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# The Unresolved Interpretive Ambiguity of Patent Claims

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*Claims are at the heart of every major patent related issue. Most importantly, they determine a patent's potent rights of exclusion. Yet, we cannot predict how courts will set the exact boundaries of claims. This renders smooth operation of the patent system near impossible. For some time, scholars have theorized that a basic policy disagreement is a source of this uncertainty. Some judges favor narrower patents, some favor broader and judges will naturally tend toward their policy preference. Policy disagreements result in claim uncertainty. Recently, scholars Tun-Jen Chiang and Lawrence Solum have taken this view further arguing that this policy debate is the only problem preventing clear and consistent understanding of patent claims. That position is premature; there is another unnoticed and somewhat antecedent source of confusion. Patent law has not made clear what a patent claim (for lack of a better verb) claims. Patent applicants are surely delineating a boundary with their claims but patent law has not made clear what we are drawing the boundary around. When we write claims, exactly what question are we supposed to be answering? It is not clear whether a claim in a patent application is the statement "I claim to have invented the following things" or instead the request "I would like to claim exclusionary dominion over the following things." These are different in kind. Unfortunately both understandings have doctrinal support and both are operating simultaneously yet confusingly in patent law today. The proper way to handle patent claims depends on which view is correct. The uncertainty and disagreements that are plaguing patent law can be explained not just as a policy dispute but instead as confusion over this basic understanding of patent claims. This article outlines these two conflicting views, their*

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*implications for patent law and how we should resolve the ambiguity. Correctly understood, though claims are central in determining exclusion, we should nonetheless interpret initial patent claims as the statement “I claim to have invented the following things.”*

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## INTRODUCTION

Claims are at the heart of almost every critical question in patent law. Most notably claims determine a patent's rights of exclusion.<sup>1</sup> Yet, despite their importance, there is no reliable way to determine the ultimate boundaries of a patent.<sup>2</sup> During litigation, these claim-based boundaries can be pushed and pulled dramatically.<sup>3</sup> The result is a system that is hard to predict and appears judge-dependent.<sup>4</sup> Recent scholarship has argued that this uncertainty results from an unresolved policy debate about the proper substantive scope of patent exclusion. Some judges favor narrower patents, some favor broader. In other words, the fight over how broadly a patent *should* exclude drives uncertainty. Divergent policy preferences produce varied case outcomes. Recent scholarship by Tun-Jen Chiang and Lawrence Solum has taken this argument further and has argued that this policy dispute is the *only* problem impacting claims.<sup>5</sup> If patent law would only resolve the policy debate over patent scope, then, patent boundaries would become workable and clear.<sup>6</sup> This policy debate certainly exists and it contributes to the uncertainty *but* it is not the only problem.

What has not been recognized is that there is also confusion over the fundamental meaning of claims. There is a question over how we

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<sup>1</sup> R. Polk Wagner & Lee Petherbridge, *Did Phillips Change Anything? Empirical Analysis of the Federal Circuit's Claim Construction Jurisprudence*, in INTELLECTUAL PROPERTY AND THE COMMON LAW 123, 125 (Shyamkrishna Balganesh ed., 2013) (understanding claims is the "critical patent issue in litigation").

<sup>2</sup> Greg Reilly, *Judicial Capacities and Patent Claim Construction: An Ordinary Reader Standard*, 20 MICH. TELECOMM. & TECH. L. REV. 243, 246-47 (2014) [hereinafter *Judicial Capacities*] (compiling list of issues caused by claim uncertainty including "causing ex ante unpredictability before litigation, ex-post uncertainty in litigation, appellate panel dependence, high reversal rates, conflicting interpretive approaches, overly broad claim scope, undue formalism, increased litigation, disincentives to settle, and high litigation costs").

<sup>3</sup> See Mark A. Lemley, *The Changing Meaning of Patent Claim Terms*, 104 MICH. L. REV. 101, 102-03 (2005); Jason Rantanen, *The Malleability of Patent Rights*, 2015 MICH. ST. L. REV. 895, 899.

<sup>4</sup> Greg Reilly, *Completing the Picture of Uncertain Patent Scope*, 91 WASH. U. L. REV. 1353, 1353 (2014) ("Uncertain patent scope is perhaps the most significant problem facing the patent system. . . . [U]ncertainty has long been blamed on the Federal Circuit's rules for interpreting claims, the short summaries at the end of the patent that define the patentee's exclusive rights.").

<sup>5</sup> Tun-Jen Chiang & Lawrence B. Solum, *The Interpretation-Construction Distinction in Patent Law*, 123 YALE L.J. 530, 537 (2013).

<sup>6</sup> See *id.* at 537-38.

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should *interpret* patent claims.<sup>7</sup> Patent law has not clarified exactly what the patent applicant is communicating via claims. Applicants are surely delineating a boundary with their claims. But, a boundary about what? In particular, it is not clear whether we should understand claims in the sense of the representation “I claim to have invented the following things” or in the sense of the request “I would like to claim exclusionary dominion over the following things.” There is a difference in kind between these two views and the difference impacts how we should interpret claims. The former is a representation by the inventor about what she claims to have invented and it can be proven to be true or false. The latter is just a request for exclusion; it is not a statement that is true or false. Importantly, in both views, claims will be central in determining the scope of exclusion but how we move from claim text to exclusion differs.<sup>8</sup> In critical areas, the procedure for handling claims will differ significantly.

In fact, the varied case outcomes that have been attributed to the unresolved policy debate can alternatively be explained as resulting from this unrecognized interpretive confusion. In particular, patent cases have split on the proper use of the patent specification to understand claims.<sup>9</sup> As argued below, these differing case outcomes can be explained as an unstated disagreement about the fundamental meaning of patent claims and not necessarily the result of policy differences.

Understandably, it might seem surprising that such a fundamental ambiguity could still exist in patent law. After all, patent claims have been part of the U.S. patent system for over a hundred and fifty years. Yet, the principal legal sources that govern patent claims give conflicting instructions to patent applicants. The statute directs the

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<sup>7</sup> See *id.* (providing an extended discussion of interpretation versus construction).

<sup>8</sup> As explained more thoroughly below, in both views claims still determine the bounds of exclusion but they do so in differing ways and for somewhat differing reasons. Longer versions of the alternate interpretive messages are “I claim to have invented the following things and, if you (the PTO) determine that my claimed invention is patentable, meaning that it is new, non-obvious, and properly disclosed, then award me exclusive rights over my claimed invention.” or “I am requesting a claim of exclusive rights over the following things and if you (the PTO) find that what I have claimed is new and nonobvious and the breadth of the claim is commensurate with the teachings found in my specification then please grant me the exclusive rights I have requested.” In the former, the claim defines the scope of exclusion because a valid claim covers the patentable parts of the inventor’s invention. In the latter, the claim defines exclusion directly because in this view a valid claim is one that the PTO has determined to be allowable under the requirements of patentability. In this view, a valid claim is a requested claim of exclusion that has been granted. See *infra* Part II.

<sup>9</sup> Reilly, *Judicial Capacities*, *supra* note 2, at 260-61.

patent applicant to include “one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention.”<sup>10</sup> That instruction seems to clearly align with the view that claims are to be understood as “I claim to have invented the following.” Yet, despite that statutory instruction, the courts have described claims in ways that appear to favor the alternate view. They have emphasized “the bedrock principle of patent law” that the claims define a patent’s rights of exclusion.<sup>11</sup> Numerous cases go on to analogize claims as the metes and bounds of patent exclusion. Indeed, a highly regarded hornbook emphasizes that claims “determine the scope of the right to exclude, regardless of what the inventor invented.”<sup>12</sup> Relying on these sources as defining the interpretive meaning of claims leads to understanding patent claims as the request “I would like to claim exclusion over the following.” In short, both views have support in the law but they are conflicting and lead to differences in procedure, most notably differences in their reliance on the patent specification.

