforeseen, and is of profound public benefit." Allowing the method at issue to be patented does not "preempt further study of this science, nor the development of additional applications. Patenting does, however, facilitate the public benefit of provision of this method through medical diagnostic commerce, rather than remaining a laboratory curiosity."

2. Infringement

The law on infringement prohibits the sale, use, creation, import, or offer for sale of a patented invention. The scope of the invention is defined by the patented claims, either literally or in relation to internal and extrinsic interpretive sources—the doctrine of equivalents. Judge Newman's infringement-related dissents touch on both of these themes: claim construction and the doctrine of equivalents. Her dissents occasionally touch on a range of other issues, such as extraterritoriality, inducement, divided infringement, literal infringement, exclusion orders at the International Trade Commission (ITC), and joint infringement (Figure 23).

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378. 809 F.3d 1282, 1293–94 (Fed. Cir. 2015) (Newman, J., dissenting from the denial of rehearing en banc).
379. Id. at 1294.
380. Id. at 1293–94; see also Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc., 827 F.3d 1042, 1048 (Fed. Cir. 2016) (finding a claim patent eligible on the basis that "[t]his type of constructive process, carried out by an artisan to achieve 'a new and useful end,' is precisely the type of claim that is eligible for patenting").
382. See HANSEN, SCAFIDI & LIM, supra note 66.
a. Claim Construction

Judge Newman has three prime concerns in claim construction, two of which surfaced in the lengthiest of her dissents, *Markman v. Westview Instruments, Inc.*, which ran for over twenty-seven pages. First, claim construction should be a question of fact, not law, with

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lower courts given proper deference.\textsuperscript{384} Even if the effect of a claim was ultimately a legal issue, it remains premised on underlying facts that should not be reclassified.\textsuperscript{385} Treating claim construction as a matter of law "distorts the trial/appellate relationship" and "manifests a heady misperception of our assignment as a national appellate court."\textsuperscript{386}

This was an "egregious lapse,"\textsuperscript{387} since it "not only raises a constitutional issue of grave consequence, but [it also] creates a litigation system that is unique to patent cases, unworkable, and ultimately unjust."\textsuperscript{388} It would also create a schism between patent and non-patent cases. This was unacceptable since "[t]he Federal Circuit is responsible for establishing consistent national law . . . We acted to assure that the same procedures would apply in the trial of patent cases as in other civil actions."\textsuperscript{389} She voiced her concern about the inability of the Federal Circuit to be up to the task.\textsuperscript{390}

Second, claims should be given the meaning supported by the specification and prosecution history.\textsuperscript{391} Claims "are readily and

\begin{itemize}
\item\textsuperscript{384} See Hartz, \textit{supra} note 19, at 55–56 ("Judge Newman has repeatedly criticized the rest of the court for turning questions that appear to be factual into legal issues that can be decided by the court.").
\item\textsuperscript{385} Markman, 52 F.3d at 1000 ("[T]he meaning and scope of disputed technologic and other terms of art in particular usage are classical questions of fact. Their nature as fact does not change because their finding, like most findings in litigation, has a legal consequence."); see also \textit{id.}
\item These facts are found on evidence that includes the patent specification, relevant prior art, the prosecution history, the testimony of experts in the field, and other relevant evidence such as tests and demonstrations, all as I shall discuss post. These findings do not become rules of law because they relate to a document whose legal effect follows from the found facts.
\item Id. at 1008.
\item Id. at 1010 ("The most egregious lapse in the majority's ruling is its discard of the jury right in patent cases.").
\item Id. at 999.
\item Id. at 1025.
\item Id. at 1025–26.
\item I doubt the practical feasibility of the majority's holding that this court will 'construe' the meaning of technical terms and words of art without benefit of the trial experience. It is of course appropriate for this court to be alert to methodologies of resolution of disputes that involve science and technology. . . . [I]t is an illusion to think that patent litigation difficulties can be resolved by turning factual issues into matters of law and assigning them to the Federal Circuit. . . . The deference that appellate courts must give to the trial process is fundamental to the efficiency, and the effectiveness, of the judicial system.
\item Id.
\item See, \textit{e.g.}, Markem-Imaje Corp. v. Zipher Ltd., 657 F.3d 1293, 1301–03 (Fed. Cir. 2011) (Newman, J., dissenting) ("The panel majority's contrary result ignores the paramount
unambiguously understood when the rest of the specification is read,” and while “the claims could have been more perfectly drawn, [] when read in the context of the specification there is no doubt as to what is described and claimed.”

A decision that departs from this rule “perpetuates a distortion of the construction of patent documents, contrary to precedent and defeasible of the critical need for stability and predictability in the system of patents.”

A claim is not limited by its plain meaning; “a claim is ‘inimical’ to any broader construction than the invention set forth in the specification, and reliance on dictionaries, even technical dictionaries, without due consideration of the context of the invention may lead to ‘absurd results.’”

She noted, however, that dictionaries and treatises should be used

to educate the non-technical judge in understanding what the inventor and the examiner understood, not to impose a new evidentiary presumption and not to enlarge the patented invention beyond that set forth by the inventor. The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history.

At the same time, “[i]t is also incorrect to hold that words in claims are broader in meaning than their usage in the specification, simply because a dictionary definition may not contain the limitations of the specification.”

It was also wrong to construe a claim “so as to delete limitations stated in the claim—including the ‘preamble’ clause—and then to hold the claim ‘anticipated’ by subject matter that is excluded by the limitations stated in the preamble clause.”

importance of the specification in claim construction."); Dorel Juvenile Grp., Inc. v. Graco Children’s Prods., Inc., 429 F.3d 1043, 1050 (Fed. Cir. 2005) (Newman, J., dissenting) ("The majority’s approach to claim construction strains this court’s efforts to restore consistency of analysis to patent claims by placing the claims in the context of the specification."); see also Sinorgchem Co., Shandong v. Int’l Trade Comm’n, 511 F.3d 1132, 1146 (Fed. Cir. 2007) (Newman, J., dissenting) ("The panel majority adds inconsistency and unpredictability by arbitrarily limiting the scope of the claimed invention in a way that conflicts with the teachings of the specifications and the knowledge in the field of the inventions. I respectfully dissent.").


393. Housey Pharm., Inc. v. Astrazeneca UK Ltd., 366 F.3d 1348, 1358 (Fed. Cir. 2004) (Newman, J., dissenting); see also Amgen Inc. v. Hoechst Marion Roussel, Inc., 469 F.3d 1039, 1041 (Fed. Cir. 2006) (Newman, J., dissenting from the denial of rehearing en banc) ("[T]his court’s claim construction diverges from the specification and the prosecution history, and presents a claim construction that impinges on the prior art and thereby fosters invalidity.").

