

CONFIRMATION BIAS AND THE DUE PROCESS OF INTER PARTES REVIEW

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ABSTRACT

In 2012, the Leahy-Smith America Invents Act was signed into law with the objective of providing fast and inexpensive ways for third parties to challenge the validity of issued patents in front of the Patent Trial and Appeal Board. The most popular of these procedures, the inter partes review, involves a panel of judges that determine if the petitioner, the challenger of a patent, is likely to win before any evidence is collected. The same panel, after briefing and an oral argument, then decides the validity of the patent. The structure of this initial determination—called institution—has led many to question the fairness of these proceedings; a complaint that is strengthened by statistics showing that patent owners are nearly twice as likely to lose their patents as not in inter partes review. While the perception of partiality has long permeated the profession, the literature remains silent regarding whether this specific enactment of the America Invents Act by the Patent and Trademark Office was done in a way that infringes upon a patent owner's due process when they are deprived of their patent by an inter partes review. This

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Article fills that void by introducing the idea of confirmation bias, a long investigated psychological phenomenon that occurs in decision makers, and analyzing whether such a bias is likely held by an Administrative Patent Judge. Finding this to likely be the case, the Article then undertakes a Mathews test to determine if inter partes review helmed by these judges affords patent owners due process before the deprivation of their patent. Creating a process for invalidating inappropriately issued patents that is fast and inexpensive is imperative for not only the field of patent law, but for advancing the American economy through robust innovation. However, this process must be fair and respect the property rights that are bestowed upon patent owners at the issuance of the patent.

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INTRODUCTION

Let's face it—whether we like to admit it—judges and other officials in the legal system experience bias to some extent. To suggest otherwise is to assume that judges are superhuman; robots whose only functions are to reason, derive rules, apply facts, and make decisions. Judges are neither devoid of emotion nor of previously held beliefs and experiences when they sit on the bench. Try as they may, judges are not blank slates. While the reader's mind might immediately turn to racism, sexism, or classism; the bias of focus in this Article is of a far less nefarious—and far more pervasive—form; a bias that everyone experiences to some extent: confirmation bias. This Article investigates how the America Invents Act, crafted and enacted with the best intentions, has created a situation where patent judges are likely experiencing confirmation bias and whether that situation fails the three-part test for procedural due process first articulated in *Mathews v. Eldridge*.¹

When the America Invents Act (AIA)² was signed into law on September 16, 2011, Congress sold the AIA as necessary for “energiz[ing] the economy and promot[ing] innovation.”³ The main objective of the AIA was to stymie perceived abuses of existing patent litigation procedures by non-practicing entities (NPEs), or “patent trolls.” These NPEs would purchase and assert “inferior” patents, or patents that should not have issued, against large companies

¹ 424 U.S. 319 (1976).

² Leahy–Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) [hereinafter America Invents Act] (codified as amended in scattered sections of 35 U.S.C.).

³ 157 CONG. REC. S5326 (daily ed. Sept. 6, 2011) (statement of Sen. Leahy) (using such star-spangled language as “[i]nnovation and economic development are not uniquely Democratic or Republican objectives—they are American goals”).

that would be highly motivated to avoid costly litigation and settle.

Congress attempted to accomplish this objective by creating post grant review procedures to invalidate these incorrectly issued patents.⁴ These procedures include post grant review, inter partes review, supplemental examination, and derivation proceedings, as well as a transitional post grant review program for certain business methods patents.⁵ Congress’s approach—that “one set of eyes is good, two is better, three is better still”⁶—has weakened legitimately issued patents, however, by leaving them perpetually susceptible to a third party challenge.⁷ Moreover, these new procedures are essentially lethal to patents. According to the Patent Office’s own data, the Patent Trial and Appeal Board (PTAB)—the body that is empaneled to hear these challenges—invalidates at least some claims of a patent in about eighty-five percent of the cases it hears.⁸ This statistic

⁴ See *id.* (arguing for the creation of inter partes review and post grant review to replace the previous review process, inter partes reexamination, which had been criticized as being “too easy to initiate and used to harass legitimate patent owners, while being too lengthy and unwieldy to actually serve as an alternative to litigation”); see also 157 CONG. REC. S7413 (daily ed. Nov. 14, 2011) (statement of Sen. Kyl) (showing that one of the goals of the AIA was to get rid of “the worst patents, which probably never should have been issued”).

⁵ See Gregory Dolin, *Dubious Patent Reform*, 56 B.C. L. REV. 881, 882 (2015) (citing Sarah Tran, *Policy Tailors and the Patent Office*, 46 U.C. DAVIS L. REV. 487, 498–99 (2012)).

⁶ *Id.* at 883.

⁷ See 35 U.S.C. §§ 311(c), 321(c) (2012) (showing that a third party can petition for post-grant review within nine months of issue, or, for inter partes review, starting nine months after issue).

⁸ See U.S. PATENT & TRADEMARK OFFICE, PATENT TRIAL AND APPEAL BOARD STATISTICS: 8/31/2015 1, 9 (2015) [hereinafter *PTAB Stats*], <http://www.uspto.gov/sites/default/files/documents/2015-08-31%20PTAB.pdf> [<https://perma.cc/X8F3-BTYK>] (illustrating that, of the 482 trials that reached completion, 327 trials resulted in all instituted

is shocking, especially in light of previously existing procedures in which only thirty-one percent of challenged patents were invalidated.⁹

There are likely several reasons for such an alarming increase in the invalidation of challenged patents, such as the adversarial nature of current practices, the value of patents to different industries, and the increased suspicion of Congress and the public of patent holders and patent qualities thanks to the rise of non-practicing entities. This Article argues that one of the causes is an issue that affects every person including, whether we like to admit it or not, judges and other officials in the legal system: bias, particularly confirmation bias.¹⁰ Confirmation bias “refers

claims being held unpatentable, and 82 trials resulted in some instituted claims being held unpatentable); *see also* Brian J. Love & Shawn Ambwani, *Inter Partes Review: An Early Look at the Numbers*, 81 U. CHI. L. REV. DIALOGUE 93, 102 (2014) (showing that, as of September 2014, 77.5% of IPRs resulted in invalidation of all instituted claims).

⁹ *See* U.S. PATENT & TRADEMARK OFFICE, INTER PARTES REEXAMINATION FILING DATA - SEPTEMBER 30, 2014 [hereinafter *Inter Partes Reexamination Statistics*], http://www.uspto.gov/sites/default/files/documents/inter_parte_historical_stats_roll_up_EOY2014.pdf [<https://perma.cc/H95B-56YS>]. Inter partes reexamination was a procedure that allowed for third party patent challenges prior to the enactment of the AIA.

¹⁰ *See, e.g.*, SCOTT PLOUS, THE PSYCHOLOGY OF JUDGMENT AND DECISION MAKING 231-34, 238-40, 258-60 (Christopher Rogers & James R. Belser eds., 1993) (studying confirmation bias in a variety of subjects including college students and mathematical psychologists); Jerry Kang et al., *Implicit Bias in the Courtroom*, 59 UCLA L. REV. 1124, 1159-63 (2012) (examining confirmation bias on law students, scientists, researchers, and a federal judge). *See generally* Charles G. Lord et al., *Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 37 J. PERSONALITY & SOC. PSYCHOL. 2098 (1979) (laying out the first confirmation bias tests); Eyal Peer & Eyal Gamliel, *Heuristics and Biases in Judicial Decisions*, 49 CT. REV. 114 (2013) (discussing confirmation bias in judges); Eric Rassin et al., *Let's Find the Evidence:*

to a preference for information that is consistent with a hypothesis rather than information which opposes it.”¹¹ Essentially, when one is presented with limited evidence and asked to make a decision about the evidence, and then provided with more evidence and told to make a subsequent decision, the initial decision will influence the subsequent one.

While confirmation bias pervades the spectrum of decision makers, it is perhaps no more apparent than in inter partes review (IPR),¹² the far-and-away most popular form of third party challenge created by the AIA.¹³ Specifically, the aspect of an IPR that makes it different from most other administrative or judicial procedures—and where confirmation bias arises¹⁴—is in the institution of IPR petitions.¹⁵ At the institution step, a panel of three or more administrative patent judges—typically former examiners or practitioners¹⁶—armed with only the petition and the patent

An Analogue Study of Confirmation Bias in Criminal Investigations, 7 J. INVESTIGATIVE PSYCHOL. & OFFENDER PROFILING 231 (2010) (studying the effects that a previously made hypothesis has on the future decisions of judges, prosecutors, police officers, and college students).