When understood as “I would like to claim exclusionary dominion over the following things,” then the rest of the patent specification has little to do with *interpreting* the claims. In this understanding, claims are meant to directly communicate the boundaries of the requested exclusion. That is their sole purpose. They are just a request and are not a representation by the inventor of what he or she invented. In this view, the plain meaning of the claim language dominates as the applicant is simply trying to communicate a boundary of exclusion directly to a person of skill in the art. To interpret such a claim, a judge just asks the question “how much real estate was the applicant requesting when she wrote this particular claim?” Context from the specification is largely irrelevant unless the patentee specifically gives a claim term a specific definition. A significant wing of the Federal Circuit emphasizes this plain meaning interpretation. As mentioned above, previous scholars have argued that this plain meaning understanding results from a policy preference for broader claims. That indeed may be the case, but, as argued here, that same interpretive focus on plain meaning can also result simply from

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<sup>10</sup> 35 U.S.C. § 112(b) (2012).

<sup>11</sup> See *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004) (citing *Aro Mfg., Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961) (“[T]he claims made in the patent are the sole measure of the grant.”)).

<sup>12</sup> JANICE MUELLER, *PATENT LAW* 67 (3rd ed. 2009) (quoting remarks by Judge Giles S. Rich).

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understanding claims as the request “I would like to claim exclusion over the following.”

In contrast, if instead claims are understood as the statement “I claim to have invented the following things,” then the specification is always relevant for interpreting the claims. In this view, the claims and the rest of the specification focus on the same thing — the invention. Analogizing to real property, the specification describes the things that exist within a piece of land while claims focus on the boundaries of that land. Context from the rest of specification can always help to interpret the boundaries of what the applicant claims to have invented. Indeed, a number of judges on the Federal Circuit favor heavy use of the specification for interpreting claims. And, this reliance on the specification, rather than necessarily resulting from a policy preference for narrower patents, can be the result of simply trying to interpret claims according to the view that they represent the statement “I claim to have invented the following.” The use of the specification may result, not from molding claim scope to some policy preference, but rather from an earnest attempt to understand what the applicant was trying to communicate via that claim.

Such fundamental questions about the basic nature of patent claims cannot continue to exist if we hope to make progress toward fixing the patent system. Currently, patent law has not even acknowledged that there might be this problem. In fact, prominent scholars have taken strong positions that interpretive ambiguity is not a problem.<sup>13</sup> This is unfortunate and worrisome. Claims are too important for such an ambiguity to remain unresolved. The proper understanding of important issues, like the use of the specification for claim interpretation and, as argued below, the proper use of functional claiming, all hinge on this debate.

One hopeful fact is that though ambiguity does indeed today cloud patent discourse, once highlighted, such ambiguities should be easier to resolve than larger policy disagreements. As argued by Solum and Chiang, as to interpretive ambiguity, “there is in fact a single correct meaning to the text when viewed in context.”<sup>14</sup> In short, once we recognize this ambiguity, then the courts simply need to clarify which view is correct. But, until we do so, there will not be clear patent discourse because patent applicants are getting mixed messages as to what they should be communicating with their claims.

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<sup>13</sup> See Chiang & Solum, *supra* note 5, at 537.

<sup>14</sup> *Id.* at 592.

In the following sections these issues are explored in more detail. Part I outlines some basics about patent claims and the existing debate about substantive claim scope. Part II then argues that there is an alternate explanation for the judicial disagreements. Claim meaning is also ambiguous. There are two distinct, conflicting ways to understand the exact message that a claim conveys. Part II then goes on to resolve the ambiguity by arguing that claims are best understood in the sense of “I claim to have invented the following things.” In particular, this part argues that this understanding follows from the statute whereas the alternative view requires a deeply atextual understanding of it. Lastly, Part III develops the implications of this ambiguity (and its proper resolution) for a number of important emerging areas of patent law like indefiniteness, appellate review of claims, and functional claiming.

### I. CLAIMS AND THE PATENT DOCUMENT

At the highest level of generality, the United States patent system is designed to fulfill its constitutional mission “To promoting the Progress of . . . useful Arts” by “securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries.”<sup>15</sup> The patent system gives inventors exclusive rights in exchange for inventions. The process for receiving these exclusive rights starts with the patent application, the core of which is the patent specification.<sup>16</sup> The contents of the specification are defined by 35 U.S.C. § 112(a)–(b). The applicant is first instructed to provide “a written description of the invention” as well as “[how] to make and use [that invention].”<sup>17</sup> This written description is the quid pro quo of the patent system. The inventor discloses the invention in detail to prove that they did in fact invent something and so that others can later reproduce and use it. In return, the inventor gets (for a limited time) valuable exclusive rights. When the patent expires, the public (via the teachings found in the specification) can freely use the invention. That is the public’s quid — the description of the invention.

After providing this description, the patent document turns to the inventor’s quo — the exclusive rights. Patent applicants are instructed to “conclude” the specification with “one or more claims particularly pointing out and distinctly claiming the subject matter which the

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<sup>15</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>16</sup> As enumerated in 35 U.S.C. § 111 (2012). The applicant is required to supply three things: an oath, drawings (“where necessary for the understanding of the subject matter sought to be patented”), and the specification. 35 U.S.C. § 113 (2012).

<sup>17</sup> 35 U.S.C. § 112 (2012).

inventor . . . regards as the invention.”<sup>18</sup> It is in meeting this requirement that the claims first enter the picture. They are the most important part of the patent document. As held by the Supreme Court, the claims are used to define the extent of the exclusive rights.<sup>19</sup> Claims “are the sole measure of the grant.”<sup>20</sup>

Because of this tight relation to a patent’s exclusionary rights, a court’s determination of the extent of the claims is critical to every case. If construed narrowly enough, the defendant wins by non-infringement while the plaintiff wins if construed broadly.<sup>21</sup> This all-important claim construction often takes place in so-called *Markman* hearings, named after the Supreme Court case that held that claim construction is strictly a question of law for the judge to decide.<sup>22</sup> A court’s *Markman* determination is often outcome determinative. As a result, patent litigators focus incredible amounts of attention on this pushing and pulling of the claim boundaries.<sup>23</sup> As put by Judge Giles Rich, the “name of the game is the claims.”<sup>24</sup>

For claim construction, one critical question, which is hardly new, is the role of the specification for understanding claims.<sup>25</sup> The central issue is whether and how the examples described in the specification should be used to interpret (and perhaps limit) patent claims.<sup>26</sup> Should claims hew close to the explicitly disclosed technological examples in

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<sup>18</sup> *Id.*

<sup>19</sup> See *Aro Mfg., Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339-40 (1961).

<sup>20</sup> *Id.* at 339.

<sup>21</sup> The story is a bit more complicated than this as defendants can also win with a broad construction if the patent claim is then found invalid. This dynamic leads to Judge Rich’s famous and initially counter intuitive statement that “The stronger a patent the weaker it is and the weaker a patent the stronger it is.” See Giles S. Rich, *The Proposed Patent Legislation: Some Comments*, 35 GEO. WASH. L. REV. 641, 644 (1967). This only underscores how important claim construction is for all aspects of patent law.

<sup>22</sup> *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996).

<sup>23</sup> See Rantanen, *supra* note 3, at 899.

<sup>24</sup> Giles S. Rich, *Extent of Protection and Interpretation of Claims — American Perspectives*, 21 INT’L REV. INDUS. PROP. & COPYRIGHT L. 497, 499 (1990).

