

Texas Intellectual Property Law Journal
Winter 2009

Article

PLAIN LANGUAGE PATENTS

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I. Protecting the Structure of the Dialogue

[W]e can only convince an interlocutor if at some point he shares our understanding of the language concerned. If he does not, there is no further step to take in rational argument

- Charles Taylor¹

Law is a process of Bounded Adaptation.² The law that exists at any given moment is constantly driven to adapt to changing circumstances within the framework of what has gone before. The boundaries of that framework are policed by the necessity of articulating an interpretation in a way that gains general acceptance. It is the need to effectively articulate a common logic that mitigates the distortion of personal perspective. This articulation and confirmation is essential in a system that claims allegiance to precedent, and it reinforces our ability to serve that allegiance.

This process of Bounded Adaptation cannot proceed effectively without an adequately structured dialogue that will promote the flow of information and *290 analysis. Expounding a common logic and testing it through the various spheres of acceptance requires a medium of communication that allows a meaningful exchange.

Nowhere is this dialogue more challenging than at the intersection where law and science interact in the form of patents. When the subject of the case is wrapped in complex and unfamiliar terms, it is tremendously difficult for legal actors to grapple with the theoretical content of the dispute. There is a temptation to parrot language from the briefs rather than wrestle with and triumph over the essence of the problem and its implications for the unfolding legal doctrines.

Communication at the intersection of law and science will always be tremendously challenging. Nevertheless, there are elements of the current patent system that substantially exacerbate the problem. These include a deeply engrained tradition in which patent language is written in complex codes and an inclination towards increasing structural insularity for the courts that hear patent cases.

If legal actors lack sufficient information to develop doctrinal adaptations and to test those adaptations, the communication that is essential for the development of effective legal doctrine can easily break down. Given the challenges of effective

dialogue at the law and science interface, the law should move towards requiring that patent drafters describe scientific and technological issues in plain language, wherever possible. Plain language patents will not solve the myriad of problems involved in patent interpretation. Nevertheless, at this critical juncture where law and science must interact, appropriately structuring the dialogue will be essential for ensuring the adequate unfolding of legal doctrines.

II. Speaking a Common Language

In patent drafting, which embodies some of the most challenging aspects of translation at the law and science interface, a move towards plain language would be a significant improvement. If legal actors cannot understand the full implications of the terms being used, they cannot do an adequate job of considering the legal questions surrounding the precedents. They are, in essence, flying blind.

In explaining this proposal, it is important to note that most legal actors have no scientific expertise. District court judges charged with patent interpretation are unlikely to have any scientific expertise.³ The same is true for the jurors, who must decide other elements of patent cases.⁴ Even the specialized judges of the Federal ***291** Circuit may have little knowledge or experience relevant to a particular case.⁵ Most Federal Circuit judges have neither a technical background nor patent experience when they are appointed to the bench.⁶ For those who do have some scientific training, their training may have occurred decades before, an eternity away from modern computer and genetic technologies.

Finally, whatever training a judge may have will relate to certain areas of patent law but not to others. As one commentator noted, “A patent litigation relating to a modern chipset bears little resemblance to a case where the invention at issue is the derivation of a yeast species for the production of a recombinant protein nutritional supplement that makes farm-raised salmon pink.”⁷ For those without a science background, it is easy to assume that training and expertise in one scientific field confers wisdom in all scientific fields. Other than perhaps creating a lack of fear, however, knowledge in one scientific area does not necessarily translate into knowledge in another.

Some judges are remarkably skilled at translating scientific lingo into concepts that can be molded into legal doctrine.⁸ For most legal actors, however, the challenge of penetrating scientific jargon creates a tendency to defer to scientists and to avoid delving deeply into the essence of the case.⁹

Parroting technical language can obscure an inability to grasp the full meaning and implications of an issue. It creates the temptation to engage in a form of sophistry, to speak in what Nussbaum describes, in the context of philosophy, as a seductive, jargon-filled way that leads us to believe we have mastered something deep for having learned to use the jargon.¹⁰ We cannot effectively engage in the process of interpretation and adaptation unless we are speaking a common language.

Jargon is also the perfect vehicle for strategic behavior. It allows legal actors to use broad open-ended language and then argue later that whatever position they ***292** wish surely falls within the language chosen.¹¹ As one international patent examiner noted in frustration, “In these claims, the numerous variables and their voluminous, complex meanings and their seemingly endless permutations, makes it virtually impossible to determine the full scope and complete meaning of the claimed subject matter . . . [and thus,] it is impossible to carry out a meaningful search on same.”¹²

The problem is not just that patents are written using scientific language; patents also are written in the form of an arcane code. Claims are written in a single sentence,¹³ making the language tremendously convoluted. In addition, words have particularized meanings¹⁴ that will be understood only by the properly initiated.

For example, patent applicants must describe the best mode of making their invention.¹⁵ In describing that mode, applicants may explain a manner and process of making the invention that they have not actually engaged in but that they believe is the best mode.¹⁶ The code for signaling the difference between work that an inventor has actually engaged in and work that an inventor has not involves verb tense.¹⁷

Subtle verb changes are unlikely to mean much to the uninitiated, regardless of whether that person has a science degree. It would be so much clearer and simpler if the patent applicant said, “This is an example of what we believe the best mode of making the invention should be, although we have not yet performed each step in this precise order.”