¹¹ PLOUS, *supra* note 10, at 233.

¹² 35 U.S.C. §§ 311–19.

¹³ PTAB Stats, *supra* note 8, at 2.

¹⁴ See Gene Quinn, *Are PTAB Proceedings Fundamentally Unfair to Patent Owners?*, IPWATCHDOG (Mar. 6, 2015) [hereinafter *Quinn, Unfair*], <http://www.ipwatchdog.com/2015/03/06/ptab-proceedings-unfair-to-patent-owners/id=55397/> (“There is no doubt that given their outsized authority, the way the PTAB has evolved is reminiscent of a tribunal that acts as judge, jury, and executioner.”).

¹⁵ See 35 U.S.C. § 314 (outlining the institution of IPRs).

¹⁶ See Jennifer R. Bush, *Administrative Patent Judges: Not Your Typical Federal Judge*, FENWICK & WEST LLP (July 10, 2014), <https://www.fenwick.com/publications/pages/administrative-patent-judges-not-your-typical-federal-judge.aspx> [<https://perma.cc/EZ9N-FVWL>] (stating that the criteria for hiring an administrative patent

owner’s initial response, decide whether there is a “reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”¹⁷ The same panel of judges is presented a limited amount of evidence¹⁸ and an oral argument before making the final written decision, where the prevailing party is officially decided. Making matters worse is that the institution step is statutorily mandated,¹⁹ meaning that Congress has placed administrative patent judges in a position where no one could help but be biased.²⁰ Because patents are given all the treatment of personal property,²¹ any biased tribunal that deprives a patent owner of a legitimately held patent could be violating a patent owner’s due process under the Fifth Amendment.²²

While confirmation bias is well investigated in both the psychological and legal fields, and while there has been a feeling of impropriety within the patent bar with respect to patent owner’s rights in front of the PTAB, the literature fails to bridge the gap; this Article attempts to become that nexus.

judge included “ability to litigate or draft decisions around patentability” and writing a case study of *KSR Int’l Co. v. Teleflex Inc.*.

¹⁷ 35 U.S.C. § 314(a).

¹⁸ See 37 C.F.R. §§ 42.51–53 (2015) (limiting discovery to only depositions of a few experts).

¹⁹ See 35 U.S.C. § 314(a).

²⁰ The bias here, as it will be worked out further in Part I, *infra*, arises when judges are asked to make a snap analysis of the merits of a case before the case fully develops. Then, while the case is being developed through the presentation of further evidence and deposition, judges look at that evidence through the lens of their prior analysis, giving deference to the evidence that supports their initial hypothesis while minimizing evidence that controverts their hypothesis.

²¹ 35 U.S.C. § 261.

²² See U.S. CONST. amend. V. (“No person shall be . . . deprived of life, liberty, or property, without due process of law . . .”).

Part I of this Article presents the psychology of confirmation bias as it pertains to due process, culminating in a discussion of the due process analysis in *Mathews v. Eldridge*.²³ Part II argues that current procedures practiced by the Patent and Trademark Office (PTO), particularly the PTAB, fail the tripartite test prescribed in *Mathews*.²⁴ This Article concludes by proposing ways in which IPRs could be more fairly enacted and practiced.

I. BIAS AND DUE PROCESS

The Fifth Amendment states that “[n]o person shall be . . . deprived of life, liberty, or property, without due process of law.”²⁵ Due process is the “duty of government in providing a fair process of decisionmaking [sic] when it acts to deprive a person of his possessions.”²⁶ This section is about confirmation bias and its effect on the fairness of a process.

A. *Confirmation Bias: Knowing What You Already Think*

Confirmation bias refers to the favoring of evidence that confirms a hypothesis, and the disregarding of evidence that is not confirming.²⁷ Practically, confirmation bias can be illustrated using an experiment first conducted by Peter Wason and Phil Johnson-Laird²⁸: Suppose four cards are

²³ 424 U.S. 319 (1976).

²⁴ *Id.*

²⁵ U.S. CONST. amend. V.

²⁶ *Fuentes v. Shevin*, 407 U.S. 67, 80 (1972).

²⁷ PLOUS, *supra* note 10, at 233.

²⁸ PAUL C. WASON & PETER N. JOHNSON-LAIRD, *PSYCHOLOGY OF REASONING: STRUCTURE AND CONTENT* 172–73 (1972).

placed in front of you, showing the following symbols: E, K, 4, 7:

Then someone tells you ‘If a card has a vowel on one side, then it has an even number on the other side.’ Which of the cards would you need to turn over in order to decide whether the person is lying? When [the experimenters] put this type of question to 128 university students, they found that ‘E and 4’ was the most common response (given by 59 students), and “E” was the next most common (given by 42). In other words, most students chose to turn over cards capable of *confirming* the statement. Only five students gave the correct answer: ‘E and 7.’

If this answer seems surprising, think of the problem as follows. The rule being tested is ‘If vowel, then even number,’ or more basically, ‘If X, then Y.’; The only way to falsify an if-then statement is to find an instance of ‘X and *not* Y’ (i.e., vowel and *odd* number).²⁹

Another experimenter performed the same experiment on five “highly regarded” mathematical psychologists and found that only twenty percent arrived at the correct answer.³⁰ In fact, the urge to seek out confirming evidence is so ingrained in the human psyche that even when participants were told to actively seek out disconfirming evidence, they sought confirming evidence in roughly seventy-percent of trials.³¹

Judges, lawyers, and police officers do not seem to be immune to this innate psychological phenomenon.

²⁹ PLOUS, *supra* note 10, at 231–32 (emphasis in original).

³⁰ *Id.* at 232 (citing ROBYN M. DAWES, *COGNITIVE THEORY: VOLUME I* (Frank Restle et al. eds., 1975)).

³¹ *Id.* at 239 (citing Clifford R. Mynatt et al., *Confirmation Bias in a Simulated Research Environment: An Experimental Study of Scientific Inference*, 29 Q. J. EXPERIMENTAL PSYCHOL. 85 (1977)).

Several studies have suggested that “judges might be biased in favor of evidence that confirms their prior hypotheses and might disregard evidence that does not correspond with their previous assumptions.”³² How can this be if judges are supposed to be impartial? Research suggests that it is because they still perceive themselves to be scrutinizing the evidence and, thus, impartial.³³

Confirmation bias seems to be more prevalent when decision makers are asked to decide on problems very quickly and when the problem has not been fully developed. Through any subsequent development of the problem after the initial decision, the decision maker will seek out evidence that will justify the decision that was already made.³⁴

***B. Due Process and Mathews v. Eldridge:
Ensuring Fairness in Process***

³² Peer & Gamliel, *supra* note 10, at 115 (citing a study by Rassin et al., *supra* note 10).

³³ See PLOUS, *supra* note 10, at 233 (quoting Mark Snyder & William B. Swann, Jr., *Hypothesis-Testing Processes in Social Interaction*, 36 J. PERSONALITY & SOC. PSYCHOL. 1202, 1212 (1978) (“Even if one were to develop sufficient doubt about the accuracy of [certain] beliefs to proceed to test them actively, one nevertheless might be likely to ‘find’ all the evidence one needs to confirm and retain th[o]se beliefs. And, in the end, one may be left with the secure (but totally unwarranted) feeling that th[o]se beliefs must be correct because they have survived (what may seem to the individual) perfectly appropriate and even rigorous procedures for assessing their accuracy.”); *see also* Lord et al., *supra* note 10, at 2098 (“[P]eople of opposing views can find support for those views in the same body of evidence . . .”).

³⁴ See Kevin J. Lynch, *The Lock-In Effect of Preliminary Injunctions*, 66 FLA. L. REV. 779, 784–85 (2015) (discussing the causes of a psychological phenomenon called lock-in, one of the causes of which is confirmation bias).

Questions of impartiality indicate due process issues. Procedural due process analyses focus on three questions.³⁵ First, is there a deprivation?³⁶ Second, is there a deprivation of life, liberty, or property?³⁷ Third, what procedures are required?³⁸ While the first two questions are generally easy to solve, the third question is a matter of constitutional law and fact specific.³⁹ Put another way, “[d]ue process, unlike some legal rules, is not a technical conception with a fixed content unrelated to time, place, and circumstance. [D]ue process is flexible and calls for such procedural protections as the particular situation demands.”⁴⁰ While Justice Powell’s legal platitude⁴¹ may seem to add little clarity to due process analyses, it cuts right to the heart of the Due Process Clause, which is to provide fairness to injured parties, an inherently case-sensitive inquiry.⁴² Supreme Court recognized how vague these inquiries are, one would think that they would issue some guidance on how to determine if an offered process following a deprivation reaches the level of what is due. Alas, several procedural

³⁵ Erwin Chemerinski, *Procedural Due Process Claims*, 16 *TOURO L. REV.* 871, 871 (2000).