394. Housey Pharm., 366 F.3d at 1356.

395. Id. at 1358.

396. Id.


My colleagues on this panel delete material limitations in the claim because they appear in the preamble of the claim, and then find the claim anticipated, although the
b. The Doctrine of Equivalents

Judge Newman has defended the right of patentees to use the doctrine of equivalents as an "equitable tool of infringement analysis" to reach beyond the literal wording of the claims. After observing that "the doctrine is as old as the patent system," she wrote that "[t]he high cost of much modern innovation, and the increasing ease of finding technological alternatives, provide new arguments on both sides of the policy issue." Thus, "[t]he extent to which a wise balance is reached will depend on how well we understand the contributing factors and the balance of interests that the law serves." Elaborating, she wrote:

Disputed issues of equivalency generally arise only after an innovative advance has been successfully commercialized, and others appropriate the benefit thereof while skirting the claims. Thus the doctrine of equivalents is a tool of a technology-based economy; it is an indicator of the policy balance between creativity and imitation. A national economic policy that weighs on the side of fostering development and investment in new technology will have a different approach to the law of equivalency than an economic policy aimed at facilitating competition by minor change in existing products. Any tightening or loosening of access to the doctrine of equivalents shifts the balance between inventor and copier.

As with claim construction, Judge Newman viewed issues of equivalence as issues of fact, and she expressed her "distress" where the majority fails to accord deference. In her view, the doctrine of

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claim is not anticipated when the deleted limitations are considered. These deleted limitations distinguish the invention that is described and claimed in the patent in suit. It is incorrect to construe the claims contrary to the deleted limitations so as to broaden the claims into invalidity.

Id.

398. Perkin-Elmer Corp. v. Westinghouse Elec. Corp., 822 F.2d 1528, 1536 (Fed. Cir. 1987) (Newman, J., dissenting) ("Unless the doctrine of equivalents is to be eliminated as an equitable tool of infringement analysis, these simple electrical equivalents are squarely within it. It is not useful to scientists and engineers for courts to magnify scientific differences beyond their reasonable meaning."); see id. at 1542 ("The doctrine of equivalents does not authorize judicial revision of the basic invention; the interested public must know with reasonable precision the boundaries of the patent grant.").

399. Newman, supra note 102, at 527.

400. Id.


equivalents should adhere to “the substance of the patented invention, avoid[ing] the rigors of formulae and dogma, and [should be] applied . . . as the facts and circumstances, and justice, merited.”403 She opposed it where the accused device did not have all the functions described in the specification,404 and she rejected a rule that required the equivalents both to be known and disclosed in the patent.405 These were akin to “manipulat[ing] the issues of equivalency and estoppel to achieve a policy-driven result.”406

Whether the cylindrical and frusto-conical shapes are equivalent is a question of fact. This question was not subject to summary resolution against the non-movant, for Blumenthal provided sufficient evidence whereby a reasonable jury could find equivalency between the form of the claimed and the accused electrodes . . . . The facts of equivalency require trial. Thus I must dissent from the majority’s resolution of this case.

Id.

A reasonable jury, correctly instructed, viewing all the evidence presented at trial of the case here under review, could have found infringement by equivalency. Our role is appellate review, not trial de novo. The panel majority, holding that there was insufficient evidence of equivalency to present the issue to a jury, appears to concentrate its attack on Malta’s evidence of the ‘way’ aspect of the function/way/result test of Graver Tank. The panel majority finds an inadequate showing of why the elements work in the same way.


[T]his appeal is from a jury verdict of infringement, yet it is difficult to find in the majority opinion any deference to the jury, or application of the standard by which jury verdicts are reviewed on appeal. Thus I respectfully dissent from the review process followed by the panel majority.

Id.

404. Vehicular Techs. Corp. v. Titan Wheel Int’l, Inc., 141 F.3d 1084, 1093 (Fed. Cir. 1998) (Newman, J., dissenting) (“By imposing a new rule of law that overrides the facts of equivalency, the panel majority bars liability for infringement by an equivalent device if the equivalent does not possess the unclaimed advantages or functions described in the specification.”).

The rule here announced and applied by the panel majority severely departs from the precedent of the Supreme Court and of this court. It is directly contrary to the Supreme Court’s ruling in Warner-Jenkinson Co. v. Hilton Davis Chemical Co., wherein the Court “reject[ed] the more severe proposition that equivalents must not only be known, but must also be actually disclosed in the patent in order for such equivalents to infringe upon the patent.”

Id.

She cautioned against venturing into "industrial policy" that lies beyond the court's competence.\textsuperscript{407} She looks to Congress for gap filling, writing that "[i]t is for Congress, not the courts, to change the law for policy reasons." She frowned upon "judicial legislation" which inadequately takes into account "the consequences for research and innovation or the public interest . . . . Congress would be expected to consider the public and private economic and policy aspects of these complex industries. I cannot imagine how, on the record before us, a panel of this court can decide how Congress will decide the issue."\textsuperscript{408}

Judge Newman urged a holistic view of the alleged infringing device and a willingness to gloss over instances "where one or a number of elements of an alleged infringing device are not equivalent to elements in the claim or claims of a patented device, and a conclusion of infringement under the doctrine of equivalents can still be made."\textsuperscript{409} Hence:

\begin{quote}
Because if the elements of the alleged infringing device that are not equivalent to elements in the patent are not crucial to how the device performs, or the result that it obtains, then the device as a whole could still perform substantially the same function in substantially the same way to obtain the same result as the patented device.\textsuperscript{410}
\end{quote}

There are limits to the doctrine of equivalents, one being prosecution history estoppel. Where patent applicants narrow their claims during prosecution, they may be precluded from invoking the doctrine of equivalents to broaden the scope of their claims to cover

\begin{itemize}
\item \textsuperscript{[T]}he majority ignores the bases of the GVR which returned this case to us, and instead manipulates the issues of equivalency and estoppel to achieve a policy-driven result. . . . Although the Supreme Court rejected judicial entry into this policy arena, the majority has entered headlong, criticizing 150 years of Supreme Court precedent and 18 years of Federal Circuit precedent as "unworkable."\textsuperscript{407}
\item \textsuperscript{Id.}
\item \textsuperscript{Id.}
\item \textsuperscript{This spontaneous judicial action represents a venture into industrial policy whose consequences have been inadequately considered. The majority's announced purpose of facilitating competition by restricting patentees' access to the doctrine of equivalents has not been evaluated for its effect on the nation's technology-based industry, for its effect on the system of patents as an innovation incentive, or indeed for its effect on competition. The interdependent policy aspects of technologic innovation, industrial growth, and competition were not briefed, and do not inhere in this court's "special expertise" in adjudication of patent disputes.\textsuperscript{408}
\item \textsuperscript{Id.}
\item \textsuperscript{Eli Lilly & Co. v. Medtronic, Inc., 879 F.2d 849, 850–51 (Fed. Cir. 1989) (Newman, J., dissenting from the denial of rehearing en banc).\textsuperscript{409}} Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 968 (Fed. Cir. 1987), \textit{disapproved by} Cardinal Chem. Co. v. Morton Int'l, Inc., 508 U.S. 83 (1993).\textsuperscript{410} \textsuperscript{Id.}
subject matter ceded by the amendments. However, it should be regarded narrowly. She wrote that “[b]y adopting a generous interpretation of the scope of surrender, and stinginess toward its rebuttal, the ensuing framework is one that few patentees can survive.”411 Instead, she emphasized the need to look carefully at the reasons for why the equivalents might have been surrendered.412 The Supreme Court agreed, holding that “the patentee still might rebut the presumption that estoppel bars a claim of equivalence. The patentee must show that at the time of the amendment one skilled in the art could not reasonably be expected to have drafted a claim that would have literally encompassed the alleged equivalent.”413 In doing so, the Supreme Court vindicated other related dissents of hers.414

To the limitation of prosecution history estoppel, there are three exceptions. The first was when the claim was foreseeable. Judge Newman once dissented against a ruling that a narrower unamended claim is barred from access to any degree of equivalency where a broader claim was amended during prosecution.415 To her, this amounted to an “absolute bar” that “would give the coup de grace to this vestige of the doctrine of equivalents.”416 In another dissent, she wrote that “an existing structure need not be recognized, or even recognizable, as an equivalent at the time of the patent application or amendment, in order to be ‘foreseeable’ if it is later used as an equivalent.”417

The majority had ruled that “the aluminum alloy shield was retrospectively foreseeable at the time of the amendment because it later was used as an equivalent, although it was not known to be equivalent and would not have been deemed equivalent at the time of

415. Id.
416. Id. at 1370.
the amendment.” She accused the majority of inconsistency, rhetorically asking, “How can a particular equivalent be foreseeable, if it was not known that the technology was equivalent in the context of the invention?”