<sup>25</sup> See, e.g., *Davis v. Palmer*, 7 F. Cas. 154, 157 (C.C.D. Va. 1827) (No. 3,645) (“The counsel for the plaintiff seem disposed to consider . . . the subsequent more particular description, as merely an illustration of the general principle, as one mode of carrying it into execution.”); see also *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (“The role of the specification in claim construction has been an issue in patent law decisions in this country for nearly two centuries.”).

<sup>26</sup> See Oskar Liivak, *Finding Invention*, 40 FLA. ST. U. L. REV. 57, 73-74 (2012) [hereinafter *Finding Invention*].



the specification or can the claims (and therefore patent exclusion) extend further?

Ten years ago in *Phillips v. AWH*, an en banc Federal Circuit did clarify some issues.<sup>27</sup> One line of cases had put heavy emphasis on dictionaries as the first source to be consulted in claim interpretation.<sup>28</sup> Implicitly, the specification (and inferences drawn therein) was of less probative value than dictionaries. *Phillips* overruled that line of cases and demoted dictionaries to an extrinsic source that should be consulted only when intrinsic sources (like the specification) failed to provide conclusive answers.<sup>29</sup> Yet *Phillips* (perhaps intentionally to maintain consensus) left significant questions open.<sup>30</sup> The role of the specification is still up for grabs. In particular, two competing canons of claim interpretation exemplified this divide. On the one hand, claims were to be understood in light of the specification.<sup>31</sup> On the other hand, judges were to avoid one of the “cardinal sins of patent law — reading a limitation from the written description into the claims.”<sup>32</sup> *Phillips* noted that the distinction between the two “can be a difficult one to apply in practice”<sup>33</sup> but that it “can be discerned with reasonable certainty and predictability if the court’s focus remains on understanding how a person of ordinary skill in the art would understand the claim terms.”<sup>34</sup> Yet, despite this hopeful prediction, these competing canons of interpretation have not been reconciled and overall claim construction remains “as divided today as before *Phillips*.”<sup>35</sup> Patent law is still divided over the proper role of specification for understanding patent claims. Should we focus on the plain meaning of the claim terms generally or should we focus on the meaning of claim terms in the context of the specific invention described in the specification?<sup>36</sup>

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<sup>27</sup> *Phillips*, 415 F.3d at 1303.

<sup>28</sup> See *Tex. Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202-03 (Fed. Cir. 2002).

<sup>29</sup> See *Phillips*, 415 F.3d at 1317-18.

<sup>30</sup> See Reilly, *Judicial Capacities*, *supra* note 2, at 261 (2014) (“Unfortunately, *Phillips* attempted to reconcile all prior cases, rather than overruling one of the competing lines, and thus can be read as supporting either side of the methodological split.”).

<sup>31</sup> *Id.*

<sup>32</sup> *Phillips*, 415 F.3d. at 1320 (citing *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1340 (Fed. Cir. 2001)).

<sup>33</sup> *Id.* at 1323.

<sup>34</sup> *Id.*

<sup>35</sup> Reilly, *Judicial Capacities*, *supra* note 2, at 261 (emphasis added).

<sup>36</sup> *Id.* (“[T]he core question uniting all of these various descriptions is whether

After *Phillips* emerged, patent scholars began integrating it into the broader patent landscape. For example, Chris Cotropia identified these alternate canons as leading to broad or narrow claims and he matched them with policy preferences.<sup>37</sup> Heavy use of the specification would generally lead to narrow claims while focus on the plain meaning (avoiding importing limitations from the specification) would generally lead to broader claims. Cotropia argued that choosing between these interpretive methodologies could be seen as a policy choice for broad or narrow claims.<sup>38</sup> Interpretive methodology then should be seen as an important “policy lever” that judges could deploy to achieve their policy objectives.<sup>39</sup>

In a recent article Lawrence Solum and Tun-Jen Chiang take up that idea and argue that “uncertainty in claim application most typically arises because judges have core policy disagreements about the underlying goals of claim construction.”<sup>40</sup> And, I agree that this is a source of unpredictability. But, Solum and Chiang go on to argue at length that this policy based disagreement is the exclusive source of confusion. They argue that there is no interpretive ambiguity in claim language.<sup>41</sup> They reach what they describe as the “clear” conclusion “that linguistic uncertainty is not what is causing disputes in patent law, at least in the main.”<sup>42</sup> Based on that conclusion, they argue that we should not waste resources on claim interpretation because that is not problematic. Instead, we must focus only on the policy debates surrounding optimal claim scope. When those issues of construction are resolved, Solum and Chiang argue then patent claims may start to stabilize.<sup>43</sup>

But, if differing policy preferences are driving patent uncertainty, then patent clarity may well be near impossible to achieve. First, there is little evidence that we know what the right amount of patent exclusion should be. It is in many ways the ultimate question in patent

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claim terms should be given the general meaning they normally possess in the field of the invention or the specific meaning with which they are used in the patent itself.”).

<sup>37</sup> See Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 WM. & MARY L. REV. 49, 127-28 (2005).

<sup>38</sup> See *id.* at 133 (“Claim interpretation includes choices among available patent scopes. These choices are made by selecting a particular claim interpretation methodology.”).

<sup>39</sup> *Id.* at 58; see also Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1670-73 (2003).

<sup>40</sup> Chiang & Solum, *supra* note 5, at 534.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.* at 605, 613 (concluding that “uncertainty about claim scope will persist until judges reach normative agreement about claim analysis policy”).

<sup>43</sup> *Id.* at 613.

law and to date it has eluded any real answer or even consensus. And as such, it has been the focus of vigorous debate for decades. Ed Kitch's seminal article from 1977 is generally regarded as advocating for property-like protection for patents with broad claim scope that is vigorously defended by strong patent remedies.<sup>44</sup> In 1990 Rob Merges and Richard Nelson entered the fray by arguing for a role for competition and therefore narrower patent rights.<sup>45</sup> That debate continues pushing and pulling patent theory between these two poles.<sup>46</sup> In short, if patent law needs to resolve this debate before we can hope to gain clarity over patent claims, then there is little hope that patent scope can become more predictable anytime in the foreseeable future.

## II. UNRESOLVED INTERPRETIVE AMBIGUITY

Certainly the unresolved policy debate about optimum patent scope is problematic but perhaps there are other, easier to solve, problems also causing confusion. Indeed, contrary to scholars like Solum and Chiang, policy disputes are not the only issue; interpretive ambiguities are also major contributing factors. Patent law appears to support two distinct ways to understand patent claims. These two understandings lead to different views on interpreting claims. And interestingly, these differences mirror quite closely the current rift over the use of the specification for understanding claims. As explained above, previous scholarship has diagnosed the specification debate as a policy dispute but this article suggests an alternative explanation. The specification debate may be derived from differing views on the fundamental meaning of claims.

This ambiguity exists because patent law has given unclear instructions to patent drafters. It is not clear whether claims (especially initial claims in the original application) are communicating the boundaries of the real estate that the applicant wants exclusive dominion over, or are they communicating the boundaries of what the applicant claims to have invented. Differing procedure emerges depending on which view is adopted. For example, if we are to claim what we invented, then the rest of specification is always highly relevant for interpreting the claim language. In contrast,

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<sup>44</sup> See Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 276-77 (1977).

<sup>45</sup> See Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 916 (1990).

<sup>46</sup> See Burk & Lemley, *supra* note 39, at 1595.

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if we are claiming exclusion directly, then the specification is rarely relevant for claim interpretation (though the specification will be still relevant for the validity of that claim).