^{*293} Patent law’s word interpretation can be downright incomprehensible under common sense notions of language. For

example, in the recent case of *Baldwin Graphic Systems, Inc. v. Siebert, Inc.*, the Federal Circuit interpreted the phrase “a pre-soaked fabric roll.”¹⁸ In overturning the lower court’s interpretation of the phrase, the Federal Circuit explained that the indefinite article “a” can mean “one or more” unless the patent holder evinces a clear intent to limit the meaning of the word.¹⁹ The court noted the following: “That ‘a’ or ‘an’ can mean ‘one or more’ is best described as a rule, rather than merely as a presumption or even a convention.”²⁰

Patent law is full of such code-like communication. For example, suppose a patent holder describes an invention as comprising x, y, and z components. Now, one might think that the invention is made up of only x, y, and z. Not so. “Comprising” is in an open-ended code word representing the fact that the invention could include elements not actually listed.²¹ The word “consisting” is the proper code word used to indicate that the elements listed are the only elements.²²

Rather than trying to parse the difference between an invention “comprising” something and an invention “consisting” of something, one could simply use plain language to explain that the components “include but are not limited to the following.” A plain language description not only communicates more clearly to those who must interpret the patent, it also increases the pressure on patent holders to actually define what they are trying to claim, rather than leaving the claim open-ended with the intention of filling in the gaps as other products emerge on the market.²³

Most importantly, plain language allows judges to more easily understand the implications of their decisions and puts pressure on judges to take responsibility for those decisions. In particular, for judges who do have technical expertise, a plain language system avoids the temptation to suggest “we in the club know it when we see it, and that is good enough.” The requirement for clear and plain communication keeps legal actors faithful to supportable logic rather than subject to the whims of prejudice masked in obscurity.

***294** It is ironic that in our efforts to increase the status of the legal system, we risk creating the opposite effect. As one scholar has noted in the social science world, using ordinary words with specialized meanings has a tendency to evoke contempt.²⁴ Those outside the specialized field frequently respond with anger or condescending amusement.²⁵ Yet the legal system is using such specialized meanings in a forum that can never contain only relevant specialists. To the extent that the coded language flows from patent law, it risks drawing the contempt of inventors who see the system as strangely distorted. To the extent the coded language flows from scientific usage, it risks drawing the contempt of the non-scientists who must ponder the cases, including judges, law clerks, and jurors, not to mention members of Congress and the popular press. Thus, the specialized code language of the patent law system may be ineffective not only as an approach to a properly functioning legal system, but also as a method of enhancing law’s image.

The legal system already has a good model for requiring that participants draft in plain language. Since 1998, the Securities and Exchange Commission (SEC) has required companies to draft key sections of their disclosure documents in plain language.²⁶ The program has turned ponderous, impenetrable documents into more understandable communications.²⁷ The same spirit, although perhaps not precisely the same approach, could be applied to patents.

As with the SEC’s program, implementing a plain language standard for patents might be possible with regulatory action, rather than legislative action. The Patent and Trademark Office (PTO) has authority to govern the conduct of proceedings before its office, including the proper form of a patent application and requirements for additional information.²⁸ The Federal Circuit already has interpreted this authority broadly, finding that it includes the right to demand a zone of information beyond what is material to patentability and beyond what is directly ***295** useful for supporting a rejection or conclusively deciding the issue of patentability.²⁹

The penalty for failure to comply with plain language requirements need not be draconian. It would be unfortunate if such requirements became an additional weapon in the arsenal of aggressive litigators trying to overturn a patent. Rather, the PTO could enforce the plain language requirement by requesting that patent holders rewrite jargon-laden applications as part of the back-and-forth requests for information during the patent examination process or by denying expedited review for those who refuse to comply.³⁰

With SEC disclosure documents, the goal is to translate words that reflect financial transactions and embody limitations on legal liability into language that a person with no legal or financial training can understand.³¹ With plain language patents, the goal is to translate scientific jargon into language that a legal actor with little or no scientific background can understand.

Clarifying science is certainly a challenge, but the process of translation from one field to the next is a challenge faced by

fields other than science. As Nussbaum has noted, philosophy is sometimes written in a fussy and jargon-laden way, leading people to think that it has nothing to offer the person immersed in life.³² Nevertheless, the history of medical ethics in the United States shows that philosophers are perfectly capable of learning what they need to learn in order to speak to professionals in other disciplines.³³

Before I am burned at the stake for heresy, I should explain the limitations of what I suggest. Plain language patents will not, by any stretch of the imagination, *296 solve all of problems in patent interpretation.³⁴ Language will always be subject to varying interpretations, no matter how clear and plain one tries to make it. Moreover, patents by their very nature describe something innovative. Many patent holders find themselves in the difficult position of trying to use existing language to describe something that did not exist when the language was developed.³⁵

It is also true that an invention described in a patent frequently must be compared to products that did not exist at the time of the patent. This makes patent drafting a particularly challenging enterprise, which could suggest that we should give drafters some leeway to speak in strange tongues. Applying precedent to circumstances that did not exist at the time the precedent developed, however, is the essence of interpretation throughout the legal system.³⁶ Patents are no different from other precedents, such as cases, codes, and constitutions.³⁷ In short, patent law, like any other area of law, is essentially a process of legal interpretation, which must be carried out in the common language of such interpretation.