Neither does a search report filed in compliance with a duty of disclosure create prosecution history estoppel “as to the complete and detailed content of all of the references listed in that report.” This is because “[t]he role of the prosecution history in generating an estoppel is different from its role in construing the claims,” and the majority’s rule would have the “mischievous consequence” of “convert[ing] into estoppel the information provided in accordance with the duty of disclosure.”

Judge Newman insisted that the second and third limitations to prosecution history estoppel—“tangentialness” of the amendment and “some other reason”—were both questions of fact. In another case, she protested against requiring “that the inventor was actually prevented from describing an unknown equivalent, in order to rebut the presumption of surrender—and that the reason was contained in the prosecution history—a virtual impossibility,” which in any case required “full and fair exploration of the issues with benefit of the procedures of trial.”

418. Id. at 1386.
419. Id. at 1385–86.
421. Id. at 1466, 1469.
422. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 344 F.3d 1359, 1379 (Fed. Cir. 2003) (Newman, J., concurring in part, dissenting in part) (“I do not agree with the treatment of the factual criteria of ‘tangentialness’ and ‘other reasons’ as questions of law, or with the adjudication of these new issues without permitting evidence and argument in accordance with the procedures of trial.”).
423. Id. at 1385.

All three classes of rebuttal raise questions of fact and all raise questions of first impression, requiring full and fair exploration of the issues with benefit of the procedures of trial. The court’s limitation of the presentation of evidence that may serve to rebut the presumption of surrender constricts judicial ability to render a just decision.
Another limit to the doctrine of equivalents comes from equivalents that had been disclosed but not claimed. Characterizing this as "a new absolute bar to equivalency, a bar that applies when there is no prosecution history estoppel, no prior art, no disclaimer, no abandonment," she criticized the decision because it "jettisons even the possibility of relief when relief is warranted, and further distorts the long-established balance of policies that undergird patent-supported industrial innovation."424 The majority defended its position, denying that it was "announcing a new rule," or that the holding was inconsistent with precedent.425

The "all elements" rule also limits the scope of the doctrine of equivalents. Judge Newman resisted the majority's rule "that all elements of the restated claim are subject to the presumption of surrender of all equivalents, whenever the antecedent independent claim is cancelled."426 The majority sought to prevent "astute practitioners, through clever claim drafting, from electing to treat most, if not all, amendments by merely adding new claim limitations rather than narrowing preexisting ones."427

Her dissent regarded that view as "seriously flawed."428 The logical conclusion would be "that no subordinate claim can avoid presumptive surrender and estoppel whenever a broader claim is cancelled. Yet the writing of broader claims and their cancellation during prosecution is, or was, the common practice. Astute practitioners are indeed needed, for little is left of access to equivalency."429 She warned that "future applicants may attempt to obtain access to the doctrine of equivalents through avoiding

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425. Id. at 1055 (Clevenger, J., concurring).
427. Id. at 1152.
428. Id. at 1153.
429. Id.
dependent claims."\[^{430}\] This would lead to a litany of consequences, such as higher costs, more frequent mistakes, and longer examination times.\[^{431}\]

c. Extraterritoriality and Other Facets of Infringement

Patentees can sue for activity conducted outside of the United States that would infringe if conducted domestically.\[^{432}\] In *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, the majority excluded all process inventions.\[^{433}\] Judge Newman accused her colleagues of "over-react[ing] and overreaching."\[^{434}\] She argued that the statutory term patented invention had "the same meaning in this subsection as in every other part of [the Patent Act]: it is the general term embracing all of the statutory classes of patentable invention."\[^{435}\] Further there was a risk that the defendant may escape liability when "some steps are performed in the United States and other steps are performed offshore."\[^{436}\] This would cause "all process inventions [to be] seriously devalued" and would be an "absurd result."\[^{437}\]

Judge Newman's dissents also touched upon foreign decisions.

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\[^{430}\] Id.  
\[^{431}\] Id.  
Patent applications will cost more, since independent claims carry a heavier fee than dependent ones. There will be more opportunities for mistakes, and insignificant changes in the wording of limitations that would have been incorporated by reference will be fodder for litigation. Examination will probably take longer, because the use of dependent form adds organization to the claims and makes them easier to understand. The losers are those patentees who had no reason to foresee today's new rule, and future patentees who will have to cope with it.

\[^{432}\] Id.  
\[^{35}\] U.S.C. \( \text{§} \) 271(f) (2012) (providing a cause of action for patent infringement when a defendant "supplies" for assembly outside of the U.S. the "components" of a patented invention).


\[^{434}\] Id.  
[M]y colleagues have over-reacted as well as overreached, for it is not necessary (nor is it our prerogative) to destroy the statute for all process industries, in order to avert potential abuses in unknown circumstances. I agree that for ever more complex technologic facts, vigilance is required to preserve the statutory purpose. ... The court's ruling reopens, for process inventions, the loophole that was plugged by \( \text{§} \) 271(f) for all patented inventions. The extensive legislative record shows consideration of equity, economics, innovation incentive, and international concerns, in the evolution of the text of \( \text{§} \) 271(f).

\[^{435}\] Id. at 1366.  
\[^{436}\] Id. at 1373.  
\[^{437}\] Id.
One case concerned whether the court has discretion to resolve aspects that concern foreign patents. The majority "raise[d] the specter that foreign courts might adjudicate United States patent rights, proposing that if our courts are permitted to decide questions under foreign patent law, other countries will feel free to decide questions of United States patent law." She noted that "it is not new for courts in other countries to apply the law of other nations when warranted. Courts in other countries have not refrained from applying foreign patent law, including United States law." She pointed out that there was nothing to warrant a different treatment of patents, observed "the similarity of the policies that underlie patent law of all industrialized nations, and stress[ed] that for most technologies the same scope of practical protection is available to industrial development in all nations." She also noted that "[i]t would be anomalous indeed for the United States now to rule that the courts cannot understand patent principles as applied in other nations."