Once the ambiguity is recognized, the question is which view is correct. After all, as recently argued, once ambiguity has been identified, then “there is in fact a single correct meaning to the text when viewed in context.”<sup>47</sup> This article argues that, when correctly understood, claims should be understood as claiming what was invented. Understanding claims as “what I would like to claim exclusion over” requires a deeply atextual understanding of claims. It requires elevating judicial statements about claims over the plain text of the statute. As argued below, it requires conflating what claims *do* with what claims communicate.

In contrast, understanding claims as “I claim to have invented the following things” does not require such a strained reading and it is also still consistent with the judicial opinions. The key to this consistency is to understand that the statutory command defines the interpretive meaning of claims while the judicial opinions describes the construed effect of claims. The statute defines what claims are meant to communicate while the judicial opinions are describing what claims do.

#### A. *Claim Ambiguity*

The central argument in this paper is that there exists an ambiguity in our understanding of patent claims. Importantly, this interpretive ambiguity is separate from the policy debate concerning ultimate patent scope. The latter is a matter of construction while the former is a matter of interpretation. Asking whether a claim drafter is making a request for exclusion with their claim or instead stating what they claim to have invented is a matter of interpretation. It is asking what the text of a claim is meant to communicate. To better understand the difference between this policy debate and this interpretive confusion, it is worth understanding Solum and Chiang’s distinction between interpretation and construction.

Prior to bringing the interpretation versus construction distinction to patent law, Prof. Solum explored the distinction more generally. The first step, interpretation, is largely a policy-free exercise that aims to understand and resolve *ambiguities* in the text. The aim of interpretation is to understand the message the author intends to convey to the reader via the text. The aim is to understand the “set of ideas and concepts that are communicated by the language to a

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<sup>47</sup> Chiang & Solum, *supra* note 5, at 592.

member of the intended audience.”<sup>48</sup> In particular, for interpretation, they focus on the “speaker’s meaning,” a concept formulated by Paul Grice as “the meaning that the speaker intends to convey to the audience based on the audience’s recognition of the speaker’s communicative intention.”<sup>49</sup> As they define it, interpretation is “ultimately” the search for “the understanding of the intended audience.”<sup>50</sup>

Having interpreted the text, the next step is construction. This entails determining the legal effect of the text. And although interpretation and its linguistic meaning often provide a good start toward legal effect, linguistic meaning may not answer all relevant questions. To make up that gap, the legal authority often must rely on policy-based considerations to answer these remaining questions of vagueness. As they explain, “[c]onstruction is the activity of determining the legal meaning and effect of a text.”<sup>51</sup> It is the “thickly normative” process of moving from the linguistic meaning of a text to rendering a legal decision with actual impact on legal actors.<sup>52</sup>

By separating these tasks, they argue that increased transparency results. The interpretation-construction distinction forces legal authorities to be more open and upfront that indeed at least part of their legal determination is based on *their* policy judgments. Use of the distinction prevents legal authorities from hiding behind all-too-easy to blame linguistic ambiguity. Ultimately, they state that

The interpretation-construction distinction does not tell us how to resolve these disputes over legal effect. Rather, the payoff of drawing the distinction is antecedent: it tells us which issues are problems of linguistic meaning, and which issues are problems of legal effect. This is important because the two types of problems call for different solutions.<sup>53</sup>

To better understand the claim ambiguity that is the focus of this article, consider an analogous ambiguity in a hypothetical tax system. Assume that congress has set federal income tax at “a fair amount around 10% of annual income.” On a policy level we could imagine debating the meaning of “fair amount.” Some might argue for placing tight bounds on IRS discretion and thus creating something akin to a

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<sup>48</sup> *Id.* at 546-47.

<sup>49</sup> *Id.* at 552 n.79.

<sup>50</sup> *Id.* at 552.

<sup>51</sup> *Id.* at 553.

<sup>52</sup> *See id.* at 554.

<sup>53</sup> *Id.* at 535.

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flat tax of 10%. Others might disagree and would argue that a “fair amount” demands a progressive tax with an increasing tax rate for wealthier filers. The statutory command of a “fair amount” is vague. To assign tax liability, the IRS must resolve that vagueness by making a policy choice. Under *Solum* and *Chiang*’s definitions, this policy choice by the IRS is an act of construction.

If all else were perfectly clear in that tax system, then indeed perhaps the only real debate would be this policy question. But, consider now another source of confusion. In addition to the substantive debate over how much tax congress intended, imagine a separate procedural choice over how to implement such a system. In particular, imagine implementing the above tax system using two different tax forms. In both, the tax filer is asked to provide a detailed description of the filer’s income for the past year. This is analogous to patent law’s requirement to provide a detailed description of the invention.<sup>54</sup>

In addition to that detailed report on income, assume that the tax forms conclude with one of two different questions. One tax form asks the tax filers to conclude by answering the question, “What is 10% of your annual income?” In other words, after providing a detailed description of their income, the form asks the filer to help the IRS by summing together all the income and to report 10% of that total annual income. This last answer on this form is a factual statement whose truth can be checked by corroborating with the facts reported in the rest of the tax filing. The tax filer is not asked to suggest or comment on what might constitute a “fair amount.” In this system, the filer just reports 10% of their income as a factual matter and the IRS is left to determine whether that actual tax liability (i.e. the “fair amount” approximately 10% of income) is above or below that amount.

Now imagine an alternative way to implement this tax system. Imagine that in this alternative system the tax form still asks for a detailed report of actual income but it concludes by asking filers to instead “state what would be a fair amount of tax to pay that is around 10% of your annual income.” Here the filer is not making a representation as to their actual annual income. The answer to this question here is simply what the filer thinks would be a fair amount. This is a difference in kind from the response to the other form. There is no truth or falsity to this statement in the way that an answer to the question “what was 10% of your income?” could be either true or

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<sup>54</sup> 35 U.S.C. § 112 (2012).

false. And of course, filers would have a strong incentive to argue that, in their opinion, a “fair” amount would be lower (perhaps much lower) than 10% of their income.

There is nothing inherently wrong with either of these two procedural systems *as long as we all understand which system is in operation*. Note also that internal procedure at the IRS will differ between these two systems. In the former, the filer reports a number that is 10% of their actual annual income and the IRS must determine if this is an accurate representation and then must determine what would be a fair amount (near 10%) to pay in tax. In contrast, in the latter system, the applicant themselves takes the initial stab at suggesting what would constitute a fair amount. And, in this system, the IRS needs to decide whether to give that initial stab any weight. Because different information is being asked for, there are procedural differences. Either form could be used successfully as long as filers and the IRS all know which form is used.

It would be inconceivable that the tax system could run smoothly if tax returns arrived without the IRS being able to tell which of the two questions the filer was trying to answer. But this is exactly the confusion that exists today in patent law — this is the type of ambiguity that is plaguing patent law. There is confusion over the exact question that patent claims are meant to answer. Are we claiming what we invented or claiming what we would like exclusive dominion over? As long as this ambiguity exists, there cannot be clear communication in patent law.