There are some who would suggest that such an enterprise is doomed from the start. Philosophers such as Lakoff and Winter argue that there are no concepts or categories that humans share on an innate level but only metaphors built through social consensus.³⁸ These things do not exist on an abstract level but are formed by *297 our experiences and by the words chosen to describe those experiences.³⁹ Words are “metaphorical mappings” that actually create our understanding of something, rather than merely identifying it.⁴⁰ This is true for abstractions like justice, as well as concrete categories such as food.

From this perspective, the notion of speaking in a common language would make little sense. There would be no concepts generally shared and therefore no commonly shared language. In particular, the experiences of scientists and lawyers would vary so greatly that no common language would be possible.

This notion, which I would call Conceptual Indeterminacy, has been sharply criticized. A favorite example of mine is Penner’s response to Lakoff’s analysis of lust. Lakoff argues that the concept of lust exists only as a construct of the metaphors we use to describe it, including animal heat, insanity, and automobile motors.⁴¹ It does not exist in some abstract, independent manner, but its identity and form are created by the linguistic devices chosen to describe it and by the experiences from which we choose those devices.⁴²

Penner is doubtful that concepts are so dependent on experience and linguistic devices for their existence.⁴³ After all, says Penner, both he and the !Kung tribesmen would both be able to realize that Fred over there is behaving in a lustful fashion to Beatrice, even though the tribesmen have never seen an automobile.⁴⁴ Thus, they will be able to understand each other’s concept of lust, even if the metaphors used to describe those concepts arise from experiences that cannot be shared.⁴⁵

Although fairly basic, the tribesmen example helps to bring home the notion that concepts can exist in an independent, enduring fashion outside of our language or experience. As Fodor explains, “[T]he concept isn’t coming from the environment, it’s coming from the organism.”⁴⁶

Most important, to the extent that experiences do differ, we need to be particularly wary of using language and metaphors that will be untranslatable outside of whatever common ground exists. Scientific jargon ensures lack of translation in a legal setting.

*298 Some who argue for Conceptual Indeterminacy extend this notion to argue that the language chosen in law is itself transformative.⁴⁷ Different metaphors brought into case opinions alter the understanding of the legal doctrine itself and the view of behavior that should or should not be tolerated.⁴⁸

Although legal metaphor can be tremendously powerful, it does have its limits. If law could transform by metaphor, the public by now should be able to accept unauthorized music downloading as “theft.” Nevertheless, only a few persistent folks, like those whose parents are law professors, actually behave in a manner that manifests equating music downloading with stealing from a department store.

Similarly, as Penner notes, some legal metaphors fail because they are simply counter to our innate understanding of the concepts.⁴⁹ For example, attempts to characterize rape as just another form of theft may have failed because they run counter to our innate conceptualizations of different actions.⁵⁰ To the extent that such strongly held conceptual views exist, it will be critical to ensure that we are translating scientific concepts properly so that we know when we are treading on those concepts that we will be unable to share as a society.⁵¹

In short, speaking a common language would be a valuable step towards ensuring the proper unfolding of legal analysis. Nevertheless, there are surely those who will view the idea of describing science in common language as entirely unrealistic. From this perspective, my comments would fall on the far end of the spectrum, somewhere between dangerous heresy and delightfully appealing myth. For them, I would simply note Popper's observation that even myths may contain important truths.⁵²

III. Avoiding Structural Insularity

While language can affect our ability to have a coherent and effective legal conversation, structural elements of the legal system also play an important role. Tribunals that are isolated and insulated are more likely to succumb to troubling *299 temptations. It becomes easier for them to hide behind technical lines and technical terms rather than engaging in the type of hard analysis necessary to grapple with difficult legal dilemmas.

The strongest example of this problem can be found in the tribulations of the modern Federal Circuit. Congress created the Court of Appeals for the Federal Circuit in 1982 and designated, among other things, that the court would hear all circuit level patent appeals.⁵³ The Federal Circuit was intended to bring rationality and uniformity to federal patent appeals, on the theory that an appellate group with greater experience in this challenging area could produce a more coherent body of law.⁵⁴ In particular, Congress was concerned about the inconsistency with which federal appeals courts upheld or overturned the validity of patents.⁵⁵

The Federal Circuit, hailed with such great enthusiasm at the time of its founding, has received unrelenting criticism in the subsequent decades. The Circuit has failed to provide consistency in patent law in general or in the question of patent validity in particular.⁵⁶ Most troubling, the Federal Circuit has proven *300 incapable of resolving the disagreements and inconsistencies that arise within the circuit, allowing splits among panels to fester unresolved across decades.

Consider the disarray in Federal Circuit doctrine related to so-called product-by-process claims. As a general matter, patent claims are divided into claims for the product, that is, for a particular item of inventions no matter how it is made, or claims for a process, that is, for a method of doing something.⁵⁷ A third category of claims is called product-by-process.⁵⁸ In 1991, a Federal Circuit panel ruled in the *Scripps Clinic & Research Foundation v. Genentech, Inc.* case that a product-by-process claim would cover not only the product made by the process specified but also the product made in any other manner.⁵⁹ The panel decision appeared questionable, in light of earlier case precedent, including an old nineteenth century Supreme Court decision.⁶⁰ One might also argue that the decision appeared questionable in light of the common sense notion of the words "product-by-process," but as noted above, common sense does not always prevail in patent law.