³⁶ *Id.*

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.* at 890.

⁴⁰ *Mathews v. Eldridge*, 424 U.S. 319, 334 (1976) (quoting *Cafeteria Workers v. McElroy*, 367 U.S. 886, 895 (1961); *Morrissey v. Brewer*, 408 U.S. 471, 481 (1972) (internal quotation marks omitted)).

⁴¹ The legal platitude being the two words that haunt every law student: “It depends.”

⁴² See Gary Lawson et al., “*Oh Lord, Please Don’t Let Me Be Misunderstood!*”: *Rediscovering the Mathews v. Eldridge and Penn Central Frameworks*, 81 *NOTRE DAME L. REV.* 1, 12 (2005) (discussing modern procedural due process jurisprudence).

due process cases came and went where the opinions danced around themes related to due process without articulating a rule.⁴³ It was not until 1976 and *Mathews v. Eldridge* that the Supreme Court finally articulated a rule, which is still used today.⁴⁴ This section elucidates that rule in the context of two cases, *Goldberg v. Kelly*⁴⁵ and *Mathews*, itself.

1. *Mathews v. Eldridge*

George H. Eldridge was first awarded social security benefits in June 1968.⁴⁶ In March 1972, he received and completed a questionnaire from a state agency charged with monitoring his medical condition, indicating that his condition had not improved and identifying the medical sources from which he had received treatment recently.⁴⁷ Upon receipt of this questionnaire, the State obtained reports from Eldridge's physician and a psychiatric consultant, and decided that Eldridge's disability had ceased in May 1972.⁴⁸ To that effect, the state agency issued a letter to Eldridge that included the reasons for the proposed termination of benefits.⁴⁹ The Social Security Administration accepted the

⁴³ See *Id.* at 12–15 (evaluating procedural due process jurisprudence before *Mathews* including *Joint Anti-Fascist Refugee Comm. v. McGrath*, 341 U.S. 123 (1951)); *Cafeteria Workers*, 367 U.S. at 886; *Goldberg v. Kelly*, 397 U.S. 254 (1970); *Morrissey*, 408 U.S. at 471).

⁴⁴ *Mathews*, 424 U.S. at 334.

⁴⁵ *Goldberg*, 397 U.S. 254. Although *Goldberg* predated *Mathews*, the factors that the *Goldberg* court predicated its conclusion on are the same as those that *Mathews* articulates, as was noted in an amicus brief filed in *Mathews* by the AFL-CIO. See Brief for AFL-CIO as Amici Curiae Supporting Respondent, *Mathews*, 424 U.S. 319, 1975 WL 173413, at *6.

⁴⁶ *Mathews*, 424 U.S. at 323.

⁴⁷ *Id.* at 323–24.

⁴⁸ *Id.* at 324.

⁴⁹ *Id.*

state agencies determination and notified Eldridge that his benefits would cease in July 1972.⁵⁰ This notice also advised Eldridge of his right to seek reconsideration of this initial determination by the state agency within six months.⁵¹ Instead, Eldridge commenced an action to reinstate his benefits in district court, alleging that the procedures used by the Social Security Administration and the state agency had abridged his right to procedural due process because there was no opportunity for a full evidentiary hearing.⁵² In order to aid in the articulation of their decision, the Supreme Court identified three distinct factors, which have since gone on to be considered the weighing test of procedural due process cases. The test balances (1) the private interest that will be affected by the official action, and (2) the risk of an erroneous deprivation of such interest through the procedures used, and the value, if any, of additional or substitute safeguards; against (3) the Government's interest, including the function of the process involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail.⁵³

In the case, the Supreme Court first ruled that the potential deprivation was likely insufficient because, although Eldridge's disability left him temporarily unemployable and unable to ameliorate the interim loss of benefits, there were other modes of government assistance available to him.⁵⁴ The Court also determined that the procedures utilized were sufficiently fair because they were

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.* at 325–26.

⁵³ *Id.* at 335.

⁵⁴ *Id.* at 341–42.

based on objective medical reports.⁵⁵ Furthermore, there would be no value for additional safeguards because Eldridge did not utilize the available safeguards to him such as a reconsideration hearing.⁵⁶ Finally, the court deemed that the burden of additional or substitute procedures posed on the Government was too great.⁵⁷ Therefore, the Supreme Court ruled that Eldridge's due process had not been abridged.⁵⁸

2. *Goldberg v. Kelly*

Kelly and his family received financial aid under the federally assisted program of Aid to Families with Dependent Children.⁵⁹ Kelly alleged that their aid was terminated without prior notice or hearing, effectively denying him due process.⁶⁰ While at the time there was no requirement of notice or hearing before termination, the State adopted some procedures after the suit was brought, which were then challenged as constitutionally inadequate.⁶¹ The new procedure offered notice at least seven days prior to termination of aid and review of the case by a superior.⁶²

While, ultimately, the *Goldberg* court found that Kelly's due process had been abridged, a *Mathews* analysis was carried out as a test suite by the *Mathews* court. The *Mathews* court first stated that the degree of potential deprivation was greater in *Goldberg* than in *Mathews*

⁵⁵ *Id.* at 343–44.

⁵⁶ *Id.* at 345–46.

⁵⁷ *Id.* at 347–48.

⁵⁸ *Id.* at 349.

⁵⁹ *Goldberg v. Kelly*, 397 U.S. 254, 256 (1970).

⁶⁰ *Id.*

⁶¹ *Id.* at 256–57.

⁶² *Id.* at 258.

because Kelly did not have access to other means of welfare, and the need experienced by Kelly was greater than that of Eldridge due to the nature of the aid.⁶³ Furthermore, the procedures offered in *Goldberg* were unfair to Kelly because, unlike in *Mathews*, they were subjectively based and relatively unguided such that a written appeal could not adequately substitute for an oral presentation.⁶⁴ Finally, while the government interest was similar to that in *Mathews*, both the *Mathews* court and the *Goldberg* court determined that it did not outweigh Kelly’s interests, concluding that Kelly’s due process had been breached.⁶⁵

3. Other minor cases

While *Goldberg* and *Mathews* are the two most important cases for due process analysis, other cases will also be used in the subsequent analysis. *In re Murchison*⁶⁶ found a Michigan law that allowed judges to hold secret “judge-grand jury” hearings infringed a defendant’s due process because the judge was generally biased by the secret interactions.⁶⁷ *Caperton v. A.T. Massey Coal Co.*⁶⁸ set forth a rule that, in order to find bias sufficient to demand recusal of a judge, the court must find that a reasonable judge in the judge-in-question’s position would be biased.⁶⁹

⁶³ See *Mathews*, 424 U.S. at 341–43 (stating that the need of a welfare recipient was more dire than that of someone on disability).

⁶⁴ *Id.* at 344–45.

⁶⁵ *Id.* at 348–49; *Goldberg*, 397 U.S. at 271.

⁶⁶ 349 U.S. 133 (1955).

⁶⁷ *Id.* at 138.

⁶⁸ 556 U.S. 868, 881 (2009).

⁶⁹ *Id.*

II. INTER PARTES REVIEW DOES NOT PASS THE SCRUTINY OF A DUE PROCESS ANALYSIS

This section scrutinizes inter partes review (IPR) through the lens of a procedural due process analysis. A procedural due process analysis focuses on three questions. First, “is there a deprivation?”⁷⁰ Second, “is there a deprivation of life, liberty, or property?”⁷¹ Third, “what procedures are required?”⁷² The first two questions serve as gatekeepers, ensuring that a due process analysis is only applied to appropriate cases. The third question is less straight forward, and is where a *Mathews* analysis is used.

For the purposes of IPR, the answers to the first two questions are pretty straightforward: yes, and patents are a property right,⁷³ respectively. The answer to the third question is the main focus of the *Mathews* court, a decision that has “grown into a core tenet of American jurisprudence.”⁷⁴ *Mathews* established a three-part test for determining what procedures were due before a deprivation of life, liberty, or property: what are the private interest being deprived; what is the risk of an erroneous deprivation; and what is the government’s interest?⁷⁵ The *Mathews* test is executed as a balancing test, comparing the combined “weights” of the private interest and the risk of erroneous

⁷⁰ Chemerinski, *supra* note 35, at 871.