#### B. *Claiming Desired Exclusion*

Of the two views of patent claims, most of the patent community appears to understand patents in the sense of “I would like to claim exclusive dominion over the following things.” And, although this article argues that this is the incorrect understanding, we might excuse the majority, as there are abundant citations that appear to support their view. None other than Judge Giles Rich, one of the principal drafters of the 1952 Patent Act, has made this notion quite explicit:

when all is said and done and the court has spoken, what is it that the claims point out? What the inventors invented? Or the scope of the invention? Not likely! It is the claims that have determined what infringes the patentee’s right to exclude, construed in the light of the specification . . . . [T]he claims

are the measure of the patentee's right to exclude rather than the measure of what was invented.<sup>55</sup>

And these sentiments have made their way into the patent law orthodoxy.<sup>56</sup> In her well-received hornbook, Janice Mueller describes a patent claim as “a single-sentence definition of the scope of the patent owner's property right — that is, her right to exclude others from making, using, selling, offering to sell, or importing the invention, in this country.”<sup>57</sup> She goes on to emphasize that claims “determine the scope of the right to exclude, regardless of what the inventor invented. I submit that that is the sole function of patent claims.”<sup>58</sup>

In their highly influential article on claim scope, Rob Merges and Richard Nelson also appear to adopt this view of claims as relating only to exclusion. They note that “[t]he specification and claims serve quite different functions.” In particular, they state that

[t]he . . . specification . . . is written like a brief science or engineering article describing the problem the inventor faced and the steps she took to solve it. . . . The second part of the patent application is a set of claims, which usually encompass more than the material set out in the specification. Claims define what the inventor considers to be the scope of her invention, the technological territory she claims is hers to control by suing for infringement. . . . [Claims are] [a]nalogous to the metes and bounds of a real property deed.<sup>59</sup>

Relatedly, Jeanne Fromer highlights that the technical layer of the patent (the specification) is not the same as the legal layer (the claims).<sup>60</sup> And, even in their casebook, Rob Merges and John Duffy emphasize that “claims are the essence of the legal right granted by a patent”; they are “the portion of the patent document that defines the patentee's rights.”<sup>61</sup> They add that “numerous cases analogize claims

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<sup>55</sup> Giles S. Rich, *Foreword to DONALD S. CHISUM ET AL., PRINCIPLES OF PATENT LAW*, at iii, vi (2d ed. 2001).

<sup>56</sup> For criticism of the reflexive acceptance of these statements, see Oskar Liivak, *Rescuing the Invention from the Cult of the Claim*, 42 SETON HALL L. REV. 1, 6-16 (2012) [hereinafter *Rescuing Invention*].

<sup>57</sup> MUELLER, *supra* note 12, at 66.

<sup>58</sup> *Id.* at 67 (quoting remarks by Judge Giles S. Rich).

<sup>59</sup> Merges & Nelson, *supra* note 45, at 844-45.

<sup>60</sup> Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 566 (2009) (“The legal scope of the patent right is not the same as a technical understanding of the patented invention.”).

<sup>61</sup> ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, *PATENT LAW AND POLICY* 26



to the ‘metes and bounds’ of a real property deed,”<sup>62</sup> noting that “[t]he function of claims is only to define the precise scope of the intellectual property rights that are warranted by the disclosure made earlier in the specification.”<sup>63</sup>

Tun-Jen Chiang provides perhaps the clearest support for understanding claims as self-serving requests for real estate.<sup>64</sup> Chiang tries to distinguish the specification from the claims. He argues that “the specification describes an invention in the sense of an embodiment, while the claim describes an invention in the sense of monopoly scope.”<sup>65</sup> He goes on to emphasize his “key insight . . . that patent law has two separate concepts of ‘the invention,’ and the two parts of the patent describe entirely different things at a conceptual level.”<sup>66</sup> Though the specification describes concrete embodiments, Chiang sees the claims as delineating something quite different. Claims are requests for exclusion and nothing else.<sup>67</sup>

### 1. Implications for Patent Procedure

If we adopt this view, then a number of procedural implications result. In particular, under this view, claims should be understood principally by their plain meaning to persons of skill in the art. After all, as delineating a boundary of exclusion, the claim language is speaking directly to a person of skill and it is not directly referencing the detailed embodiments in the rest of the specification. With this view, there will only be a limited role for the specification in *interpreting* the claims. The specification is relevant later for determining the validity of a claim but it is not generally needed for interpretation of the claims.

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(4th ed. 2007) (quoting *Markman v. Westview*, 517 U.S. 370, 372 (1996)).

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> See Tun-Jen Chiang, *Forcing Patent Claims*, 113 MICH. L. REV. 513, 515-16 (2015).

<sup>65</sup> *Id.* at 518.

<sup>66</sup> *Id.* at 520.

<sup>67</sup> See *id.* at 546-47. From this perspective though, Chiang describes a “puzzle.” As claims are just requests for exclusion, Chiang argues that applicants will surely draft claims to “cover as much as they can possibly get away with.” He argues that “[r]equiring patentees to write claims forces them . . . to disclose . . . private information” that establishes “an initial baseline” from which to start a more meaningful exchange with the PTO and courts. Chiang argues that patent claims serve a purpose akin to opening bids in some negotiation that reveals bounds on private valuation. Certainly where a seller sets an initial asking price and the prospective buyer similarly sets their initial price, this sets the stage for the ongoing negotiation. *Id.* at 518, 522, 558.

If understood as request for exclusion, then the job of the PTO is to determine whether the applicant's requests should be granted. For this, the PTO refers to the requirements of the patent statute: novelty, non-obviousness, and disclosure. An applicant cannot be granted exclusive dominion over anything that already resides in the prior art or anything that is obvious in light of the prior art.<sup>68</sup> In addition, the breadth of the allowable claims must be commensurate with his disclosure.<sup>69</sup>

To accomplish this task, the PTO must first interpret the claims. As claims are written for persons of ordinary skill, the PTO interprets the claims by asking what would a person of skill in the art understand the claim text to delineate. In this view, the patent applicant is communicating a boundary of exclusion directly to a person of skill. Claim interpretation simply asks what that boundary is. There is a heavy reliance on the plain meaning of the claim language. The specification is only relevant if the applicant, acting as his own lexicographer, has imbued a claim term with some idiosyncratic meaning. Only then does the specification have particular relevance to interpreting the claims.

As suggested above, many scholars in patent law appear to adopt this view and have advocated for the procedural implications that flow from it. In addition, members of judiciary similarly appear to understand claims in this way. Judge Moore has outlined her views on the proper procedure for understanding claims.<sup>70</sup> She begins by citing the bedrock principle that “the claims of a patent define the invention to which the patentee is entitled the right to exclude” and she then argues that this leads directly to proper procedure. She argues that “[a]pplying these bedrock principles of interpretation, claim terms are to be given their plain and ordinary meaning to one of skill in the art.”<sup>71</sup> And, she further notes the limited role for the specification. She notes that “[t]he specification may shed light on the plain and ordinary meaning” but the “the specification cannot be used to narrow a claim term — to deviate from the plain and ordinary meaning — unless the inventor acted as his own lexicographer or intentionally disclaimed or disavowed claim scope.”<sup>72</sup>

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<sup>68</sup> See 35 U.S.C. §§ 102–103 (2012).

<sup>69</sup> See 35 U.S.C. § 112 (2012).

<sup>70</sup> See *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 659 F.3d 1369, 1370–73 (Fed. Cir. 2011) (Moore, J., dissenting from denial of rehearing en banc).

<sup>71</sup> *Id.* at 1371.

<sup>72</sup> *Id.* Related to this, Judge Rader noted that if claims were construed to be coextensive with the disclosed invention, then no claim should ever be invalidated for

In addition, this outlook also leads to the view that the disclosed invention is a matter for construction and validity of a claim, and it is not a consideration for claim interpretation. Judge Moore describes this dynamic: “If the metes and bounds of what the inventor claims extend beyond what he has invented or disclosed in the specification, that is a problem of validity . . . . It is not for the court to tailor the claim language to the invention disclosed.”<sup>73</sup>

Despite its widespread acceptance, there are real problems with this view. Although Chiang characterizes it as a “key insight,” he does acknowledge that this understanding requires a deeply atextual reading of the statute. In the first paragraph of § 112, the statute instructs applicants to describe the “invention.” Here, Chiang understands the invention to be the technological embodiments created by the inventor. But, when the statute in the very next sentence uses the same term “invention,” Chiang inexplicably tells us that this term now means something “entirely different.” As argued below, there is not any justification for such atextual reading.