In the year after Scripps, a different Federal Circuit panel ruled to the contrary that product-by-process claims cover only the product made by the process specified.⁶¹ The later case was entitled *Atlantic Thermoplastics Co. v. Faytex Corp.*⁶² In *Atlantic Thermoplastics*, the panel acknowledged the earlier Scripps decision but argued that Scripps was not binding on the grounds that "[a] decision that fails to consider Supreme Court precedent does not control if the court determines that the prior panel would have reached a different conclusion if it had considered controlling precedent."⁶³ In other words, the *Atlantic Thermoplastics* panel argued that if a prior panel decision disregarded precedent, later panels were not obliged to follow it.⁶⁴

The issue should have been ripe for consideration of the full Federal Circuit en banc, either on the merits of the definition of a product-by-process claim or on *301 the precedential question of whether a panel of the court is allowed to ignore a prior panel's decision. The Federal Circuit denied a rehearing en banc nevertheless, prompting an angry dissent from one member of the court that regardless of the merits of the matter, the second panel's action is not only insulting to colleagues on the prior panel, "it is mutiny. It is heresy. It is illegal."⁶⁵ The broader court, however, was unmoved.⁶⁶

The Federal Circuit's resistance to precedent is also evident in the doctrine of patent misuse and its relationship to antitrust law. Prior to 1986, courts had defined patent misuse as an impermissible attempt to expand the time or scope of the patent.⁶⁷

In the 1986 case of *Windsurfing International, Inc. v. AMF, Inc.*, however, Chief Judge Markey of the Federal Circuit changed the definition to an impermissible attempt to expand the time or scope of the patent with anticompetitive effect.⁶⁸ In the *Senza-Gel Corp. v. Seiffhart* opinion nine months later, Judge Markey retreated from his earlier decision, noting in a footnote that while modern economic theory would suggest bringing patent misuse in line with antitrust law, any change would have to await action by the Supreme Court or Congress.⁶⁹ In 1988, the Senate tried to do just that, passing a bill that would have prohibited a finding of patent misuse unless the patent holder's actions violated antitrust laws.⁷⁰ The language was dropped, however, from the final version of the Act.⁷¹

Despite these failed efforts, a Federal Circuit panel in the 1992 *Mallinckrodt, Inc. v. Medipart, Inc.* case returned to the language requiring anticompetitive effect for a finding of patent misuse.⁷² The decision cited the *Windsurfing* case, ignoring its later retraction in *Senza-Gel* as well as the failed Congressional effort.⁷³ Later panels have tried to harmonize *Mallinckrodt* with earlier precedents, leaving a *302 confused doctrine which recites the mantra that patent misuse is a broader wrong than antitrust law while essentially applying antitrust law.⁷⁴

The Federal Circuit's reluctance to resolve disagreements also appears in the written description doctrine.⁷⁵ In recent decades, the Federal Circuit has identified within the disclosure doctrines of patent law a separate written description doctrine.⁷⁶ The doctrine has caused considerable consternation as courts and litigants have tried to understand the logic for the doctrine as well as the contours of it.⁷⁷ In 2002, a government brief noted in a polite understatement that “[a]lthough this Court has addressed the ‘written description’ requirement of section 112 on a number of occasions, its decisions have not taken a clear and uniform position regarding the purpose and meaning of the requirement.”⁷⁸

The Federal Circuit had an opportunity to address the issue in 2004 in an en banc petition for the case of *University of Rochester v. G.D. Searle & Co.*, which had applied the written description doctrine.⁷⁹ The court refused to take the case en banc, and the denial produced five separate dissenting and concurring opinions arguing over whether the doctrine should exist and what its contours should be.⁸⁰

Problems in the Federal Circuit are not surprising. In fact, they are structurally predictable. The Federal Circuit cannot benefit from the balancing effects that may occur with multi-circuit consideration of the same issues. While any isolated court is at risk, a court with a primary focus on scientific cases is particularly vulnerable. Courts can easily lose themselves in the technical aspects of the cases, which provide camouflage for the failure to resolve issues or to resolve *303 them in a rational manner. In addition, the parties tend to shroud themselves in jargon, which can obscure the issues at hand for both the Federal Circuit and for the Supreme Court justices who might consider wading into the issues.

Supervision can ameliorate the problems of isolation, but there is a limit to the amount of energy the Supreme Court can devote to one circuit. Although the Court has recently begun to accept a number of appeals from the Federal Circuit, it has taken decades for the Court to engage extensively with Federal Circuit doctrines,⁸¹ and the Supreme Court cannot single handedly compensate for the structural inadequacies of the Federal Circuit design. In short, courts that must engage in scientific analysis should be integrated, not isolated.

The need to encourage a common language of communication and our experiences with the Federal Circuit should cast doubt on recent legislative proposals, such as a recent bill to create separate intellectual property courts⁸² and a bill to allow district court judges to defer patent cases to colleagues considered better-versed in patent law.⁸³ These legislative proposals echo other calls in recent years to create specialized tribunals including drug courts, community courts, mental health courts, and domestic violence courts.⁸⁴

Such moves are likely to fuel the temptation to obscure difficult issues in a blaze of technical terms. The goal should be to encourage translation of scientific terms into understandable concepts, rather than to indulge jargon by creating its own forum.

*304 IV. Conclusion

Nowhere is the process of interpretation more difficult than where law and science interact in the form of drafting and interpreting patents. The multitude of unfamiliar terms and concepts exacerbates the problems inherent in developing appropriate legal doctrines to encourage scientific innovation. Where the legal system must interact with science in this challenging manner, we should move towards speaking in a common language, one that will be susceptible to the process of

interpretation and adaptation that is essential to law. Whenever possible, we should avoid the creation of languages and forums that are insulated from the common discourse.