⁷¹ *Id.*

⁷² *Id.*

⁷³ See 35 U.S.C. § 261 (2012) (“[P]atents shall have the attributes of personal property.”).

⁷⁴ Andrew Blair-Stanek, *Twombly is the Logical Extension of the Mathews v. Eldridge Test to Discovery*, 62 FLA. L. REV. 1, 8 (2010).

⁷⁵ *Mathews v. Eldridge*, 424 U.S. 319, 335 (1976).

deprivation with the government’s interest.⁷⁶ It is important to note that there is not a procedural standard, what procedure is due is a matter of constitutional law and is tailored to each deprivation as it arises.⁷⁷

The remainder of this section follows the structure of the *Mathews* test to conclude that the permanent deprivation of a patent owner’s potentially valuable property—the patent—combined with a high risk of erroneous deprivation by inter partes review outweighs the government’s interest; therefore, inter partes review in its current form breaches a patent owner’s due process.

A. The Patent Owner’s Property Interest Is Sufficiently Strong to Warrant a Judicial-Like Process

The first step in a *Mathews* analysis is to identify and determine the value of the private interest that is being deprived.⁷⁸ The constitutionally protected interest in personal property is a sufficiently weighty private interest to warrant due process analysis. A property interest is at risk

⁷⁶ Blair-Stanek, *supra* note 74, at 15; see also *id.* n. 129, at 15 (citing RICHARD J. PIERCE, JR. ET AL., ADMINISTRATIVE LAW AND PROCESS 281 (5th ed. 2009)) (“The *Mathews* test may be expressed as an extremely simple mathematical formula . . . [p]rocedural due process requires an alternative procedure if the following inequality is true: $P \times V > C$.”). In the way enunciated by PIERCE, JR. ET AL., other commentators have thought of the *Mathews* balancing test in the same way as Judge Learned Hand’s negligence test, which was famously articulated in *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947). Blair-Stanek, *supra* note 74, at 16.

⁷⁷ See Chemerinsky, *supra* note 35, at 890 (stating that procedural due process is neither a question of fact nor a question of state law but a question of constitutional law); see also *Morrissey v. Brewer*, 408 U.S. 471, 481 (1972) (“[D]ue process is flexible and calls for such procedural protections as the particular situation demands.”).

⁷⁸ *Mathews*, 424 U.S. at 335.

for the patent owner as it was in both *Mathews* and *Goldberg*. One of the main reasons for a split in the decisions of *Mathews* and *Goldberg*, however, is in the magnitude of the property right being deprived. This section will show that the property interest is more like the property interest at stake in *Goldberg* than in *Mathews*, and therefore the private interest of a patent owner warrants due process.

1. Patents bestow upon the patent owner a personal property right

Both by statute and by common law, patents have been held as a personal property right. Statutorily, patents carry with them “the attributes of personal property.”⁷⁹ The attribute that patents are assignable property stems from the economic theory of patents. The incentive to invent, the predominant economic theory states that a patent’s function is to tie an intangible, uncontainable idea behind an invention to a tangible entity that can be used to control the spread of the information, thereby allowing the owner of the tangible entity to recoup the costs of producing the invention and profit.⁸⁰ That tangible, personal property is the patent.

Further support that a patent is personal property is that patents are subject to the Takings Clause. In *Horne v. Dept. of Agriculture*,⁸¹ Chief Justice Roberts commented

⁷⁹ 35 U.S.C. § 261 (2012); *see also* James v. Campbell, 104 U.S. 356, 357–58 (1881) (“That the government of the United States when it grants letters-patent for a new invention or discovery in the arts, confers upon the patentee an exclusive property in the patented invention which cannot be appropriated or used by the government itself, without just compensation, any more than it can appropriate or use without compensation land which has been patented to a private purchaser.”).

⁸⁰ See CRAIG ALLEN NARD, THE LAW OF PATENTS 33 (Vicki Been et al. eds., 3d ed. 2014) (stating that the economic purpose of a patent is to be used as a device to control that spread of information such that there is an economic benefit to inventing).

⁸¹ 135 S. Ct. 2419 (2015).

that nothing in the history of the Takings Clause suggested that personal property was any less protected against physical appropriation than real property.⁸² In illustrating this fact, the majority cites *James v. Campbell*,⁸³ stating that patents, like all personal property, were subject to the takings clause.⁸⁴

Given the legislative history of patents and the court cases, it is clear that it was both the intention of Congress and the judiciary to give patents the full effect of personal property.

2. Due process is necessary prior to government deprivation of a property right

Given the clear property right bestowed to a patent owner by a patent, the personal interest at stake in inter partes reviews compare more favorably with *Goldberg*, where the plaintiff succeeds, than with *Mathews*, where the plaintiff fails.

The private interest at stake in both *Mathews* and *Goldberg* are forms of entitlements: social security benefits and welfare checks, respectively. In each case, these were held to be statutory property rights.⁸⁵ The *Mathews* court, however, distinguished its case from *Goldberg* by doing a

⁸² *Id.* at 2427.

⁸³ 104 U.S. 356 (1881).

⁸⁴ *Horne*, 135 S. Ct. at 2427.

⁸⁵ *See Mathews v. Eldridge*, 424 U.S. 319, 332 (1976) (“[T]he interest of an individual in continued receipt of [Social Security disability] benefits is a statutorily created property interest.”); *Goldberg v. Kelly*, 397 U.S. 254, 262, n.8 (1970) (“It may be realistic today to regard welfare entitlements as more like ‘property’ than a ‘gratuity.’”). *But see Flemming v. Nestor*, 363 U.S. 603, 608 (1960) (holding that Social Security benefits do not rise to the order of an “accrued property right.”).

supplemental “degree of potential deprivation” analysis.⁸⁶ In this analysis, the court looked at what the potential effect of deprivation would be on the plaintiff.⁸⁷ The result of this analysis was that the plaintiff in *Goldberg* was left worse off than in *Mathews* because of the availability of other sources of government welfare.⁸⁸

The patent owner is more like *Goldberg* because there is no other source of a patent-like right to inventors. Furthermore, the cost associated with attaining the patent and the value of the patent would create hardship akin to that of *Goldberg*. It is estimated that the cost of an average quality patent, after attorney’s fees, is about \$20,000.⁸⁹ While a patent may not cost a lot, they can have great value. In 2012, the average price per patent purchased was \$422,000.⁹⁰ Given the potential value of the average patent, the cost of attaining a patent, and the fact that courts generally recognize that property rights cannot be deprived without due process, a court would likely find the private interest here as weighty as in *Goldberg*.⁹¹

Another factor considered by the court when measuring the private issue at stake is the length of

⁸⁶ *Mathews*, 424 U.S. at 341.

⁸⁷ *Id.* at 341–45.

⁸⁸ *Id.* at 343–44.

⁸⁹ Gene Quinn, *The Cost of Obtaining a Patent in the US*, IPWATCHDOG (Apr. 4, 2015), <http://www.ipwatchdog.com/2015/04/04/the-cost-of-obtaining-a-patent-in-the-us/id=56485/>.

⁹⁰ Dennis Crouch, *Selling Patents*, PATENTLYO (Feb. 13, 2013), <http://patentlyo.com/patent/2013/02/selling-patents.html> [https://perma.cc/J9FL-JGZP].

⁹¹ Claiming that the average price of a patent is \$422,000 has inherent flaws, namely that companies with that much money typically only want to spend it on patents that are valuable. I recognize that not every patent can possibly be this valuable.

deprivation.⁹² While the entitlements in *Goldberg* and *Mathews* were seen as temporary deprivations,⁹³ the PTAB ruling that some or all of a patent is invalid would be a permanent one. The courts therefore are likely to see the taking of a patent through an IPR as more egregious than either deprivation in *Goldberg* or *Mathews*.

In determining the private interest at stake, the court will identify the deprivation, determine the value of the deprivation, and determine the length of the deprivation. Patents are a property right, protected by due process. Patents are also potentially financially lucrative. Finally, the deprivation-in-question would be permanent, which exceeds the deprivation in either *Goldberg* or *Mathews*. Therefore, the personal interest at stake in inter partes review is at least as valuable as in *Goldberg*.

B. Confirmation Bias Inherent in Inter Partes Review Poses an Unreasonably Large Risk of Erroneous Deprivation

The second step of a *Mathews* analysis is to determine the risk of erroneous deprivation. In stark contrast to either an analysis of the private interest⁹⁴ or an analysis of the government's interest,⁹⁵ an analysis of the "risk of erroneous deprivation" is much more abstract. Furthermore, a reading of procedural due process would show that, although the erroneous deprivation factor often turns the

⁹² See *Mathews*, 424 U.S. at 340–43 (pointing to the sources of income, particularly the source's temporary nature, that could make up for *Mathews*'s deprivation as a reason his due process was not abridged).