Furthermore, this metes and bounds interpretation of claims is strained in that it puts delineation of exclusive rights at the center of the linguistic meaning of claims. Yet, exclusive rights are not even mentioned at all in 35 U.S.C. § 112. Exclusive rights are only mentioned much later in 35 U.S.C. § 271(a) and 35 U.S.C. § 151. As argued in the next section, there is an alternative view where the statutory mandate *and* the judicial opinions can be read without conflict and without conflating the meaning and effect of patent claims.

### C. *Claiming What Was Invented*

There is an alternative way to understand patent claims and this alternative is consistent with the statute as well as judicial descriptions of claims. In this view, patent claims are understood in the sense of “I claim to have invented the following.” Claim drafters are not delineating boundaries of exclusion directly. Rather, they are highlighting the bounds of what they invented. This view leads to a different understanding of claim meaning and associated patent procedure.

This alternative view is premised on the idea that the invention is an objective concept that can be articulated by the inventor via the patent application.<sup>74</sup> When an inventor approaches a patent attorney, the attorney’s job is to follow the instructions set forth in 35 U.S.C. to

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failure to provide an adequate written description.

<sup>73</sup> *Id.*

<sup>74</sup> See Liivak, *Finding Invention*, *supra* note 26, at 103.

draft a patent application for the inventor. Of course, the attorney hopes to secure maximal protection for the client but that is a hoped for legal effect — a matter of claim construction not necessarily interpretation.<sup>75</sup> By analogy, a tax attorney certainly aims to minimize tax liability for a client but that does not mean that the tax attorney can simply fabricate answers to straightforward questions like “what was the filer’s annual income last year.”

For patent law, the statutory instructions in 35 U.S.C. § 112 revolve around one thing, the “invention.” The only sensible way to understand this statutory language is as the things that the inventor invented. And, that in turn is best understood as the embodiments that the inventor has conceived and reduced to practice (whether actually or constructively). As conception and reduction to practice require considerable detail, a specification that discloses what was invented requires similar detail.<sup>76</sup>

The statutory instructions for the specification first require a detailed description of the invention and then the specification is concluded by “particularly and distinctly” pointing out the invention. Because of this focus, the patent drafter understands that she must first understand what the inventor has in fact invented, namely what the inventor has conceived and reduced to practice.<sup>77</sup> The drafter prods the inventor to disclose not only the details of the preferred embodiment but also all related variations that solve the same technical problem. All of these embodiments together form the invention.

Once the attorney grasps the invention in all its permutations, the attorney is now ready to draft the patent specification including not only a description of the invention but also how to make and use the invention.<sup>78</sup> As outlined in § 112(a) that description forms the core of the specification. The drafter then reads § 112(b) and finds that she is instructed to conclude the specification “with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention.”<sup>79</sup> This provision at first appears odd. Having just described the invention to comply with § 112(a), the patentee must claim the invention as well? Despite that initial appearance of redundancy, it serves a real purpose.

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<sup>75</sup> See *supra* notes 43–48 and accompanying text.

<sup>76</sup> See Liivak, *Rescuing Invention*, *supra* note 56, at 10.

<sup>77</sup> See Liivak, *Finding Invention*, *supra* note 26, at 83-91 (providing examples where the inventor has not conceived of more than one (or at least a very limited set of) embodiments).

<sup>78</sup> See 35 U.S.C. § 112(a) (2012).

<sup>79</sup> *Id.* § 112(b).

Consider a typical mechanical invention, a machine. A specification for that invention will include all the alternative embodiments of the machine as well as a method for making those embodiments and a method of using those embodiments. It thus necessarily contains a method of making a machine, a method of using the machine, and the machine itself. The machine itself, the method of making it, and the method of using it all could be patent eligible inventions. Without clarification we do not know which one is the patent applicant trying to protect. The claims help resolve this confusion by making clear that the applicant is claiming the machine as the invention.

Furthermore, claims help in another regard. The purpose of patent examination is to determine what portion of the disclosed invention is patentable. In other words, of the properly disclosed invention, what portion of it is new and non-obvious? Issued claims help make this clear.<sup>80</sup> They are administrative tools that aid in determining what parts of the disclosed invention qualify as the patented invention.<sup>81</sup>

And, because allowed claims describe the patentable portion of the disclosed invention, claim text ultimately delineates exclusion. Exclusion is granted to the “patented invention” and issued claims help to easily identify the patented invention.<sup>82</sup> In this view, claims do not “define” exclusion because they were initially written as requests for exclusion. Instead claims “define” exclusion because they circumscribe the patented invention.

Importantly, in this view the whole specification and the claims are understood to be describing and circumscribing the same thing — the invention. Therefore, *claim interpretation* is substantially aided by the context of the specification. When a judge reaches for the specification she is simply trying to understand the linguistic meaning of that claim term in the context for which it was written. The specification is consulted to understand the context in which the patentee is using a term. In short, the specification is almost always consulted to *interpret* the claim language.

This view of claim meaning provides for coherent understanding that does not require atextual understandings of the statute. The statutory command of § 112(b) directs claim interpretation. Accordingly, with their claim language inventors are highlighting what they claim to have invented. Once the PTO finds that the applicant did indeed invent as broadly as claimed, and once the PTO finds the

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<sup>80</sup> See *id.* § 271(a) (2012).

<sup>81</sup> See Liivak, *Rescuing Invention*, *supra* note 56, at 30.

<sup>82</sup> § 271(a).

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claimed invention to be both novel and nonobvious, then the claimed invention also defines the patentable invention and hence it defines patent exclusion. Seen in this way the statutory commands and the judicial statements that claims define exclusion can be understood coherently.

### III. RELEVANCE MOVING FORWARD

The current ambiguity of patent claims must be resolved. It is hampering our ability to improve the patent system. Most notably, the ambiguity is adding to the confusion surrounding the proper use of the specification for understanding patent claims. But, the relevance of this ambiguity extends much further. Recently, the Supreme Court has taken up two major cases that deal with patent claims. The Court tightened the standard for claim indefiniteness and redefined the proper standard for appellate review of district court claim constructions.<sup>83</sup> As detailed below, the ambiguity surrounding patent claims impacts how these new rules should be implemented. And, although it has yet to reach the Supreme Court, patent law is also beginning to wrestle with the proper use of functionally defined claim limitations. This debate also hinges on first resolving this ambiguity. This section outlines these three new developing areas and shows how they depend on first understanding what claims represent.

#### A. Indefiniteness

Recently, the Supreme Court in *Nautilus v. Biosig* addressed the proper standard for determining whether a patent claim was indefinite. The basis for the indefiniteness requirement is 35 U.S.C. § 112(b), the same statutory language that describes the purpose of claims generally. It instructs applicants to “particularly and distinctly point[] out what the inventor regards as his invention.” Up until *Nautilus*, the Federal Circuit considered a claim invalid for indefiniteness if the claim was not “amenable to construction” or “insolubly ambiguous.”<sup>84</sup> This standard was generally seen as a lax standard that seldom invalidated a claim.

In *Nautilus*, the Supreme Court held that the Federal Circuit’s standard was too permissive and did not match the statutory command. In its place the Court held “that a patent is invalid for

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<sup>83</sup> *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 835-36 (2015); *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014).