Footnotes

^{a1} Professor of Law, Director, Law & Bioscience Project, U.C. Hastings College of the Law. I wish to thank participants in the Annual Intellectual Property Scholars' Conference, the Chicago Intellectual Property Colloquium, and the Stanford Program in Law, Science, and Technology for their comments. An expanded version of this essay is included in a chapter of my book, Robin Feldman, *The Role of Science in Law* (Oxford University Press) (forthcoming March 2009).

¹ Charles Taylor, *Interpretation and the Sciences of Man*, in *Introductory Readings in the Philosophy of Science* 110, 112-13 (3d ed. 1998) (comparing the Hegelian rationalist approach and the empiricist approach to “breaking out” from the “circle of illusion” comprising the individual’s own isolated intuitive perspective and the consequent inability to see other perspectives).

² For a detailed elaboration of the notion of Bounded Adaptation in the context of twentieth century legal theories, see Feldman, *supra* note *.

³ Gregg A. Paradise, *Arbitration of Patent Infringement Disputes: Encouraging the Use of Arbitration Through Evidence Rules Reform*, 64 Fordham L. Rev. 247, 254 (1995) (discussing that district court judges in many cases do not have the expertise needed to try patent cases).

⁴ *Id.*

⁵ Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?*, 15 Harv. J.L. & Tech. 1, 18 (2001) (noting that “only four of the twelve active Federal Circuit judges have technical backgrounds”).

⁶ *Id.*

⁷ Lawrence M. Sung, *Strangers in a Strange Land: Specialized Courts Resolving Patent Disputes*, Bus. L. Today, Mar.-Apr. 2008, at 27, 28-29.

⁸ See, e.g., *SmithKline Beecham Corp. v. Apotex Corp.*, 247 F. Supp. 2d 1011 (N.D. Ill. 2003) (Posner, J., sitting by designation), *aff’d*, 403 F.3d 1331 (Fed. Cir. 2005).

⁹ Moore, *supra* note 5, at 18.

¹⁰ Martha C. Nussbaum, *The Use and Abuse of Philosophy in Legal Education*, 45 Stan. L. Rev. 1627, 1641 (1993); see also Robert K. Merton, *The Sociology of Science: Theoretical and Empirical Investigations* 264 (1979) (noting that esoteric scientific terminology separates the laity from understanding and the “population at large has become ripe for new mysticisms clothed in apparently scientific jargon”).

¹¹ See Robin C. Feldman, *The Inventor’s Contribution*, 2005 UCLA J.L. & Tech. 6, ¶ 24 n.24 (2005) (noting that the emergence of the separate written description doctrine reflected concerns about patent holders who mark out broad territory with their claims and then fill in information later, either as their own research advances or as they see the research of others advance).

¹² Derek Lowe, *The Examiner Finally Snaps*, Corante, Jan. 24, 2006, http://www.corante.com/pipeline/archives/2006/01/24/the_examiner_finally_snaps.php (quoting a patent examiner who was charged with writing a search report on a patent application for the nations that belong to the Patent Cooperation Treaty).

¹³ Ana Cristina Almeida Müller, Nei Pereira Jr. & Adelaide Maria de Souza Antunes, Protecting Biotechnological Inventions in Brazil and Abroad: Draft, Scope, and Interpretation of Claims, 13 Alb. L.J. Sci. & Tech. 145, 158 (2002).

¹⁴ See, e.g., Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp., 493 F.3d 1358, 1362 (Fed. Cir. 2007) (holding that a patentee may act as his own lexicographer and use a term in a manner that is contrary to its ordinary meaning, sometimes even without an explicit statement that redefines the term (citing Bell Atl. Network Servs., Inc. v. Covad Commc'n Group, Inc., 262 F.3d 1258, 1268 (Fed. Cir. 2001))).

¹⁵ 35 U.S.C. §112 (2006).

¹⁶ Manual of Patent Examining Procedure §608.01(p) (8th ed., rev. 6 2007) (stating that simulated or predicted test results and prophetic examples satisfy the best mode requirement). Work that an inventor has not done yet is known as a paper example. Hoffman-La Roche, Inc. v. Promega Corp., 323 F.3d 1354, 1375 n.2 (Fed. Cir. 2003) (Newman, J., dissenting) (quoting *id.*).

¹⁷ Hoffman-La Roche, 323 F.3d at 1364 (upholding a finding of misrepresentation based on a patent holder's use of past tense to indicate predicted results, rather than results actually obtained).

¹⁸ Baldwin Graphic Sys., Inc. v. Siebert, Inc., 512 F.3d 1338, 1343 (Fed. Cir. 2008).

¹⁹ *Id.* at 1342 (quoting KCJ Corp. v. Kinetic Concepts, Inc., 223 F.3d 1351, 1356 (Fed. Cir. 2000)).

²⁰ *Id.*

²¹ Gillette Co. v. Energizer Holdings, Inc., 405 F.3d 1367, 1371 (Fed. Cir. 2005) (noting that using the word "comprising" in a patent is a "signal" that the list of items in the group is open-ended); Shanshan Zhang, Proposing Resolutions to the Insufficient Gene Patent System, 20 Santa Clara Computer & High Tech. L.J. 1139, 1157-58 & n.148 (2004).