On the issue of divided infringement, the majority in Akamai Technologies, Inc. v. Limelight Networks, Inc. determined that there was no infringement when one entity performed some steps of the claim and the other performs other steps, unless one entity "controls or directs" the activity of the other. The defendants in the case "formed a strategic partnership, enabled their two programs to work together, and collaborated to sell the two programs as a unit," but did not infringe, even when they collaborated to practice every limitation of the claims. The en banc court concluded that the induced infringement could be found without direct infringement. Judge Newman disagreed, because direct infringement, rather than inducement, was the correct framework upon which to approach the issue. The Supreme Court reversed the majority, holding that "our
case law leaves no doubt that inducement liability may arise if, but only if, [there is] . . . direct infringement."\textsuperscript{447} Disagreeing with both the en banc court and Judge Newman as to the outcome, the Court concluded that "performance of all the claimed steps cannot be attributed to a single person, so direct infringement never occurred."\textsuperscript{448}

In \textit{Commil USA, LLC v. Cisco Systems, Inc.}, the Federal Circuit considered whether a good-faith belief in the invalidity of an asserted patent was a defense to induced infringement.\textsuperscript{449} Judge Newman argued that it was not.\textsuperscript{450} The majority criticized Judge Newman's dissent, noting that it "does little more than construct a straw man and set him ablaze"\textsuperscript{451} and that the defendant's good faith belief in patent invalidity was required to find induced infringement.\textsuperscript{452} The case went up before the en banc court, and Judge Newman gathered to her cause Chief Judge Rader as well as Judges Reyna and Wallach, who joined her dissent.\textsuperscript{453} The Supreme Court agreed with Judge Newman, noting that "the allocation of the burden to persuade on these questions, and the timing for the presentations of the relevant arguments, are concerns of central relevance to the orderly administration of the patent system."\textsuperscript{454} Accordingly, "because infringement and validity are separate issues under the Act, belief regarding validity cannot negate the scienter required under § 271(b)."\textsuperscript{455}

As for ITC cases, Judge Newman sided with the defendants in a case where the patentee, InterDigital, sought to bring an exclusion

\textsuperscript{447} Id.; see also Golden Hour Data Sys., Inc. v. emsCharts, Inc., 614 F.3d 1367, 1381–83 (Fed. Cir. 2010) (Newman, J., dissenting) ("A reasonable jury could have found that this collaborative activity infringed the various claims" based on a theory of direct infringement."). \textit{overruled by} Akamai Techs., Inc. v. Limelight Networks, Inc., 797 F.3d 1020 (Fed. Cir. 2015).

\textsuperscript{448} \textit{Id.} at 2118.


\textsuperscript{450} \textit{Id.} at 1374.

\textsuperscript{451} \textit{Id.} at 1369 n.1.

\textsuperscript{452} \textit{Id.} ("We certainly do not hold 'that if the inducer of infringement believes in good faith that the patent is invalid, there can be no liability for induced infringement . . . Nor do we 'include a belief in patent validity as a criterion of infringement.'").

\textsuperscript{453} \textit{Commil USA, LLC v. Cisco Sys., Inc.}, 737 F.3d 699, 703–04 (Fed. Cir. 2013) (Newman, J., dissenting from the denial of rehearing en banc).

\textsuperscript{454} \textit{Commil USA, LLC v. Cisco Sys., Inc.}, 135 S. Ct. 1920, 1929 (2015).

\textsuperscript{455} \textit{Id.} at 1928.
action against Nokia. She first noted that “InterDigital does not manufacture the patented invention in the United States, and no domestic industry produces the items for which exclusion is sought.”

Second, “[t]he license that InterDigital seeks to impose on Nokia, on threat of exclusion of importation, is not a license to manufacture any patented product in the United States; it is a license to import products made in foreign countries.” Accordingly, no exclusion remedy was warranted.

Recently, a case arose whose outcome would leave patentees with remedy at the ITC when importations were conducted by electronic transmission. The majority held that only tangible imports are subject to exclusion. Basing her views principally on “the language, structure, and purpose of [§] 337, and decades of precedent concerned with digital data, electronic transmission, and infringing importation,” she dissented.

3. Defenses & Exceptions

Inequitable conduct is far and away the most common reason for Judge Newman’s dissents in the subcategory of exceptions and defenses (Figure 24 below). While most of her dissents are decidedly pro-patentee, Judge Newman’s views on the common law research exemption favor defendants. According to her, the patent system’s goal of providing financial incentives “to create new knowledge and bring it to public benefit through new products” is counterbalanced against its goal to “add to the body of published scientific/technologic knowledge . . . . The right to conduct research to achieve such knowledge need not, and should not, await expiration of the patent.”

She acknowledged the challenges of finding the correct balance but noted that “[s]etting the boundaries of a common law exemption requires careful understanding of the mechanisms of the creation, development, and use of technical knowledge, and of today’s complexity of interactions among invention and the innovating fruits

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457. Id.

458. Id. (“The panel majority errs in holding that Congress intended to authorize access to the ITC exclusion remedy in such circumstances. That is not the purpose of the ‘licensing’ amendment to Section 337 of the Tariff Act.”).


of invention,” but cautioned that barring research “would be a practice impossible to administer.”

![Dissents: Exceptions & Defenses (Over Time)](#)

**Figure 26: Dissents: Exceptions & Defenses (Over Time)**

*a. Experimental Use & Repair/Reconstruction*

Judge Newman defended the rights of researchers to experiment on patented inventions. In *Integra Lifesciences I, Ltd. v. Merck KGaA*, the majority had denied the exemption “because the [defendant’s] research had the goal of curing cancer and commercializing the cure.”  

She responded that “an ultimate goal or hope of profit from successful research should not eliminate the exemption.” Instead, “[t]he better rule is to recognize the exemption

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461. Id.
462. Id. at 876
463. Id.
for research conducted in order to understand or improve upon or modify the patented subject matter, whatever the ultimate goal."\textsuperscript{464} That rule would recognize that "research itself is not prohibited, nor is comparison of the patented subject matter with improved technology or with designs whose purpose is to avoid the patent."\textsuperscript{465}

As a matter of law, she urged a distinction between permissible "research" and impermissible "development."\textsuperscript{466} Factors such as "scale, creativity, resource allocation, and often the level of scientific/engineering skill needed for the project... may serve as a useful divider, applicable in most situations."\textsuperscript{467} An exhaustive definition of what qualifies is impossible because "[l]ike 'fair use' in copyright law, the great variety of possible facts may occasionally raise dispute as to particular cases. However, also like fair use, in most cases it will be clear whether the exemption applies."\textsuperscript{468}

The \textit{Integra} majority was also concerned that the exemption would eliminate patents on research tools.\textsuperscript{469} Judge Newman called this a "misperception" because "[t]here is a fundamental distinction between research into the science and technology disclosed in patents, and the use in research of patented products or methods, the so-called 'research tools.'"\textsuperscript{470} An assay kit is "subject to the patent right as is any other device or method, whether it is used to conduct research or for any other purpose."\textsuperscript{471} In contrast, where the invention was a new composition with certain biological properties, the defendant's "syntheses and evaluations" did not use the products as a research tool.\textsuperscript{472} As mentioned in Section II.C.3., the Supreme Court agreed with Judge Newman, holding that the "exemption from infringement extends to all uses of patented inventions that are reasonably related to the development and submission of \textit{any} information" required under the relevant statutory provision.\textsuperscript{473}

One other area of note in Judge Newman's dissent is that "there is no automatic right to replace unworn, unbroken parts of a patented structure simply because the unworn part is sold or used in

\begin{thebibliography}{99}
\bibitem{464} Id.
\bibitem{465} Id.
\bibitem{466} Id.
\bibitem{467} Id.
\bibitem{468} Id.
\bibitem{469} Id. at 877.
\bibitem{470} Id. at 877–78.
\bibitem{471} Id. at 878.
\bibitem{472} Id.
\bibitem{473} Merck KGaA v. Integra Lifesciences I, Ltd., 545 U.S. 193, 202 (2005).
\end{thebibliography}
attachment to a worn part.”