⁹³ *Id.* at 340.

⁹⁴ See *supra* Section II.A (discussing the private interest at hand in inter partes review).

⁹⁵ See *infra* Section II.C (discussing the government's interest in keeping inter partes review in its present form).

ruling for one side,⁹⁶ judges have struggled to determine and enumerate the important ideas that impact erroneous deprivation.⁹⁷ From the progeny of due process cases, it is clear that judges use the risk of erroneous deprivation factor to ensure that the deprived party is treated in all fairness due to him.⁹⁸ To ensure that fairness is had, and to minimize the risk of erroneous deprivation, the courts have looked to three

⁹⁶ See *Mathews*, 424 U.S. at 344 (“[P]rocedural due process rules are shaped by the risk of error inherent in the truthfinding [sic] process . . .”).

⁹⁷ See, e.g., *Hamdi v. Rumsfeld*, 542 U.S. 507, 532–33 (2004) (treating erroneous deprivation abstractly and concluding that for a citizen detained as an “enemy combatant” he must be given a “fair opportunity to rebut the Government’s factual assertions before a neutral decisionmaker”); *Connecticut v. Doehr*, 501 U.S. 1, 13–14 (1991) (stating that erroneous deprivation is not reduced when a plaintiff can attach real property to a civil judgment “merely because the plaintiff believes the defendant is liable, or because the plaintiff can make out a facially valid complaint”); *Mathews*, 424 U.S. at 339–40 (determining that the “elaborate character of the administrative procedures provided” by the Government limited the risk of erroneous deprivation); *Goldberg v. Kelly*, 397 U.S. 254, 264 (1970) (looking at the direness of the situation of the potentially deprived in lieu of the risk of erroneous deprivation); *Armstrong v. Manzo*, 380 U.S. 545, 552 (1965) (“A fundamental requirement of due process is ‘the opportunity to be heard.’ It is an opportunity which must be granted at a meaningful time and in a meaningful manner.” (citations omitted)); *In re Murchison*, 349 U.S. 133, 136 (1955) (“A fair trial in a fair tribunal is a basic requirement of due process. Fairness of course requires an absence of actual bias in the trial of cases.”).

⁹⁸ See, e.g., *Doehr*, 501 U.S. at 14 (quoting *Joint Anti-Fascist Refugee Comm. v. McGrath*, 341 U.S. 123, 170–72 (1951)) (“[F]airness can rarely be obtained by secret, one-sided determination of facts . . .”); *Mathews*, 424 U.S. at 343 (“An additional fact to be considered here is the fairness and reliability of the existing pretermination procedures . . .”); *Goldberg*, 397 U.S. at 268–69 (stating that the “opportunity to be heard must be tailored to the capacities and circumstances of those who are to be heard”); *Murchison*, 349 U.S. at 136 (“A fair trial in a fair tribunal is a basic requirement of due process.”).

different factors: (1) whether the deprived party received notice and an opportunity to be heard prior to the deprivation;⁹⁹ (2) that the opportunity to be heard is effectively tailored to the deprived party such that the claims can be effectively communicated to the decision maker;¹⁰⁰ and (3) the existence of safeguards to prevent erroneous deprivation.¹⁰¹ This section applies this three-part test to the procedure of inter partes review to ascertain the inherent risk of erroneous deprivation.

1. Before deprivation by inter partes review, the deprived party has notice and opportunity to be heard

Unlike many procedural due process cases,¹⁰² there can be no argument made here that a patent owner does not

⁹⁹ See *Goldberg*, 397 U.S. at 267–68 (quoting *Grannis v. Ordean*, 234 U.S. 385, 394 (1914)) (“The fundamental requisite of due process of law is the opportunity to be heard.”); *Armstrong*, 380 U.S. at 550 (“[F]ailure to give the petitioner notice of the pending adoption proceedings violated the most rudimentary demands of due process of law.”); *Mullane*, 339 U.S. at 313 (“[T]here can be no doubt that at a minimum [the Due Process Clause] require[s] that deprivation of life, liberty, or property by adjudication be preceded by notice and opportunity for hearing appropriate to the nature of the case.”).

¹⁰⁰ See *Mathews*, 424 U.S. at 346 (stating that an important part of fairness is that the deprived party is able to “‘mold’ his argument to respond to the precise issues which the decisionmaker [sic] regards as crucial”); *Goldberg*, 397 U.S. at 268–69 (“The opportunity to be heard must be tailored to the capacities and circumstances of those who are to be heard.”).

¹⁰¹ See *Doehr*, 501 U.S. at 14–15 (ruling that the safeguards to reduce the risk of erroneous deprivation by the state were insufficient); *Mathews*, 424 U.S. at 335 (stating that, in addition to erroneous deprivation, the probable value of additional or substitute procedural safeguards should be analyzed).

¹⁰² See, e.g., *Hamdi*, 542 U.S. at 533 (ruling that an American citizen cannot be held indefinitely without an opportunity to be heard).

have notice or opportunity to be heard prior to being deprived of his patent. Before a ruling is made in an IPR, the patent owner is made aware of an impending IPR,¹⁰³ is able to obtain counsel,¹⁰⁴ and is able to put forth evidence in his defense.¹⁰⁵ Were notice or opportunity lacking in anyway, the analysis could end at this point, and a court would likely find a violation of due process. Because any reasonable person would concede that there is ample notice and opportunity to be heard prior to the government depriving the patent owner of his patent, however, the analysis must continue to the next step.

2. The deprived party is unable to tailor his argument to the decision maker because confirmation bias has rendered the decision maker unresponsive to a persuasive argument

The mere existence of an opportunity to be heard does not signal the end of a due process analysis because if the opportunity to be heard is not executed in a manner that allows the deprived party to “‘mold’ his argument to respond to the precise issues which the decisionmaker [sic] regards as crucial,”¹⁰⁶ the opportunity to be heard is nothing more than a farce. When deciding if a hearing is effectively tailored to the deprived party such that their claims can be effectively communicated to the decision maker, courts have looked at the analysis in two different ways: is the hearing tailored to the “capacities and circumstances of those who

¹⁰³ 37 C.F.R. § 42.4 (2015).

¹⁰⁴ *Id.* § 42.10.

¹⁰⁵ *Id.* § 42.23.

¹⁰⁶ *Mathews*, 424 U.S. at 346 (internal quotation omitted).

are to be heard,”¹⁰⁷ and is the process executed in such a way that the decision maker can be swayed by the deprived party’s argument?¹⁰⁸

- a. *The elaborate nature of inter partes review ensures that the hearing is tailored to the capacities and circumstances of those who are to be heard*

The two main cases that analyze the hearing itself are *Goldberg* and *Mathews*. Both of these cases evaluated whether the deprived party had the opportunity to effectively present the evidence that was most relevant to the case-at-hand.¹⁰⁹ In inter partes review, the evidence that turns judges is a detailed search of prior art and knowledge of patentability laws.¹¹⁰ A lay inventor may not have access to such tools or knowledge, so they are granted the ability to

¹⁰⁷ *Goldberg v. Kelly*, 397 U.S. 254, 268–69 (1970); see also *Mathews*, 424 U.S. at 345 (showing that the type of evidence crucial to the case and the ability of the deprived party to present it in an effective manner are important factors to the outcome of the tailoring factor).

¹⁰⁸ See *Connecticut v. Doehr*, 501 U.S. 1, 14 (1991) (“[F]airness can rarely be obtained by secret, one-sided determination of facts.”); *Goldberg*, 397 U.S. at 271 (“And, of course, an impartial decision maker is essential.”); *In re Murchison*, 349 U.S. 133, 136 (1955) (“Fairness of course requires an absence of actual bias in the trial of cases. But our system of law has always endeavored to prevent even the probability of unfairness.”).

¹⁰⁹ See *Mathews*, 424 U.S. at 344 (stating that, because the disability cases usually turn on routine medical reports, a disability termination proceeding must only allow for the presentation of rebuttal medical reports that did not require a full-blown trial); *Goldberg*, 397 U.S. at 268 (ruling that written submissions were an “unrealistic option” for the majority of recipients of welfare because most lacked the education to do so effectively).