²² Gillette, 405 F.3d at 1372; Jorge A. Goldstein & Elina Golod, Human Gene Patents, 77 Acad. Med. 1315, 1319 (2002).

²³ See Zhang, *supra* note 21, at 1157-58 (stating that open-ended claims provide patentees with negotiating advantage over downstream product developers).

²⁴ Fritz Machlup, Are the Social Sciences Really Inferior?, in Introductory Readings in the Philosophy of Science, *supra* note 1, at 135, 147-48.

²⁵ Machlup, *supra* note 24, at 148.

²⁶ 17 C.F.R. §230.421(d) (2008); Michael G. Byers, *Eschew Obfuscation--The Merits of the SEC's Plain English Doctrine*, 31 U. Mem. L. Rev. 135, 137 (2000).

²⁷ For discussion of the SEC plain language program, see Byers, *supra* note 26, at 137; Andrew T. Serafin, *Kicking the Legalese Habit: The SEC's "Plain English Disclosure" Proposal*, 29 Loy. U. Chi. L.J. 681 (1998); see also Office of Investor Education and Assistance, Securities and Exchange Commission, *A Plain English Handbook: How to Create Clear SEC Disclosure Documents* (1998), available at <http://www.sec.gov/pdf/handbook.pdf>; Steven L. Schooner, *Communicating Governance: Will Plain English Drafting Improve Regulation?*, 70 Geo. Wash. L. Rev. 163, 169 n.29 (2002). For example, the phrase, "[n]o consideration or surrender of Beco Stock will be required of shareholders of Beco in return for the shares of Unis Common Stock issued pursuant to the Distribution" becomes the following: "You will not have to turn in your shares of Beco stock or pay any money to receive your shares of Unis common stock from the spin-off." Office of Investor Education and Assistance, Securities and Exchange

Commission, *supra*, at 24.

²⁸ 35 U.S.C. §2(b)(2) (2006).

²⁹ Star Fruits S.N.C. v. U.S., 393 F.3d 1277, 1282 (Fed. Cir. 2005). In addition, the Federal Circuit has expressed approval of PTO regulations that encourage examiners to use the power granted by Congress to perform the best quality examination possible. See *id.* (upholding regulation that allowed examiners to request additional information that would assist with the examination). One can easily argue that requiring patent information to be drafted in plain language terms that more clearly communicate the contours of the invention enhances the PTO's ability to perform a quality examination.

³⁰ Compare United States Patent and Trademark Office, Accelerated Patent Examination (2007), available at <http://www.uspto.gov/go/com/strat21/action/aep10.htm> (discussing the requirements for accelerated examination under the current regulatory schema), with United States Securities & Exchange Commission, Staff Legal Bulletin No. 7 (1998), available at <http://www.sec.gov/interps/legal/slbcf7.htm> (stating that the SEC may deny acceleration where there has not been a bona fide effort to comply with the plain English requirements), and Byers, *supra* note 26, at 170 (noting the SEC penalty for refusal to comply with plain language regulations is the right to deny acceleration of the effective dates of registration statements).

³¹ Office of Investor Education and Assistance, Securities and Exchange Commission, *supra* note 27, at 3.

³² Nussbaum, *supra* note 10, at 1641-42.

³³ Nussbaum, *supra* note 10, at 1642.

³⁴ See, e.g., Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (describing the many possible sources to consider for interpreting claim language and noting that the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent). For recent discussions of the problems in claim construction, see Andrew S. Brown, *Amgen v. HMR: A Case for Deference in Claim Construction*, 20 Harv. J.L. & Tech. 479 (2007); Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 Wm. & Mary L. Rev. 49 (2005); Andrew B. Dzeguze, *Did Markman and Phillips Answer the Right Question? A Review of the Fractured State of Claim Construction Law and the Potential Use of Equity to Unify It*, 15 Tex. Intell. Prop. L.J. 457 (2007); Jeffrey A. Lefstin, *Claim Construction, Appeal, and the Predictability of Interpretive Regimes*, 61 U. Miami L. Rev. 1033 (2007); Kelly Casey Mullally, *Patent Hermeneutics: Form and Substance in Claim Construction*, 59 Fla. L. Rev. 333 (2007); Kristen Osenga, *Linguistics and Patent Claim Construction*, 38 Rutgers L.J. 61 (2006); Ehab M. Samuel, *Phillips v. AWH Corp., Inc.: A Baffling Claim Construction Methodology*, 16 Fordham Intell. Prop. Media & Ent. L.J. 519 (2006); David Sanker, *Phillips v. AWH Corp.: No Miracles in Claim Construction*, 21 Berkeley Tech. L.J. 101 (2006); Michael Saunders, *A Survey of Post-Phillips Claim Construction Cases*, 22 Berkeley Tech. L.J. 215 (2007).

³⁵ See Margaret Jane Radin, *The Linguistic Turn in Patent Law* 6 (manuscript on file with author) ("Yet patent[s] deal[] with invention, so words must continually be used to describe and delineate emergent evolving objects;...trying to make 'old' words describe 'new' things may turn out to pose special problems."); see also *In re Bridgeford*, 357 F.2d 679, 682 (C.C.P.A. 1966) ("[T]he right to a patent on an invention is not to be denied because of the limitations of the English language.... [T]he limitations of known technology concerning the subject matter sought to be patented should not arbitrarily defeat the right to a patent on an invention.").

³⁶ See Feldman, *supra* note *.