The facts concerned a patented plug that was “a material and complex part of the total claimed invention,” and the fact that it requires a particular cartridge configuration to mate it to the head was “a controlling fact.” In order to preserve “the integrity of the patent grant,” since “[i]f the asserted repair also requires reconstruction, it cannot be deemed to constitute an exception,” and that “[t]he right to exclude others from practice of the patented invention is eviscerated if others are authorized to reconstruct a material portion thereof simply because the worn part of the patented structure is not readily repaired or replaced.”

b. Inequitable Conduct

Inequitable conduct is a defense to patent infringement. It has the effect of an “atomic bomb” and can “endanger a substantial portion of a company’s patent portfolio.” A court finding inequitable conduct may refuse to enforce the patent and its entire family. To prove inequitable conduct, the defendant must show that the patent applicant: (1) withheld or misrepresented so-called “material” information and (2) did so with intent to deceive the USPTO.

On the issue of materiality, an undated brochure at a trade show a few weeks after the application was filed, and found not to be invalidating prior art was not material to patentability. There was no evidence that the brochure was published before the application’s filing date. She reiterated the “high stakes” that came with a charge of inequitable conduct for “both the attorney, whose career it can threaten, and the applicant, who can lose a perfectly valid patent.”

On the issue of intent, she resisted the idea that courts should be able to infer deception. Basing inequitable conduct on a “should have known” standard that the information might be material to patentability “further revives the “plague” of the past.” That is wrong, according to Judge Newman, because the inequitable conduct “requires scienter and deliberateness.”

475. Id. at 307.
476. Id.
478. Id.
479. See id. at 1287.
480. Golden Hour Data Sys., Inc. v. emsCharts, Inc., 614 F.3d 1367, 1382 (Fed. Cir. 2010).
In one case, the applicant failed to send a manual and photographs to the USPTO. The USPTO established on reexamination that the information was immaterial to patentability. The majority "infer[red]" evidence of deceit when the applicant failed to send his attorney the manual and photographs because "a savvy inventor and businessman such as Mr. Obradovich would have known the information was material to patentability and would therefore withhold it in order to deceive the PTO." Judge Newman disagreed because "a more likely inference is that a savvy inventor and businessman would know that a patent obtained through concealment of a material reference is not a reliable commercial asset."

Nor should mistakes be exaggerated into deception. She reiterated that "[t]o avoid the inequity resulting from litigation-driven distortion of the complex procedures of patent prosecution, precedent firmly requires that the intent element of inequitable conduct must be established by clear and convincing evidence of deceptive intent—not of mistake, if there were such, but of culpable intent."

Judge Newman campaigned against majority opinions she felt were too lax in finding inequitable conduct, and repeatedly warned her colleagues not to contribute to the "absolute plague" of inequitable conduct allegations. She wrote that "every experiment done and not done, every scientific inference, every judgment or belief, is fair game for opportunistic attack." Doubtless, her work at American

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483. Id. at 1193–94.
484. Id. at 1194.

It is not clear and convincing evidence of deceptive intent that the applicant did not inform the examiner of the examiner's grant of a related case of common parentage a few months earlier, a case that was examined by the same examiner and whose existence has previously been explicitly pointed out by the same applicant or is it clear and convincing evidence of deceptive intent that the applicant did not cite a reference that the applicant had cited in the same related case, and that had been explicitly discussed with the same examiner in the related case.

Id.

486. Id.
487. Ulead Sys., Inc. v. Lex Computer & Mgmt. Corp., 351 F.3d 1139, 1155 (Fed. Cir. 2003) (Newman, J., concurring in part, dissenting in part) ("At the time this fee concession was adopted the courts were experiencing the 'absolute plague' of charges of inequitable conduct in 'almost every major patent case,' perhaps cautioning the regulators about additional fodder for that plague.").
Cyanamid and FMC Corp. led her to express concern at how this “litigation-driven issue” evolved to “demand a perfection that few could attain in the complexities of patent practice.”489 According to her, “straightforward scientific and patent activity were distorted until judicial suspicions were raised, despite the absence of any significant error or misstatement,” and “[s]uch attacks feed upon the complexities of science and technology, and it is rare indeed that some flaw cannot be found.”490

Judge Newman described an apocalyptic scene where “[t]he consequences were disproportionally pernicious, for they went far beyond punishing improper practice. The defense was grossly misused, and with inequitable conduct charged in almost every case in litigation, judges came to believe that every inventor and every patent attorney wallowed in sharp practice.”491 To the skeptical readers, it seems almost as if she turns, looks straight at them and says, “This is not hyperbole.”492

Inequitable conduct presented a danger to the viability of the patent system itself. She wrote that “[l]itigation-induced assaults on the conduct of science and scientists, by aggressive advocates intent on destruction of reputation and property for private gain, produced the past ‘plague’ of charges of ‘inequitable conduct.’”493 Where the realities of science met the requirements of the law, the latter must give way lest the progress of the former be derailed by “opportunistic challenge.”494 Scientific research and patent prosecution were

490. Hoffmann-La Roche, 323 F.3d at 1381.
491. Ferring B.V., 437 F.3d at 1195.
492. Id.
493. Hoffmann-La Roche, 323 F.3d at 1372.

A successful attack on the inventor or his lawyer will destroy the patent, no matter how valid the patent and how sound the invention. The uncertainties of the processes of scientific research, the vagaries of the inductive method, the complexities of patent procedures, and the twists of hindsight, all provided grist for this pernicious mill. Indeed, the prevalence of accusations of inequitable conduct in patent cases led judges to suspect that all scientists are knaves and all patent attorneys jackals. Today this court revives that misbegotten era.

Id. at 1373.

This case illustrates the ease of opportunistic challenge to the conduct of experimental science in patent context. My colleagues have distorted the patent process, and the science it supports, into a game of high stakes hindsight that few patents can survive. This additional risk to those who create valuable advances of science and technology has no countervailing public benefit, for the only beneficiary is the infringer who destroys the patent. I must, respectfully, dissent.
complex, and scientists and attorneys should not be penalized as “knaves” and “jackals,” nor should “valid” and “sound” inventions be subject to the “pernicious mill” from a “misbegotten era.”495

She appealed to historicity and commercial common sense, writing that “[p]ractitioners from an earlier era well recall the adverse impact on industrial innovation when patents were not a reliable support for commercial investment, based in part on the judicial belief that patents and their practice were seriously flawed.”496 It was easy for defendants to “challenge the niceties of patent prosecution” if it was “irrelevant whether the examiner was in fact deceived, or whether the purported flaw in prosecution affected patentability, or whether the action was an intentional misrepresentation or at worst negligence, or whether the invention met the statutory requirements of patentability.”497