¹¹⁰ See 35 U.S.C. §§ 311–19 (2012).

obtain counsel.¹¹¹ That representation is permitted to depose witnesses and present a case in a trial-like setting.¹¹² It must be conceded that the elaborate nature of inter partes review proceedings more closely resemble *Mathews*, where the proceedings were found to be constitutionally adequate, than in *Goldberg*, where the proceedings were inadequate.¹¹³

b. Confirmation bias prevents deprived parties from receiving a fair hearing

Given the constitutional sufficiency in the elaborateness of inter partes review, if there is no issue with the impartiality of the decision makers, then the erroneous deprivation analysis would end with a finding of a small risk of error. Were there to be no problem with bias of the decision makers, any analysis of the safeguards to prevent erroneous deprivation would be superfluous. However, with all that is now known in the psychological sciences regarding confirmation bias, it is likely that administrative patent judges are invested in the final decision and are therefore biased.

Confirmation bias arises when decision makers are asked to make a decision based on very little information, and then, after being presented with evidence and further information regarding the prior decision, are asked again to make another decision on the subject.¹¹⁴ The majority of people that have been subjected to experiments that would provoke confirmation bias have found it difficult to overrule themselves in a subsequent decision.¹¹⁵ Furthermore,

¹¹¹ 37 C.F.R. § 42.10.

¹¹² *Id.* § 42.51–52.

¹¹³ *Mathews*, 424 U.S. at 349; *Goldberg*, 397 U.S. at 271.

¹¹⁴ *See supra* Section I.A (discussing confirmation bias).

¹¹⁵ *See, e.g.*, PLOUS, *supra* note 10, at 232–33; WASON & JOHNSON-LAIRD, *supra* note 28, at 172–73; Peer & Gamliel, *supra* note 32, at 115

confirmation bias is a subconscious phenomenon, so even when participants were told to actively seek out disconfirming evidence seventy percent of subjects still pointed to confirming evidence as relevant to their ultimate decision.¹¹⁶ Finally, and perhaps most dangerously, confirmation bias tricks decision makers into trusting their impartiality by convincing them that the preponderance of confirming evidence necessarily overwhelms the disconfirming evidence regardless of the veracity and strength of that disconfirming evidence.¹¹⁷

Two important cases involving bias are *Caperton v. A.T. Massey Coal Co.*¹¹⁸ and *In re Murchison*.¹¹⁹ In *Caperton*, the Supreme Court determined under what circumstances a judge should recuse himself due to the likeliness of bias and proscribed an objective standard: whether an average judge would be unconstitutionally biased if placed in the judge-in-question’s position.¹²⁰ It is important to point out that the court only requires the potential for bias because of the difficulty in proving that actual bias exists.¹²¹ While the case primarily focused on pecuniary interests, the Court did not specifically rule out that other “psychological tendencies and human weakness[es]” may produce an unconstitutional level of bias.¹²²

(experimenting on confirmation bias and finding that the majority (fifty to ninety-seven percent) of people experience confirmation bias).

¹¹⁶ See PLOUS, *supra* note 10, at 239.

¹¹⁷ See *supra* note 33 and accompanying text.

¹¹⁸ 556 U.S. 868 (2009).

¹¹⁹ 349 U.S. 133 (1955).

¹²⁰ 556 U.S. at 881.

¹²¹ *Id.* at 881, 883.

¹²² *Id.* at 883–84.

The Supreme Court in *Murchison* focused more on the constitutionality of a process generally. Specifically, the Court focused on whether a judge could still be impartial if he had already become involved in the process.¹²³ Due to the overwhelming importance of a fair tribunal in the American system of law, the Court determined that “justice must satisfy the appearance of justice.”¹²⁴

Confirmation bias in inter partes review fails the *Caperton* objective test for bias; any judge would be biased in an IPR because the process itself perpetuates bias. Confirmation bias affects a majority of people placed in situations like inter partes review, where a judge has to make a decision with little information only to later get more evidence and make a subsequent decision that essentially revisits the first decision.¹²⁵ Confirmation bias is not a phenomenon that can be controlled, even under specific instruction to ignore confirming evidence, which is a measure of how innate and ingrained the bias is in the human psyche.¹²⁶ As a result of the inter partes review structure, any judge would feel the same bias as an administrative patent judge, so the process should be found in breach of due process.

Furthermore, inter partes review would fail the perception test from *Murchison*. The *Murchison* majority recognized that inherent in the public’s trust of the judicial system is, at least, the perception of justice.¹²⁷ Inter partes

¹²³ *Murchison*, 349 U.S. at 137, 138.

¹²⁴ *Id.* at 136 (quoting *Offutt v. United States*, 348 U.S. 11, 14 (1954) (internal quotation marks omitted)).

¹²⁵ See *supra* note 107 and accompanying text (laying out the experiments for confirmation bias and their results).

¹²⁶ See *PLOUS*, *supra* note 10, at 239.

¹²⁷ See *Murchison*, 349 U.S. at 136 (“[O]ur system of law has always endeavored to prevent even the probability of unfairness.”).

review, as a process, does not have the patent bar’s trust.¹²⁸ In June 2014, the PTO requested feedback on how it had implemented AIA proceedings with the PTAB; the thirty-seven written comments it received led the PTO to admit that there had been “concern that the judges participating in a decision to institute a trial may not be completely objective.”¹²⁹ The PTO itself admits that there is a concern from the patent bar that confirmation bias exists in this institution step, but it has not yet changed the process.¹³⁰ In light of the *Murchison* ruling, this lack of belief that justice will be had from an IPR is evidence that the process is less than what is constitutionally owed to patent owners.

Finally, two cases have commented on a decision maker who took part in an earlier decision before a deprivation occurred. The Court in *Goldberg* commented that while involvement in a proceeding was not an automatic

¹²⁸ See Quinn, *Unfair*, *supra* note 14 (referencing conversations with three leading patent attorneys in which they questioned the fairness of inter partes review as a result of the institution step).

¹²⁹ Michelle K. Lee, *PTAB’s Quick-Fixes for AIA Rules are to be Implemented Immediately*, DIRECTOR’S FORUM: A BLOG FROM USPTO’S LEADERSHIP (Mar. 27, 2015, 10:18 AM), http://www.uspto.gov/blog/director/entry/ptab_s_quick_fixes_for [<https://perma.cc/2YV6-U7WR>].

¹³⁰ The PTO has said that they are working on a pilot program in which only one judge would hear the petition for institution and then, if instituted, that judge would be joined by two other judges. *Id.* This proposal recognizes a problem, but only offers a half-solution by essentially conceding that one-third of the trial judges will be biased. However, Gene Quinn, a leading commentator on patent law, points out that “having a single APJ make institution determination is fraught with due process concerns because [the] decision whether to institute an inter partes review is not appealable.” Gene Quinn, *USPTO Proposes Pilot Where a Single APJ Would Make IPR Institution Decisions*, IPWATCHDOG (Aug. 25, 2015), <http://www.ipwatchdog.com/2015/08/25/uspto-proposes-pilot-where-a-single-apj-would-make-ipr-institution-decisions/id=61045/>.

bar for a welfare official acting as a decision maker, such prior action does trigger some level of due process scrutiny.¹³¹ The *Murchison* majority made it clear that some actions by judges prior to a final decision would render those judges unconstitutionally biased against one party for the final decision.¹³² It should also be noted that in both cases a procedure was found to be lacking in due process.

While the *Goldberg* and *Murchison* rulings on prior judicial actions by no means automatically condemn inter partes review, those opinions more than suggest that the nature of some judicial actions should be a bar to further action for a particular judge. The actions in *Goldberg* and *Murchison* that triggered a bar were ones that created an interest for the decision maker. Confirmation bias would create such an interest in administrative patent judges. Because their prior involvement in an IPR is a legal ruling based on few facts, which is then reconsidered in the final ruling, administrative patent judges are likely to feel internal pressure to confirm their initial ruling.¹³³ Hence, administrative patent judges are interested in confirming

¹³¹ See *Goldberg v. Kelly*, 397 U.S. 254, 271 (1970) (“We agree with the District Court that prior involvement in some aspects of a case will not necessarily bar a welfare official from acting as a decision maker. He should not, however, have participated in making the determination under review.”).

¹³² See *Murchison*, 349 U.S. at 138 (“As a practical matter it is difficult if not impossible for a judge to free himself from the influence of what took place in his ‘grand-jury’ secret session.”); see also *id.* at 137 (“Having been a part of [a] process a judge cannot be, in the very nature of things, wholly disinterested in the conviction or acquittal of those accused.”).