<sup>84</sup> *Datamize LLC v. Plumtree Software Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005).

indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”<sup>85</sup>

For the most part, the Court simply restated the statutory language but it did add that the claim had to inform with “reasonable certainty.” The Court further noted that, although the statute “mandates clarity,” the Court understands that “absolute precision is unattainable.”<sup>86</sup> And, it is here that “reasonable certainty” fits in. The Court stated that “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.”<sup>87</sup>

But what exactly is “their subject matter” and what precision is “reasonable” for that context? The answer depends on the linguistic purpose of claims. If claims are understood as claiming what was invented then “reasonable certainty” would likely be set higher than if claims are understood as claiming exclusion alone. Under the ‘what was invented’ view, the object of the claims is the same as the object of the full specification (i.e. the invention). Having just written the bulk of the specification and giving a detailed account of the invention in all its permutations, along with a description of making and using that invention, it is certainly reasonable for patent law to expect that the patentee can then claim that same invention with substantial clarity. To invent something, requires conceiving it.<sup>88</sup> This requires having a “definite and permanent” conception of that invention and how it will be carried into practice.<sup>89</sup> As put by Merges and Duffy, “conception requires rigor”<sup>90</sup> such that the inventor can communicate the “crystallized [idea] in all of its essential attributes.”<sup>91</sup> If claims are communicating what an inventor claims to have invented then it is quite reasonable to demand a high level of precision. If the applicant is indeed claiming something she invented, then it surely is not onerous to require her to simply write it down with clarity and precision.<sup>92</sup>

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<sup>85</sup> *Nautilus Inc.*, 134 S. Ct. at 2124.

<sup>86</sup> *Id.* at 2129.

<sup>87</sup> *Id.* (quoting *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270 (1916)).

<sup>88</sup> See Liivak, *Rescuing Invention*, *supra* note 56, at 20; see also *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 60 (1998) (the “primary meaning of the word ‘invention’ in the Patent Act unquestionably refers to the inventor’s conception rather than to a physical embodiment of that idea”).

<sup>89</sup> *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1376 (Fed. Cir. 1986).

<sup>90</sup> MERGES & DUFFY, *supra* note 61, at 450.

<sup>91</sup> *Id.*

<sup>92</sup> See Brief of Amicus Curiae Oskar Liivak Supporting Defendant-Appellant at 12, *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336 (Fed. Cir. 2010) (No. 2008-1248)

In contrast, if claims are understood as directly delineating the subject matter the patentee seeks dominion over, then the level of reasonable precision is likely to be much lower. In such a system, the scope of exclusion a patentee might request is not necessarily tied to the subject matter invented by the applicant. Rather, we might expect applicants to aim for the amount of exclusion that the patentee thinks the PTO will allow. This will be less precise than claiming what the applicant invented. We cannot reasonably expect applicants to provide exacting certainty in claims when they are engaged in a circular guessing game about what the PTO might ultimately allow. As patent law now begins to develop the “reasonable certainty” standard for indefiniteness, the courts need to first address the unresolved ambiguity in patent claims.<sup>93</sup>

### B. *Claims, Context, and Deference to District Court*

Similarly, the Supreme Court recently decided *Teva v. Sandoz*.<sup>94</sup> The Court took the case to consider the standard of appellate review of a lower court’s factual findings in claim construction. The Court held that claim construction was not exceptional, and, like for other factual findings, Federal Rule of Civil Procedure 52(a) applied.<sup>95</sup> The Court held that “[w]hen reviewing a district court’s resolution of subsidiary factual matters made in the course of its construction of a patent claim, the Federal Circuit must apply a ‘clear error,’ not a de novo, standard of

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[hereinafter Liivak Brief] (“[Section] 112 quite reasonably requires the patent applicant to simply write down that mental conception. This converts the subjective inquiry of whether the claimed subject matter was conceived by the inventor into the objective inquiry of whether the specification can corroborate the invention of the claimed subject matter.”). Despite the precision expected in this view, patentees can often still claim broadly. When they invent broadly, they can claim broadly. See Liivak, *Finding Invention*, *supra* note 26, at 74. In addition, and in contrast to the views of many, the patentee can also disclose and claim after arising technology. *Id.* at 91-98.

<sup>93</sup> *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2130 (2014). Interestingly, a reading of the Supreme Court’s unanimous opinion in *Nautilus* appears to support the view that claims are claiming what was invented. In the opinion, the Court provides some of the pre-history of patent claims. The Court notes that patent law’s first reference to the patent specification required it to “contain[] a description . . . of the thing or things . . . invented or discovered” and the statute later references these “thing or things” as the “invention.” *Id.* at 2124.

<sup>94</sup> *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 835 (2015).

<sup>95</sup> *Id.* at 836.



review.”<sup>96</sup> Having given the basic rule, the Court went on “to explain how the rule must be applied in [the context of patent claims].”<sup>97</sup>

The Court divided the evidence used for claim construction into two groups: intrinsic and extrinsic evidence.<sup>98</sup> As to the intrinsic evidence, namely the patent claims, the specification, and the patent’s prosecution history, “the judge’s determination will amount solely to a determination of law, and the Court of Appeals will review that construction *de novo*.”<sup>99</sup> But the Court explained that the intrinsic evidence would not resolve every issue. “In some cases . . . the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.”<sup>100</sup> The Court held that such “subsidiary fact[ ]finding must be reviewed for clear error on appeal.”<sup>101</sup>

Though those factual findings are reviewed for clear error, the Court added that every one of those factual findings is accompanied by a legal determination that is reviewed *de novo*. The Court explained that where

a district court resolves a dispute between experts and makes a factual finding that, in general, a certain term of art had a particular meaning to a person of ordinary skill in the art at the time of the invention, the district court must then conduct a legal analysis: whether a skilled artisan would ascribe that same meaning to that term in the context of the specific patent claim under review. That is because “[e]xperts may be examined to explain terms of art, and the state of the art, at any given time,” but they cannot be used to prove “the proper or legal construction of any instrument of writing.”<sup>102</sup>

The unresolved ambiguity in patent claims directly impacts this directive. In particular, the Court emphasized that the district court needs to make the legal determination addressing “whether a skilled artisan would ascribe that same meaning to that term in the context of

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<sup>96</sup> *Id.* at 833.

<sup>97</sup> *Id.* at 840.

<sup>98</sup> Though not cited by the Supreme Court, this distinction was at the heart of the Federal Circuit’s en banc opinion in *Phillips*. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc).

<sup>99</sup> *Teva*, 135 S. Ct. at 841.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> *Id.* (emphasis removed).

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the specific patent claim under review.”<sup>103</sup> The “context” of a patent claim depends on what we think claims are communicating.

If we are claiming what was invented, then the object of the claims and the specification are the same thing (i.e. the invention), then the specification provides a great deal of context by which to understand what a claim is trying to communicate. With that view, even though a district court might have made a subsidiary factual finding about how some term was understood generally at the time of filing, that factual finding may be generally less relevant to the ultimate legal determination because claims are always read in light of the specification. For example, using the claim term “baffles” from *Phillips*,<sup>104</sup> even if it was proven that the word “baffles” alone is understood by persons of skill to include internal structures at any angle, that factual finding would likely be irrelevant to the ultimate legal determination of the meaning of claim term “baffle” when read in light of the specification especially if the term “baffle” is repeatedly used in the specification to refer to structures at non-right angles. The contextual usage of claim terms in the specification would govern even if that claim term in isolation might have a different meaning to persons of skill. In short, the context of the claim term is always attached strongly to the specification as both the specification and the claims are describing the invention. Expert testimony about common usage of terms that contradicts the contextual usage in the specification will be harder to leverage as the legal case about its relevance to claim “context” is lessened.

On the other hand, if claims are intended to communicate exclusion directly then the specification is less relevant and expert testimony is more important and the district court will likely make more factual findings that will be afforded deference by the appellate court. Claim terms are understood in the “context” of delineating exclusion directly to person of skill as, accordingly, expert testimony about the plain meaning of a term will be often relevant for claim interpretation.<sup>105</sup> Unless the specification makes clear that the patentee was idiosyncratically acting as her own lexicographer, the rest of the specification is less relevant to understanding the claim term. In this view, claims communicate exclusion directly to persons of skill and

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<sup>103</sup> *Id.* (emphasis removed).