Judge Newman was concerned about subjectivity in adjudication. She wrote that the standard allows courts to infer material misrepresentation, malevolent intent, and to “wipe out a valuable property right, all on summary judgment.”498 In another dissent, Judge Newman was affronted by the majority’s perceived distrust of the scientific community, noting that “[t]here is no evidence, or even an allegation, that any of these scientists had anything to gain or lose as a result of the issuance of the ’398 patent.”499 She took the panel to task for mischaracterizing that the affiants had “intimate ties” such “that their scientific opinions may be biased and were submitted with deceptive intent,” calling it “a travesty.”500 She explained that scientists commonly interact with others in the field, and “[s]uch relationships do not warrant an inference of bias and deception. There must be evidence and analysis, not innuendo. Scientific integrity should not be impeached by per se rules without foundation.”501

Sometimes her dissents related to more controversial routes of finding inequitable conduct. In one instance, the majority found inequitable conduct for underpayment of a fee because it was paid at a rate for “small entities” rather than the normal rate. To her, this was

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495. Id. at 1372.
496. Ferring B.V., 437 F.3d at 1195.
497. Id. at 1196.
498. Id. at 1196–97.
499. Id. at 1198.
500. Id.
501. Id. at 1200.
an error correctable without further inquiry.\textsuperscript{502} In another instance, she argued that inventorship issues gave rise to inequitable conduct only where it was deceptively withheld during the examination process.\textsuperscript{503} Nor were patent applicants required to disclose all similar technologies, but only "all information material to patentability of the claimed invention."\textsuperscript{504}

Judge Newman's sympathy for inventors accused of inequitable conduct was evident when she resisted imposing personal liability on an inventor who was a non-party after the case had been tried and judgment rendered.\textsuperscript{505} The majority allowed a fee award claim to be brought against the inventor, and found "no basis . . . to believe" that he could have avoided personal liability had he been joined as a defendant before judgment was rendered.\textsuperscript{506} She wrote that "the imposition of personal liability on the inventor, after all proceedings have ended, undoubtedly will breed a new 'plague' of inequitable conduct litigation, and further move patent cases from the mainstream of not only substantive law but also procedural law."\textsuperscript{507}

The Supreme Court unanimously reversed the majority

\textsuperscript{502} Ulead Sys., Inc. v. Lex Computer & Mgmt. Corp., 351 F.3d 1139, 1155 (Fed. Cir. 2003) (Newman, J., concurring in part, dissenting in part) ("At the time this fee concession was adopted the courts were experiencing the 'absolute plague' of charges of inequitable conduct in 'almost every major patent case,' perhaps cautioning the regulators about additional fodder for that plague.").


Incorrect inventorship, if incorrect because of deceptive intent, will invalidate the patent. But the issue at trial was not whether the inventorship was correct; it was whether the applicant intentionally withheld from the patent office information that was required to be disclosed. With no evidence of deceptive intent in withholding information that was required to be disclosed, there can not have been a verdict of inequitable conduct.


His personal liability was never litigated, and 'piercing the corporate veil' has been explicitly disclaimed as a ground for charging Mr. Nelson with personal liability. Mr. Nelson had no opportunity to contest the issue of his personal liability for inequitable conduct as an inventor. Thus I must, respectfully, dissent from my colleagues' ratification of this breach of due and fair process.

\textsuperscript{506} Id. at 1353–54 ("The issue of inequitable conduct, although decided adversely to Ohio Cellular, was not based on undisputed facts or admissions. The majority's findings of personal liability do not derive from litigation in which Mr. Nelson had the opportunity to defend his personal liability.").

\textsuperscript{507} Id. at 1355.
opinion. It noted Judge Newman's "vigorous dissent," and agreed with her that the defendant was never given the opportunity to respond but instead "adjudged liable the very first moment his personal liability was legally at issue." She caustically noted that "procedure of this style has been questioned even in systems, real and imaginary, less concerned than ours with the right to due process."

As with the doctrine of equivalents and claim construction, inequitable conduct was a question for the jury. To her, the fact that deceptive intent rested on credibility findings was sufficient for it to be a jury question. She emphasized the need for a full trial before inequitable conduct can be found, chastising the majority for concluding that inequitable conduct had occurred "not upon considering and weighing the particular facts, but by adverse inference and presumption, on summary judgment."

In an unusual case, Judge Newman came to the defense of an attorney where she was convinced that there was no intent to deceive the PTO. She wrote:

Mr. Lipman refrained from the precipitous (and irresponsible) action that the PTO states was his obligation immediately on receiving the April 27 letter. This was proper, not improper, representation. He actively and diligently investigated the matter and duly and timely prepared the appropriate documents for filing in the PTO. The circumstances do not establish a violation of 37 C.F.R. § 10.23 (Misconduct). I must, respectfully but with urgent concern for this miscarried disciplinary action, dissent.

In a later dissent, she stated more broadly that "[a]ttorney fee sanctions are rarely assessed in routine civil actions, lest the chilling
effect of threatened punishment of the lawyer inhibit an aggrieved party's access to assistance.\textsuperscript{515}

4. Remedies

The victorious patentee is entitled to damages, injunctive relief, and attorney fees, or any combination as the circumstances warrant.\textsuperscript{516} Figure 27 (below) shows Judge Newman's dissents on remedies. Her dissents have focused on injunctions and damages. Her other dissents touch on attorney fees, costs, sanctions, and unjust enforcement.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure27.png}
\caption{Figures: Remedies (Over Time)}
\end{figure}


516. \textit{See} Hansen, Scafidi \& Lim, supra note 66.
 Judge Newman generally had little reason to dissent on the issue of damages. In one case, the majority sided with a district court that rejected the master's methodology "in the absence of clear error in the premises adopted by the master or in his application of law." She has also differed from the majority in valuing infringed patents by looking at "licenses involving the technology of those patents bundled with additional technologies, such as software code." The majority held "that only the royalty in the settlement agreement can be considered in the hypothetical license negotiation." Judge Newman thought that those licenses involved the same subject matter and "allocating their proportional value, with the assistance of undisputed expert testimony" should have been permissible.

**b. Injunctions**

Any consideration of preliminary injunctive relief necessarily implicates the judge's view of likelihood of success on the merits and therefore the elements of validity. The burdens of proof can be determinative, and Judge Newman parted from her colleagues in the presumption of validity. As she put it, "[t]he appropriate question, however, is whether the movant is likely to prevail on the merits, not whether the accused infringer can raise a defense."

Judge Newman explained the reason for this staunch defense of the presumption of validity in another dissent. She wrote:

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517. Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc., 862 F.2d 1564, 1582 (Fed. Cir. 1988) (Newman, J., concurring in part, dissenting in part) ("The district court pointed to no error in judgment or law or factual premise in these rulings, and erred in rejecting the master's decision and substituting its own.").