³⁷ See Feldman, *supra* note *.

³⁸ For an extensive description of Lakoff, Winter, and the concepts described in this section, see generally J. E. Penner, *Cognitive Science, Legal Theory, and the Possibility of an Observation/Theory Distinction in Morality and Law*, in *Law and Science: Current Legal Issues* 1998 Vol. 1, 1 (Helen Reece ed., 1998).

³⁹ Id. at 10.

⁴⁰ Id. at 11-13 (describing Lakoff and arguing that law is transformative as choices of legal metaphors alter the way legal doctrine develops).

⁴¹ Id. at 11-12.

⁴² Id. at 10-11.

⁴³ Id. at 23.

⁴⁴ Penner, *supra* note 39, at 22-23.

⁴⁵ Penner, *supra* note 39, at 23.

⁴⁶ Jerry Fodor, *Representations: Philosophical Essays on the Foundations of Cognitive Science* 280 (1981) (explaining this concept in the context of the way children learn language).

⁴⁷ See Penner, *supra* note 38, at 12-13 (citing Steven L. Winter, *Transcendental Nonsense, Metaphoric Reasoning, and the Cognitive Stakes for Law*, 137 U. Pa. L. Rev. 1105, 1188-92 (1989) (linking the development of First Amendment rights to a change in the metaphor describing free speech from a free-flowing river to a marketplace)).

⁴⁸ See Penner, *supra* note 38, at 12-13.

⁴⁹ Penner, *supra* note 38, at 32-33.

⁵⁰ Penner, *supra* note 38, at 32-33.

⁵¹ Cf. Penner, *supra* note 38, at 33 (noting that resistance to legal concepts that flow from discordance with our innate conceptualizations should be taken seriously).

⁵² Karl R. Popper, *Philosophy of Science: A Personal Report*, in *British Philosophy in the Mid-Century* 155, 162 (C.A. Mace ed., 1957) (arguing that “historically speaking, all (or nearly all) scientific theories originate from myths, and that a myth may contain important anticipations of scientific theories”).

⁵³ Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, §127, 96 Stat. 25 (codified as 28 U.S.C. §1295(a) (2006)) (“The United States Court of Appeals for the Federal Circuit shall have exclusive jurisdiction... (1) of an appeal from a final decision of a district court...if the jurisdiction of that court was based, in whole or in part, on [a civil action relating to patents]....”).

⁵⁴ *Id.*; Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank, 527 U.S. 627, 651 (1999) (Stevens, J., dissenting) (noting that “divergence among the federal circuits in their interpretation of patent issues provided support for the congressional decision in 1982 to consolidate appellate jurisdiction of patent appeals in the Court of Appeals for the Federal Circuit”); Matthew D. Henry & John L. Turner, *The Court of Appeals for the Federal Circuit’s Impact on Patent Litigation*, 35 J. Legal Stud. 85, 86 (2006).

55 Henry & Turner, *supra* note 54, at 86.

56 See, e.g., Joseph Scott Miller, *Enhancing Patent Disclosure for Faithful Claim Construction*, 9 *Lewis & Clark L. Rev.* 177, 177 (2005) (arguing that “[c]laim construction jurisprudence is in disarray” and noting that “the Federal Circuit reverses trial court claim construction decisions at a worryingly high rate”); Kimberly A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable?*, 9 *Lewis & Clark L. Rev.* 231, 231 (2005) (documenting a “concern among the bench and bar that the Federal Circuit’s *de novo* review of district court claim construction decisions and lack of guidance have caused considerable unpredictability”); see also Donald S. Chisum, *Reforming Patent Law Reform*, 4 *J. Marshall Rev. Intell. Prop. L.* 336, 340 (2005) (discussing claims that the Federal Circuit engages in “erratic and unpredictable decision-making”); Jeffrey A. Lefstin, *The Measure of the Doubt: Dissent, Indeterminacy, and Interpretation at the Federal Circuit*, 58 *Hastings L.J.* 1025, 1027, 1094 (2007) (arguing that despite the nearly seamless consensus of problems related to *de novo* review of patent claim construction, it is “the indeterminacy of patent law, rather than the application of patent law by the district courts, or the Federal Circuit’s review of the district courts, that is responsible for the current circumstances of patent litigation”); John R. Thomas, *Claim Re-Construction: The Doctrine of Equivalents in the Post-Markman Era*, 87 *J. Pat. & Trademark Off. Soc'y* 781, 792-93 (2005) (discussing unpredictable judicial claim construction in the Federal Circuit); R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 *U. Pa. L. Rev.* 1105, 1179 (2004) (concluding that whether the Federal Circuit is succeeding is an open question).

57 1 Donald S. Chisum, *Chisum on Patents* §1.02, §1.03 (2008).

58 3 *id.* at §8.05.

59 *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991).

60 *Plummer v. Sargent*, 120 U.S. 442, 449 (1887) (holding that “[i]t seems necessarily to follow from this view either that the Tucker patents are void by reason of the anticipation practiced by Brocksieper, or that the patented process and product must be restricted to exactly what is described”); cf. *Scripps*, 927 F.2d at 1583 (holding that “[s]ince claims must be construed the same way for validity and for infringement, the correct reading of product-by-process claims is that they are not limited to product prepared by the process set forth in the claims”); 1 Iver P. Cooper, *Biotechnology and the Law* §5:6 (2001) (stating that a product-by-process claim would be infringed only by a product that is created by the recited process).