<sup>104</sup> *Phillips v. AWH Corp.*, 415 F.3d 1303, 1310 (Fed. Cir. 2005) (en banc).

<sup>105</sup> In this view, the specification discloses the patentee’s contribution and as such, the specification provides a limit for claim scope via the disclosure doctrines but that is generally construction not interpretation. The specification matters generally to claim invalidity but not for interpretation.

therefore subsidiary factual findings about what those persons would think are directly relevant. And in such a world, the factual determination regarding what a person of skill would understand that claim term to mean has great significance. In other words, though the relevance of the extrinsic evidence requires a legal determination that considers claim “context,” when understood as delineating exclusion directly, the extrinsic plain meaning of a term largely divorced from the specification is quite relevant.

For example, considering the example of *Phillips* again, if “baffles” as a factual matter connotes a generic internal structure (irrespective of angle), then a claim using that term would be interpreted as a request for exclusion over all things that have that “generic internal structures.” The actual internal structures described in the rest of the specification are largely irrelevant for interpreting that claim term. With this world-view of claims, the factual finding is highly relevant for the proper claim interpretation.

As shown above, understanding the “context” in which claims were written is critically different between the two views of patent claims and it impacts how much deference is ultimately granted to district court claim constructions. When viewed as highlighting what was invented, the claim necessarily must be read in light of the specification and subsidiary factual contributions can often be overridden by inferences based on the specification and intrinsic evidence. But, if viewed as exclusion directly, then the factual understanding of the person of skill is largely independent of inferences from the specification and will generally control ultimate claim construction.<sup>106</sup>

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<sup>106</sup> Interestingly, as in *Nautilus*, though the Supreme Court certainly was not aiming to resolve this ambiguity, the language of the opinion does have some relevance. For example, the Court described a patent claim as a “portion of the patent document that defines the scope of the patentee’s rights.” *Teva*, 135 S. Ct. at 835 (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996)). And that they are “aptly likened to the description in a deed, which sets the bounds to the grant which it contains.” *Id.* at 837 (citing *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510 (1917)). These passages, when read quickly, seem to support the notion that claims directly delineate exclusion. But of course, the passages do not make clear if they are describing the linguistic meaning of claims or only the legal effect of claims. They are not clear if exclusion is what claims are intended to communicate or if exclusion is the legal effect of the language. On the other side of the ledger, Justice Thomas, in his dissent, describes patents as “restrain[ing] others from manufacturing, using or selling that which [the patent holder] has invented” for a specified period of time. *Id.* at 847 (Thomas, J., dissenting) (emphasis removed) (quoting *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510 (1917)). Here, though it certainly is discussing exclusion, it is clear that the exclusion

Depending on whether they are communicating requests for exclusion directly or communicating what was invented, the Court of Appeals will have less room or more room respectively to find those factual findings to be irrelevant to the ultimate legal claim construction. As with *Nautilus*, the ultimate impact of *Teva* depends on exactly what we think patent claims are intending to communicate.

### C. Functional Claiming

Another area where this claim ambiguity will matter is the emerging debate over functional claiming.<sup>107</sup> The value, purpose, and validity of functional claiming depend on our basic view of claims. If claims represent exclusion alone, then functional claiming will be generally acceptable (though such claims might still be invalidated for being too broad). Functional claiming enables broad claims to be written very effectively and, if understood as requests for exclusion, we would want applicants to have the ability to write claims of varying scope. In particular, functional claiming is one of the few ways to write claims that will effectively encompass after arising technology.<sup>108</sup>

In addition to generally allowing functional claiming, this view of claims would also lead to a narrow interpretation of 35 U.S.C. § 112(f). This statutory provision instructs the PTO and the courts to interpret claim limitation that express a “means . . . for performing a specified function” not as literally covering any means that accomplishes the stated function but instead only those means that are described in the specification and equivalents thereof.<sup>109</sup> Particularly if we adopt a policy view that patent scope should often extend beyond the specification, then, this statutory provision will be understood quite narrowly and will be applied only where the applicant makes it crystal clear that they wanted to invoke the narrow coverage of a

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extends to things that have been invented.

<sup>107</sup> See Liivak Brief, *supra* note 92, at 20; see also *AbbVie Deutschland GmbH & Co. v. Janssen Biotech, Inc.*, 759 F.3d 1285 (Fed. Cir. 2014) (“Functionally defined genus claims can be inherently vulnerable to invalidity challenge for lack of written description support, especially in technology fields that are highly unpredictable, where it is difficult to establish a correlation between structure and function for the whole genus or to predict what would be covered by the functionally claimed genus.”). For a discussion of functional claiming and its impact in software, see Kevin Emerson Collins, *Patent Law’s Functionality Malfunction and the Problem of Overbroad, Functional Software Patents*, 90 WASH. U. L. REV. 1399, 1443-44 (2013), and Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2013 WIS. L. REV. 905, 905-06.

<sup>108</sup> See Liivak, *Finding Invention*, *supra* note 26, at 91.

<sup>109</sup> 35 U.S.C. § 112(f) (2012).

“means plus function” claim limitation. The current view of functional claiming roughly follows this rough outline. The strictures of § 112(f) apply only upon use of particular magic words and generally functional language that avoids the magic “means plus” format is acceptable and not problematic.

In contrast, if claims represent what the applicant claims to have invented, then functional claiming is generally more suspect. As the invention is generally understood as the means conceived to accomplish some useful end result, unregulated functional claiming allows applicants to claim the result rather than their particular solution. For example, functional language would be particularly inappropriate at the point of novelty<sup>110</sup> and when structured as a single means claims.<sup>111</sup>

And in so far as § 112(f) is concerned, if applicants claim what they invented then this provision would be interpreted quite liberally. In other words, limiting a claim to the disclosed structures would be appropriate in all cases where functional language is used not just where the magic words “means for” or “step for” were employed. In essence, the statutory directive would not just be a special interpretive regime that applicants could selectively invoke rather it would be a general directive for interpreting functional claim limitations. And it accords with the broader notions of interpretation for all claims. All claim terms are interpreted in light of the embodiments disclosed in the specification.

As with the ongoing developments from *Nautilus* and *Teva*, the Federal Circuit is starting to address the problems stemming from functional claiming.<sup>112</sup> Patent law must first consider the basic interpretive message of claims before we can definitively decide how to approach functional claiming.

#### CONCLUSION

Currently there is fundamental confusion over the linguistic meaning of patent claims. Patent law is confused whether, for purposes of interpretation, initial claims should be understood as the request “I’d like exclusive rights over the following things” or the statement “I claim to have invented the following things.” This debate matters. Patent law has long struggled to precisely determine how the

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<sup>110</sup> See Mark A. Lemley, *Point of Novelty*, 105 NW. U. L. REV. 1253, 1255 (2011).

<sup>111</sup> See *In re Hyatt*, 708 F.2d 712, 714-15 (Fed. Cir. 1983).

<sup>112</sup> See, e.g., *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1344-45 (Fed. Cir. 2015); *AbbVie Deutschland GmbH & Co.*, 759 F.3d at 1301-02.

specification should be used to understand claims. Until this ambiguity is resolved, that debate is hopeless.

As argued here, it is clear that the only reasonable understanding of the linguistic meaning of claims is as the statement “I claim to have invented the following.” This is true even though the main legal effect of patent claims is to demarcate the bounds of a patent’s rights of exclusion. The key is that claims do not define exclusion directly. Instead they are critical for defining exclusion because claims are useful tools for understanding what was invented by the applicant.