519. Id. at 882.

520. Id. at 876.

The presumption arises from the Patent Office's final decision to grant the patent: the examination that not only finds the prior art, but weighs and evaluates the technological and objective evidence, based on scientific experience and legal expertise. . . . The presumption is based not only on the identification of prior art and the differences from the claimed invention, but on the administrative decision of unobviousness. It is curious indeed to hold that only the former administrative actions are entitled to its benefit, accepting the expertise of the examiner as searcher but not as evaluator. 522

As to the balance of hardships, that factor should be decided in favor of the defendant where the current state of affairs is not easily recoverable if the interim infringement is authorized. Every factor should be considered. 523 For Judge Newman, "[w]hen the equities are considered, and on an objective view of the facts of patent validity, the fair and just action is to preserve the status quo during the litigation." 524

c. Attorney Fees

Patent law permits fee-shifting in egregious situations. Generally speaking, Judge Newman requires a higher threshold for attorney fees than her colleagues. Amidst the rising tide of patent trolling, she made the point that even a "weak case is entitled to a day in court without fear of judicial ire." 525 The American Rule militated against fee-shifting so that one is not penalized for merely defending or prosecuting a lawsuit. She noted that "[t]he nation’s policy is to retain the American Rule; and should that rule favor what some call ‘patent predators’ or ‘patent trolls,’ the possible potential remedy is complex and its implications manifold." 526

In another case, what the majority found “an ‘exceptional case’ of such severity as to warrant the award of attorney fees” was one with "unexceptional trial procedures and non-culpable prosecution errors." 527 The case touched on a pet peeve of hers—inequitable conduct. She wrote that:

523. Abbott Labs. v. Andrx Pharm., Inc., 452 F.3d 1331, 1351 (Fed. Cir. 2006) (Newman, J., dissenting) ("Instead, the majority opinion announces that this aspect will not be considered at all.").
526. Id.
My colleagues now hold that when "inequitable conduct" is relied on for a fee award, there is "no distinction, in either our case law or any statutory authority, between inequitable conduct that is somehow benign, and inequitable conduct that is otherwise." To the contrary, that distinction is critical, as reflected in precedent and in the premises of the statute, and must be considered.\textsuperscript{528}

On the facts, the majority had found inequitable conduct based on the inventor paying "small-entity fees" instead of "large entity fees" as well as his "failure to tell the examiner of ongoing litigation with Motorola involving related patents, an error that was shown to be unintentional, of no interest to the examiner, and of no consequence to the allowance of any claims."\textsuperscript{529} She again reiterated her concern voiced in inequitable conduct cases that "[a]ny patent prosecution, and indeed any litigation, is vulnerable in its detail. It is appropriate and necessary to consider the nature of the conduct, in reviewing an attorney fee award, and to limit such award to major infractions, as statute and precedent require."\textsuperscript{530}

5. Other Issues

Beyond the traditional doctrinal categories, Judge Newman also dissented on a host of other miscellaneous issues (Figure 28 below). Most are case specific and provide little direction for future application.\textsuperscript{531} A few areas, however, are significant and warrant some discussion. The areas that warrant discussion are her dissents on: design patents, evidence and procedure, and prosecution.

\textsuperscript{528} Id. at 1362.

\textsuperscript{529} Id.

\textsuperscript{530} Id. at 1365.

\textsuperscript{531} A common theme might be that Judge Newman argues the court should exercise jurisdiction and give the parties an answer, rather than duck the issue. I am indebted to Andrew Michaels for this insight.
Dissents: Other Issues (Over Time)

FIGURE 28: DISSENTS: OTHER ISSUES (BY YEAR)

a. Design Patents

Judge Newman's dissents involving design patents primarily stress the distinct role that they play from utility patents. In one dissent, she wrote that "[a] design patent is not a substitute for a utility patent. When the only distinctiveness of the claimed design is in its functional features, and ornamentation is not asserted or shown, the design does not meet the statutory requirements." At the same time, she has also resisted attempts to create new rules specific to design patents. In context of whether a design patent could benefit


I must, however, dissent from the court's creation of a new rule specific to design patents, the panel majority holding that experimental use is "virtually inapplicable in the design patent context." . . . I can think of no public policy that is served by
from the experimental use exception in utility patent law, she wrote that

[t]here is no reason, in law or policy, for the panel majority's new and special rule whereby the statutory bar accrues for design patents as soon as the basic design of the article is made, even when later modifications of the design are essential to the utility of the article for its intended use.\textsuperscript{534}

In one dissenting opinion, Judge Newman made an important observation that would become the law several years later. On the issue of novelty, the majority held that “a design patent is not valid if it is a combination of known design elements, even if the combination is novel and the design viewed as a whole meets the criteria of unobviousness.”\textsuperscript{535} In response, she wrote that “[c]ontrary to the panel’s view, the overall appearance of a design can indeed be novel, and can indeed constitute the patentable novelty.”\textsuperscript{536} She explained that “many, if not most, design patents are novel combinations of known design elements, and that recognition of a design’s overall appearance can constitute a point of novelty, in the usage that has evolved in design patent law.”\textsuperscript{537} As a matter of policy, she wrote, “I am concerned lest the design patent law be placed in unpredictable limbo, for many if not most design patents are novel combinations of known design elements, and design patents are examined and granted on this rationale.”\textsuperscript{538}

The Federal Circuit articulated the modern test for infringement in \textit{Egyptian Goddess v. Swisa, Inc.}—whether the accused product looks substantially similar to the design patent when seen as a whole by an ordinary observer.\textsuperscript{539} The court in that case overturned the more stringent “point of novelty” test which required a judge to find “novel elements” in the patent which did not exist in the prior art.\textsuperscript{540} The modified ordinary observer test reduces the burden of patent holders to prove design patent infringement, simplifying the path for effective enforcement of design patents.

\textsuperscript{534} \textit{Id.}; see also \textit{Lawman Armor Corp. v. Winner Int'l, LLC}, 449 F.3d 1192, 1193–95 (Fed. Cir. 2006) (Newman, J., dissenting from denial of petition for rehearing en banc) (“The patentability of a design is determined on statutory criteria, as for all patents.”).
\textsuperscript{535} \textit{Id.}
\textsuperscript{536} \textit{Id.}
\textsuperscript{537} \textit{Id.}
\textsuperscript{538} \textit{Id.}
\textsuperscript{539} 543 F.3d 665, 678 (Fed. Cir. 2008).
\textsuperscript{540} \textit{Id.}
Judge Newman's dissents on evidence and procedure look like a scattershot (Figure 29 below). The vast majority are idiosyncratic instances of one or two cases over thirty years. In a matter concerning a mandamus petition, Judge Newman was in favor of a more expansive jurisdiction. Judge Newman was concerned about the cost of the Federal Circuit's decision on parties. Where the matter could only be resolved in one fashion, summary judgment was the way.

541. Joy Mfg. Co. v. Nat'l Mine Serv. Co., 810 F.2d 1127, 1130–33 (Fed. Cir. 1987) (Newman, J., concurring in part, dissenting in part); see also In re Roberts, 846 F.2d 1360, 1367 (Fed. Cir. 1988) (Newman, J., dissenting). In In re Roberts, the majority was concerned that granting leave would result in a conflict with Seventh Circuit patent law. Id. at 1361–63. Judge Newman brushed it aside:

Seventh Circuit patent law is extinct; it has no role in ongoing litigation, unless it has law of the case viability. Our responsibility as successor appellate authority is to determine the law of the case viability . . . By rejecting both authority and opportunity to respond to Roberts' petition, we do not fulfill our obligation to achieve consistency in patent law and practice.

Id. at 1367 (Newman, J., dissenting).