61 *Atl. Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846-47 (Fed. Cir. 1992).

62 *Id.*

63 *Id.* at 838 n.2.

64 *Id.*

65 *Atl. Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1281 (Rich, J., dissenting from denial of *reh'g en banc*).

66 *Id.* at 1279.

67 For a description of the history of patent misuse as well as the Federal Circuit’s modern exploits in this doctrinal area, see Robin C. Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse*, 55 *Hastings L.J.* 399, 418 (2003).

68 *Windsurfing Int’l, Inc. v. AMF, Inc.*, 782 F.2d 995, 1001 (Fed. Cir. 1986); *Id.*

⁶⁹ Senza-Gel Corp. v. Seiffhart, 803 F.2d 661, 665 n.5 (Fed. Cir. 1986).

⁷⁰ Jere M. Webb & Lawrence A. Locke, Intellectual Property Misuse: Developments in the Misuse Doctrine, 4 Harv. J.L. & Tech 257, 264 (1991) (citing the Intellectual Property Antitrust Protection Act of 1988, S. 438, 100th Cong. §201 (2d Sess. 1988)).

⁷¹ Kenneth J. Burchfiel, Patent Misuse and Antitrust Reform: “Blessed be the Tie?,” 4 Harv. J.L. & Tech. 1, 2 n.9 (1991) (citing the Patent and Trademark Authorization Act of 1988, Pub. L. No. 100-703 §201, 102 Stat. 4674 (codified as 35 U.S.C. §271(d))).

⁷² Mallinckrodt, Inc. v. Medipart, Inc., 976 F.2d 700, 708-09 (Fed. Cir. 1992).

⁷³ *Id.* at 706.

⁷⁴ Feldman, *supra* note 67, at 430-31.

⁷⁵ For a discussion of the emergence of the written description doctrine and subsequent problems, see Feldman, *supra* note 11; see also Paula K. Davis, Questioning the Requirement for Written Description: *Enzo Biochem v. Gen-Probe* and Overly Broad Patent Cases, 37 Ind. L. Rev. 467, 499-500 (2004) (discussing the effect of the *Enzo Biochem* and *Gen-Probe* cases on the written description requirement); Cynthia M. Lambert, Gentry Gallery and the Written Description Requirement, 7 B.U. J. Sci. & Tech. L. 109, 139 (2001) (indicating that Gentry Gallery extended the stricter written description standard to the predictable arts); Daniel P. Chisholm, The Effect of the USPTO’s Written Description Guidelines on Gene Patent Applications, 35 Suffolk U. L. Rev. 543, 569-70 (2001) (stating that the PTO Guidelines have incorporated the Federal Circuit’s stricter written description standard for biotechnology patents).

⁷⁶ See, e.g., *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed. Cir. 1997). For a description of the original appearance of the separate written description doctrine and the later expansion of that doctrine in the *Eli Lilly* case, see Feldman, *supra* note 11, at 8-9.

⁷⁷ See *Univ. of Rochester v. G.D. Searle & Co.*, 375 F.3d 1303, 1314-25 (Fed. Cir. 2004) (Rader, J., dissenting) (denial of *reh’g en banc*) (listing seven law review articles defending the *Eli Lilly* written description requirement, thirty-one criticizing the requirement, and sixteen giving the holding neutral treatment as illustration of the confusion generated by the decision).

⁷⁸ *Id.* at 1309 (quoting Brief for the United States as Amicus Curiae in Support of Rehearing En Banc at 4, *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956 (Fed. Cir. 2002) (No. 01-1230)).

⁷⁹ *Id.* at 1303.

⁸⁰ *Id.* at 1304-26.

⁸¹ See Gregory A. Castanias et al., Survey of the Federal Circuit’s Patent Law Decisions in 2006: A New Chapter in the Ongoing Dialogue with the Supreme Court, 56 Am. U. L. Rev. 793, 798(2007) (citing commentary in the mid-1990s, which concluded that the Supreme Court rarely took cases from the Federal Circuits and exhibited even more deference to the Federal Circuit on substantive patent law issues than on other substantive law issues, and comparing that to the current wave of Supreme Court interest in Federal Circuit cases in general and patent cases in particular); see also Chief Judge Paul R. Michel, Address to the Federal Circuit Judicial Conference on the State of the Court (May 15, 2008) (noting that the Supreme Court grants certiorari in roughly one percent of the petitions filed, with a slightly higher rate of acceptance for petitions arising out of the Federal Circuit).

⁸² H.R. 5418, 109th Cong. §1 (2d Sess. 2006); see also Special IP Trial Courts A Bad Idea, Lawyers Say, IP Law 360, Feb. 1, 2006,

<http://www.law360.com/articles/5183> (subscription required). But see also Lefstin, *supra* note 56, at 1094 (arguing that specialized trial courts would undoubtedly improve patent litigation); Kimberly A. Moore, *Forum Shopping in Patent Cases: Does Geographic Choice Affect Innovation?*, 79 N.C. L. Rev. 889, 932-34 (2001) (arguing in favor of specialized patent trial courts in order to deter forum shopping). The bill passed the House in 2007, but died in the Senate. Sung, *supra* note 7, at 28.

83 Jordan, House OKs Specialized Patent Judges, NowPublic.com, (Feb. 13, 2007), http://www.nowpublic.com/house_oks_specialized_patent_judges.

84 Sung, *supra* note 7, at 27.