¹³³ Keep in mind that the threshold for an inter partes review is a “reasonable likelihood that the petitioner would prevail.” 35 U.S.C. § 314(a) (2012). This is a high standard that essentially signals to the parties that the board has already made up its mind.

their initial ruling, and they should be barred from making the final decision.¹³⁴

It is clear that there is a possibility of confirmation bias in administrative patent judges stemming from the decision to institute an IPR. There is also a perception in the patent bar that judges are biased; a perception that is so pervasive that the PTO is aware of. Finally, pursuant to *Goldberg*, the action taken here—one that is made after a previous judicial action—should receive increased scrutiny for due process. The risk of erroneous deprivation should be considered unacceptably high due to the likelihood of judicial bias. However, such bias could be mitigated by certain safeguards that would allow the procedure of inter partes review to stand if such bias existed.

3. No safeguards exist which mitigate the high risk of erroneous deprivation

Given the high risk of confirmation bias, inter partes review could only be saved if there were any mechanism that would mitigate the risk of erroneous deprivation. The PTO could argue that the statutory requirement of a final written decision would mitigate any bias because the board would have to explain why they made their decisions with respect to patentability.¹³⁵ The *Goldberg* court addressed this argument by clearly stating that there are two requirements for showing that a decision is made solely on legal rules: (1) the decision maker has to state the reasons for his determination and indicate the evidence he relied on, and (2)

¹³⁴ See also Lynch, *supra* note 34, at 784–85 (discussing the psychological phenomenon called lock-in). Judges are also likely to confirm an institution decision because of the additional expense and burden they have put the parties through. Confirming the institution decision is a subconscious way of justifying the additional expense and loss of judicial and fiscal economy. *Id.* at 785.

¹³⁵ 35 U.S.C. § 318(a).

the decision maker must be impartial.¹³⁶ The Court realized that merely stating reasons and providing evidence was not enough because a judge that does not realize he is biased could write an opinion citing evidence he thought was important. This is exactly what happens with confirmation bias; judges are so convinced of the confirming evidence that they overlook stronger disconfirming evidence.¹³⁷

The requirement of a final written decision is not enough of a safeguard to mitigate the large risk of erroneous deprivation by confirmation bias because someone who is biased could still write an opinion that only cites confirming evidence.

C. The Governmental Interest in Quickly Litigating Patents Is Not Substantially Advanced by Institution

The final step in a *Mathews* analysis is to identify the government interest and compare that interest to the risk of erroneous deprivation of private interests. Governmental interest factors include administrative burden, increased litigation, and increased cost.¹³⁸ This section shows that the administrative burden would be minimal and litigation may be lengthened but not burdensomely so.

Administrative burden is an important consideration in the government interest category. While at first glance, ruling inter partes review unconstitutional as enacted might seem like it would carry a marginal administrative burden—the PTO could think of other ways to initiate an IPR—such a decision could have much deeper implications. To wit, at least one other procedure carries the same adjudicatory process like inter partes review—including an abbreviated

¹³⁶ *Goldberg*, 397 U.S. at 271.

¹³⁷ See *supra* note 33 and accompanying text.

¹³⁸ *Mathews v. Eldridge*, 424 U.S. 319, 347–48 (1976).

statement of case, a ruling, an examination of the case on the merits, followed by a formal decision evaluating the first ruling—preliminary injunction. If inter partes reviews are found unconstitutional, anything like it is also likely to be unconstitutional. An analysis of how alike injunction is to inter partes review is therefore warranted, as the government will have to undertake the expense of fixing it if it is unconstitutional.

1. Preliminary injunction as a close analogue to inter partes review

In a preliminary injunction, before the merits of the case is adjudicated, a party petitions a judge to prevent another party from acting in some way. When assessing whether to issue a preliminary injunction, judges typically analyze some variation of four factors: (1) whether irreparable harm is likely to occur if the injunction is not granted; (2) the likelihood of success on the merits; (3) the balance of harms between parties to the litigation if an injunction is issued or if one is not; and (4) the public interest.¹³⁹ While different courts have a range of standards for determining the likelihood of success on the merits, most courts have settled on a standard that is best described as “success is more likely than not.”¹⁴⁰ Preliminary injunctions are a very close analogue to institution of inter partes review. The threshold for institution of a preliminary injunction is a “reasonable likelihood that the petitioner will prevail.”¹⁴¹

¹³⁹ See Lynch, *supra* note 34, at 796 (discussing the standards for preliminary injunctions); see also John Leubsdorf, *The Standard for Preliminary Injunctions*, 91 HARV. L. REV. 525 (1978) (identifying and rationalizing the four factors judges consider for preliminary injunctions).

¹⁴⁰ See Lynch, *supra* note 34, at 797 (investigating the various levels of likelihood needed to be shown to satisfy the test for preliminary injunction).

¹⁴¹ 35 U.S.C. § 314 (2012).

Furthermore, in a preliminary injunction the judge is asked to determine the merits of a case at an early stage and then make a final determination of the merits after the case has developed.

Given its similarities to inter partes review, it is unsurprising that some have claimed that the practice of preliminary injunction leads judges to be biased when deciding on permanent injunction. One such claim investigates lock-in effect, a phenomenon that is caused by, among other things, confirmation bias.¹⁴² Using probability models, Professor Lynch concluded that lock-in effect is a likely occurrence in injunction adjudication.¹⁴³

While ruling that inter partes reviews are unconstitutional would mean altering how injunctions are adjudicated, there is also impetus from those who practice injunctions to change the process.¹⁴⁴ However, any burden in crafting a replacement procedure or safeguard for injunctions experienced by the government would be purely administrative.

2. The extent to which litigation may be lengthened without an institution step can be mitigated

The government has an interest in keeping litigation as swift and minimal as possible. While institution is one way to initiate litigation, it is not the only way. Several ways

¹⁴² See generally Lynch, *supra* note 34, at 784–85 (investigating the phenomenon of lock-in effect on judges that rule on preliminary injunctions, only to later rule on the subsequent permanent injunction).

¹⁴³ *Id.* at 809; see also Fatma Marouf et al., *Justice on the Fly: The Danger of Errant Deportations*, 75 OHIO ST. L.J. 337, 403 (2014) (studying an injunction-like process and questioning “the practicality of a legal standard that requires judges to predict under time pressure how a case will ultimately be decided”).

¹⁴⁴ See Lynch, *supra* note 34, at 814–16 (providing potential solutions to the problem of lock-in effect as it pertains to injunction practice).

exist to modify litigation, which is designed to be expedient, that will not add consequential length to that litigation. For instance, if a new panel hears the oral argument and writes the final written decision, no length needs to be added and there is no confirmation bias issue. While litigation may be lengthened if inter partes review ditched the institution step, any substitute practice would not appreciably lengthen litigation, so the societal cost of longer litigation deserves little weight.

D. The Governmental Interest Does Not Outweigh the Risk of Erroneous Deprivation

To conclude the *Mathews* analysis, the governmental interest is based upon the administrative burden of devising new inter partes review and injunction practices. Given that the governmental interests are mostly administrative, the overwhelming evidence suggesting a high risk of erroneous deprivation, combined with the very valuable private interest that would be deprived by inter partes review, a case against inter partes review much more closely resembles *Murchison* and *Goldberg* than *Mathews*. Therefore, it is likely that inter partes review would be held unconstitutional.

E. Addressing and Rebutting Counterarguments

While it may be impossible to do anything other than suggest that confirmation bias is creating an unfair hearing for patent owners, statistics can be used to convincingly overcome the possible counter arguments to the fairness of inter partes review or explanations for inter partes review invalidity rates. The following sections each present a common argument in favor of the current system that is overcome by statistics, thus making it seem probable that patents are being unfairly taken from patent owners and a due process analysis is warranted.

1. Invalidation rates are high because the worst patents have gone first

A common argument for why invalidation numbers are so high is that the patents that inter partes reviews were meant to invalidate have gone first; there are significant problems with this assumption. Patents that have withstood litigation are generally considered strong patents; however, fifteen percent of patents that have been involved in an IPR have already once been litigated.¹⁴⁵ One would think that these patents would do pretty well in further litigation having once survived. Surprisingly, eight percent of previously litigated patents make it to a final written decision where sixty percent of those patents are fully invalidated.¹⁴⁶ Per claim the numbers become more shocking, as eighty-three percent of claims that were already litigated once are invalidated by IPR.¹⁴⁷ This is particularly shocking because claims of all instituted IPR are invalidated at a rate of about forty-two percent.¹⁴⁸ Thus, a claim from a “stronger” patent—a patent that has already been scrutinized—is twice as likely to be invalidated than the average patent claim by an IPR.