542. Euclid Chem. Co. v. Vector Corrosion Techs., Inc., 561 F.3d 1340, 1346 (Fed. Cir. 2009) (Newman, J., concurring in part, dissenting in part) ("Since as a matter of law only one conclusion is reasonable, there is no need for prolongation of this litigation with its costs, delays, and burdens on parties and courts.")
Judge Newman’s principal contention in prosecution-related issues lies in the relationship between, on the one hand, the USPTO reexamination process and, on the other, the district court and the Federal Circuit (Figure 30 below). Sometimes it was a question of whether the PTAB should follow the same standard of interpreting claims as the district court. At another, it was whether the Federal Circuit or the PTAB should have the last word on patent validity. These issues were discussed in Section II.C. in setting out the sometimes deferential and sometimes stormy relationship between Judge Newman and the PTAB.

An issue that has risen more recently involves the scope of the PTAB’s discretionary powers. One facet of Judge Newman’s contention involves whether the PTAB can decide whether to institute post-grant proceedings. According to Judge Newman, the American
Invents Act empowers the USPTO Director, not the PTAB, to do so. The role of the PTAB lies in rendering the final opinion.\textsuperscript{543} She explains that the Director to be satisfied that there is a reasonable likelihood of invalidating at least one claim, to prevent "cumulative and harassing attacks, whereby the vitality of the patent could be consumed by multiple and time-consuming proceedings."\textsuperscript{544} Casting this requirement against a historical backdrop, she explains that this threshold was designed to avoid the mandatory review of cumulative or overlapping issues during ex parte or inter partes review.\textsuperscript{545}

In \textit{SAS Institute, Inc. v. ComplementSoft, LLC}, Judge Newman fleshes this out.\textsuperscript{546} On the facts, the challenger had "presented complete evidence as to all of the claims that it challenged in the petition, and ComplementSoft provided a full response. Nonetheless, the PTO refused to consider all of the claims that had been placed at issue, leaving seven claims undecided."\textsuperscript{547} She charges the majority with a violation of legislative intent, cautioning that "[t]he AIA provisions are designed to act in harmony, like a well-oiled engine. Incorrect implementation by the agency distorts the framework, providing the now-observed result of protracted litigation grinding against administrative obstinacy. The victim is the Nation's innovation economy."\textsuperscript{548}

A second facet of Judge Newman's contention involves whether the PTAB can select which of the challenged patent claims and issues to adjudicate, leaving the rest undecided. In \textit{Synopsys, Inc. v. Mentor Graphics Corp.}, she noted that "[t]his absence of finality negates the AIA's purpose of providing an alternative and efficient forum for resolving patent validity issues."\textsuperscript{549} This uncertainty is exacerbated by the fact that PTAB proceedings rely on a different standard of proof than the district courts, "producing prolonged uncertainty and multiplied proceedings, at increased rather than reduced cost."\textsuperscript{550}

Another issue worth discussing is that of double patenting. The issue arises when two patents issue with claims over the same invention. Like the doctrine of equivalents, it is judge made. Patent policy prohibits patentees from extending the duration of protection of

\begin{footnotesize}
\begin{itemize}
  \item[544.] Id.
  \item[545.] Id. at 1036–37.
  \item[546.] 825 F.3d 1341 (Fed. Cir. 2016) (Newman, J., concurring in part, dissenting in part).
  \item[547.] Id. at 1355.
  \item[548.] Id. at 1354.
  \item[549.] 814 F.3d 1309, 1325 (Fed. Cir. 2016) (Newman, J., dissenting).
  \item[550.] Id.
\end{itemize}
\end{footnotesize}
their patents through double patenting.\textsuperscript{551} The law does not treat the earlier patent as prior art, but "simply requires elimination of the extension of exclusivity by truncating the term of the second patent to issue, to coincide with the term of the first patent to issue."\textsuperscript{552}

On the basis that the first patent was not regarded as prior art, Judge Newman objected to the majority using it as a reference against the second patent in judging nonobviousness.\textsuperscript{553} When obviousness-type double patenting is found, patentees may disclaim the term of any patent granted on the application at issue that would extend beyond the term of cited application or patent using a terminal disclaimer, rather than have the entire application denied.\textsuperscript{554} In one dissent, the majority had found "neither common inventorship nor common ownership, but having so found withholds the standard remedy of the terminal disclaimer, and simply denies the application." She wrote:

If there indeed is obviousness-type double patenting, then a terminal disclaimer is necessarily available. However, the court rules that a terminal disclaimer is not available because there is not common ownership. Yet if there is not common ownership or common inventorship, there cannot be double patenting," and criticized the majority's reasoning as being "circular."\textsuperscript{555}

\textsuperscript{551} Eli Lilly & Co. v. Barr Labs. Inc., 251 F.3d 955, 967 (Fed. Cir. 2001).

\textsuperscript{552} Id. at 974–75.

\textsuperscript{553} In re Lonardo, 119 F.3d 960, 968–69 (Fed. Cir. 1997) (Newman, J., concurring in the judgment as to Serial No. 08/218,756, dissenting as to Reexamination Nos. 98/003,494 and 90/003,343) ("Double patenting is not a ground of rejection that is permitted to be raised under the reexamination statute."); Eli Lilly, 251 F.3d at 975 (Newman, J., dissenting).

When the second patent to issue is (as here) the first patent that was filed, an anomaly may arise when there is a valid charge of obviousness-type double patenting. I repeat, that charge is not here available because the first patent that was filed was in fact a reference against the second patent.

\textit{Id.}


\textsuperscript{555} In re Hubbell, 709 F.3d 1140, 1150–54 (Fed. Cir. 2013) (Newman, J., dissenting) ("On this circularity, the court denies the CalTech application on the ground of double patenting.").
IV. CONCLUSION

This Article provides both a quantitative and qualitative portrait of a remarkable woman who helped shape the law for over thirty years in a court she helped to create. She regards the court as a success, but has never forgotten its purpose and mission and has not hesitated to remind her colleagues when they go awry. For Judge Newman, "[t]he most important value of the rule of law is in the provision of a stable and reliable framework for behavior, and the avoidance of litigation."556 It is a duty and one from which she would not shrink or waver.

Judge Newman’s dissents have enriched the patent dialogue at the Federal Circuit. A few have succeeded in gaining traction with the Supreme Court, with her colleagues, and with academics. Others are pitched to a key for a future court and a true measure of their influence lies in the hands of history. All have become part of its institutional memory, and they provide an unvarnished roadmap of the issues where she saw room for course correction. As is fitting, the final words on her dissents are hers:

It is time, again, to think creatively, to assure that the law and the policy it implements are optimum for today’s and tomorrow’s science and its technologic applications.\textsuperscript{557}

Our differences of opinion are, I believe, healthy, and necessary. They weigh against the risks of complacency and disaffection envisioned by opponents of the formation of the Federal Circuit. . . . I do not profess objectivity in my assessment of the Federal Circuit. I believe that the fears of the opponents have not been realized; and my hopes as a proponent are being met. This alone cautions against complacency. Justice Holmes said that the inevitable comes to pass only through effort. We are committed to that effort.\textsuperscript{558}

\textsuperscript{557} Pauline Newman, \textit{After Twenty-Five Years}, \textit{17 FED. CIR. B.J.} 123, 123 (2007).

\textsuperscript{558} Newman, \textit{supra} note 102, at 527–28.
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