If a portion of IPRs have been performed on what were considered “strong” patents and if a majority of those patents had been invalidated, how can it be argued that the lowest quality patents have gone first and are the reason for these heightened invalidation numbers?¹⁴⁹

¹⁴⁵ Dolin, *supra* note 5, at 927.

¹⁴⁶ *Id.* at 927–28.

¹⁴⁷ *Id.* at 928.

¹⁴⁸ See PTAB Stats, *supra* note 8, at 12 (showing that of the 12,153 claims that are instituted, 5114 were found unpatentable—a rate of 42.1%).

¹⁴⁹ For case studies showing abuses of the new post grant litigation procedures, including IPR, see Dolin, *supra* note 5, at 931–47.

2. The heightened rate of invalidation can be attributed to the examination of new prior art

Given that previously litigated patents are being invalidated at a high rate, a natural assumption might be that new prior art was considered and that the invalidation could be attributed to said new prior art; however, this conclusion would also be flawed. Only thirty-one percent of IPRs relied only on previously unconsidered prior art compared to three percent that relied on prior art that was already considered and were not found to be invalidating.¹⁵⁰ One would expect a large discrepancy in the results of these IPR, but once again you would be surprised. Of petitions reaching final written decisions, those relying only on new prior art have *exactly the same* rate of invalidation as those relying only on old prior art.¹⁵¹ As Professor Dolin cynically observes, “not only does the issued patent itself not provide secure property rights, but that consideration of prior art references by the examiner does little to enhance the security of these rights.”¹⁵²

3. IPR procedure does not produce different results than expected or attained in other fora

Finally, the results of IPRs should at least closely resemble the invalidity results of district court or theoretical models. Again, there is a wild variance between what is expected and reality. While patents are invalidated by the

¹⁵⁰ *Id.* at 928.

¹⁵¹ *See id.* (showing that both petitions that relied only on new art and petitions that relied only on old art resulted in invalidity at a rate of ninety-three percent; the sixty-six percent of petitions that relied on a mixture resulted in invalidity at a rate of eighty-one percent).

¹⁵² *Id.*

PTAB at a rate of eighty-five percent,¹⁵³ district courts were found to invalidate patents at a rate of about forty-six percent.¹⁵⁴ This is surprising because the district court allows for any grounds of invalidity to be adjudicated while IPRs can only review patents on obviousness or anticipation grounds.¹⁵⁵ If only issues of anticipation or obviousness from the district court are analyzed, the invalidity rate drops to about forty-three percent.¹⁵⁶ Neither of these rates compare favorably to a study that was performed using a probability model. The probability model study suggested that a patent has an unconditional probability of being found

¹⁵³ See PTAB Stats, *supra* note 8 and accompanying text (showing statistics that were used to derive an invalidity rate of about eighty-five percent).

¹⁵⁴ See Dolin, *supra* note 5, at 927 (presenting the work of John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205–06 (1998)). For an apples-to-apples comparison, Dolin also claims an IPR invalidity rate of about eighty percent.

¹⁵⁵ Compare 35 U.S.C. § 311 (2012) (stating that an IPR can only challenge an existing patent on obviousness or novelty grounds using prior art consisting of patents or printed publications and only nine months after the issuance of the patent), with 35 U.S.C. § 321 (stating that a PGR can challenge an existing patent on any ground of invalidity, but only within nine months of the patents issue), and 37 C.F.R. § 42.303 (2015) (stating that a CBM can challenge an existing patent on any ground of invalidity but only nine months after the issuance of the patent). CBMs also differ from IPRs and PGRs in that CBMs can only challenge patents that pertain to a financial product, not a technological invention. 37 C.F.R. § 42.301. Finally, unlike IPRs and PGRs, CBMs have a “sunset” date—or a scheduled date in which they shall stop being practiced—of September 16, 2020. *Id.* § 42.300(d).

¹⁵⁶ See Allison & Lemley, *supra* note 154 at 205 (showing that, of the district court cases studied, 322 involved anticipation or obviousness, and 138 of those cases were found invalid).

invalid for reasons of anticipation or obviousness of twenty-eight percent.¹⁵⁷

Compared to both the probability model study and district court litigation, IPR invalidity rates are much higher. While these figures may not be a smoking gun—proving the presence of confirmation bias—these statistics will lead to unwanted consequences, such as forum shopping that will hamstring patent owners.

After considering these cases discussing bias and procedural due process and in light of the statistical counter arguments, it is clear that IPRs do not stand up to a *Mathews* analysis; therefore, IPRs should be found unconstitutional for lack of due process because patent owners were deprived of their patents by this unfair mechanism.

CONCLUSION

Inter partes review is unfairly prejudicial to patent owners to such an extent that it violates their procedural due process. While this can be gleaned from the statistics published by the Patent Office, which suggest that as much as eighty-five percent of IPRs that have had a final written decision have had at least one claim invalidated,¹⁵⁸ when discussed in conjunction with the theory of confirmation bias the formerly anecdotal evidence takes on a corroboratory role. This is especially true when looking at how IPR results compare to district court results.¹⁵⁹ Furthermore, the property interest that patents represent is a substantial

¹⁵⁷ See Shawn P. Miller, *Where's the Innovation: An Analysis of the Quantity and Qualities of Anticipated and Obvious Patents*, 18 VA. J.L. & TECH. 1, 45 (2013) (describing the method for determining a probability for invalidity by anticipation or obviousness of twenty-eight percent).

¹⁵⁸ See PTAB Stats, *supra* note 8, at 9.

¹⁵⁹ See *supra* Sections II.E.c.

interest, mainly because of the potential economic value of patents.¹⁶⁰ While injunction practice would likely need to change, adding to the administrative burden, academics have already been calling to change injunctions out of fairness.¹⁶¹

While several in the bar have suggested that IPRs should be changed, there have been few solutions offered.¹⁶² Two main solutions that could work are Professor Lynch's solution to limit the lock-in effect of preliminary injunctions¹⁶³ and the PTO's pilot program.¹⁶⁴ Of these two, Professor Lynch's solution would work the best. Lowering the standard for institution, such that it is less than suggesting that the petitioner will win, could mitigate confirmation bias. The PTO's proposed solution seems like a half-measure at best; they clearly recognize the problem but refuse to take the necessary steps to fully eradicate it by allowing one biased judge to remain on the case from institution to final written decision.

In a perfect world, IPRs would change in a few ways. First, the decision on institution should be reviewable; no administrative agency should have unchecked power over the grant and deprivation of property. Institution is an important decision with legal repercussions, thus it should be reviewable by the Federal Circuit. Furthermore, claim construction should take place before institution. In twenty-five percent of IPR cases, the patent owner does not make an

¹⁶⁰ See *supra* Section II.A.

¹⁶¹ See *supra* Section II.C.a. It is also likely that current injunction practice would not stand up to the due process test enumerated in Section III.

¹⁶² See Lee, *supra* note 129.

¹⁶³ See Lynch, *supra* note 34, at 809–11 (arguing for lower standards for preliminary injunction so that they are different than the standard following a full-fledged trial).

¹⁶⁴ See Lee, *supra* note 129.

initial response to the petitioner, thus leaving the board with only the petition to decide institution.¹⁶⁵ One reason for this is IPRs occur during district court infringement litigation. The arguments made in IPR for claim construction can be used by the district court in deciding infringement, so patent holders sometimes let the PTAB construe the claim before they make their arguments. If claim construction occurred before institution, instead of concurrently, the patent owner could make a full-throated defense of his patent at institution. Finally, three new judges should write the final written decision; this would totally eliminate confirmation bias and it would only cost the extra time of judges reading each other's institution opinions, petition, and responses.

To be clear, administrative judges at the Patent Office are not to blame; they are as human as the rest of us. However, Congress and the Director of the Patent Office, in legislating and implementing the America Invents Act, have put these judges in a position in which no reasonable person could carry out his duties with total propriety. While some will argue that surely those as wise as judges would be able to be impartial in such a situation, studies have shown that confirmation biases cannot be overcome entirely, even when the decision makers are actively looking for disconfirming evidence.

To be sure, something is rotten with the state of patents, and many—including the PTO—know it.

¹⁶⁵ See David L. Cavanaugh & Gregory P. Teran, *A Practical Guide to Inter Partes Review: Strategic Considerations During Merits Briefing*, 5 (Aug. 27, 2014), https://www.wilmerhale.com/uploadedFiles/Shared_Content/Events/Documents/WilmerHale-webinar-IPR-Merits-Briefing-27Aug14.pdf [<https://perma.cc/4GNU-NH7G>].