

**MARKMAN V. WESTVIEW INSTRUMENTS, INC. AND
HILTON DAVIS CHEMICAL CO. V.
WARNER-JENKINSON CO.:**
**THE FEDERAL CIRCUIT GETS ITS LAWS
AND ITS FACTS STRAIGHT**

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I. INTRODUCTION

In *Markman v. Westview Instruments, Inc.*,¹ the Court of Appeals for the Federal Circuit has definitively held that the interpretation and construction of patent claims is a matter of law exclusively for the court. The Federal Circuit has also clarified the standard to be used for giving meaning to the terms in patent claims.

In a long opinion, the majority thus settles what it acknowledges as the Federal Circuit's previously inconsistent treatment of the issue, with one line of cases stating that claim construction is exclusively a matter of law, and another stating that claim construction may have underlying factual issues.² The *Markman* decision is also unusually contentious, with a very sharply worded special concurrence and dissent.³

The *Markman* decision has important consequences for the adjudication of patent claims. In a bench trial, findings of fact cannot be set aside by an appellate court unless clearly erroneous,⁴ while conclusions of law can be reviewed de novo.⁵ In a jury trial, issues of fact are for the jury to decide, while questions of law are for the judge.⁶ On appeal, the jury's verdict is reviewed by first distinguishing between its factual and legal components, with factual conclusions upheld if they are

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1. 52 F.3d 967, 970 (Fed. Cir.), cert. granted, 64 U.S.L.W. 3201, 64 U.S.L.W. 3238 (Sept. 27, 1995).

2. See *id.* at 976-77.

3. See *id.* at 989 (Mayer, J., concurring in the judgment) ("Today the court jettisons more than two hundred years of jurisprudence and eviscerates the role of the jury preserved by the Seventh Amendment of the Constitution of the United States; it marks a sea change in the course of patent law that is nothing short of bizarre."); *id.* at 999 (Newman, J., dissenting) ("This holding not only raises a constitutional issue of grave consequence, but the court creates a litigation system that is unique to patent cases, unworkable, and ultimately unjust.").

4. FED. R. CIV. PROC. 52(a).

5. See generally CHARLES A. WRIGHT & ARTHUR R. MILLER, FEDERAL PRACTICE AND PROCEDURE § 2588 (1995).

6. Walker v. New Mexico & Southern Pacific R.R., 165 U.S. 593, 596 (1897).

reasonable, and implied legal conclusions subject to de novo review.⁷ In addition, the absence of a factual component to claim construction means that judgment as a matter of law will be more readily available in claims construction cases.

In another recently decided case, *Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*,⁸ the Federal Circuit addressed the doctrine of equivalents for patents, under which a product or process similar enough to the patented article can be infringing despite the failure of the literal claim language to embrace it. In addition to clarifying the requisite test, the court announced that whether the accused product or process infringes is a question for the fact finder.

The *Markman* and *Hilton Davis* cases complement each other in a number of ways. While the two holdings might seem contradictory at first blush, a deeper analysis of the traditional distinction between fact and law reveals their underlying consistency. Moreover, the combined effect of the cases is to clarify substantially the legal effect of patent claims.

This Note will argue that the court's decisions in both *Markman* and *Hilton Davis* are correct. Separating claim construction from the realm of fact determination is proper and serves important policy objectives. Furthermore, leaving the application of the doctrine of equivalents to the jury is the best way to achieve the purposes informing the doctrine.

II. THE FACT/LAW DISTINCTION

The Supreme Court has described the distinction between questions of law and questions of fact as "vexing"⁹ and "elusive."¹⁰ The Court has noted also that the choice of labels often turns on the proper allocation of the adjudicative burden between the court and the trier of fact.¹¹ Many commentators have gone further, venturing that what are called questions of law and of fact depend simply on whether they are decided

7. See, e.g., *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 821 (Fed. Cir. 1992).

8. 62 F.3d 1512 (Fed. Cir. 1995).

9. *Pullman-Standard v. Swint*, 456 U.S. 273, 288 (1982).

10. *Miller v. Fenton*, 474 U.S. 104, 113 (1985).

11. See *id.* at 113-14.

by the judge or the jury respectively.¹² Additionally, the labels "question of law," "question of fact," and "mixed question of law and fact" tend to obscure the complex interaction between law determination and fact-finding in the adjudication process:

Both the court and the jury may have to consider legal standards and facts simultaneously. But that does not mean that the function performed by either lies on a continuum between fact-finding and law-determination. Rather, there may be aspects of both fact-finding and law-determination in the functions of both the court and the jury.¹³

Despite the traditional confusion in separating questions of fact from questions of law, however, the two are analytically quite distinct.¹⁴ The purpose of law declaration is to formulate standards of general applicability, while that of fact identification is to ascertain what happened in a specific case.¹⁵

After the law declaration and the fact-finding, the law must be applied to the facts; it is this law application step that has led to the most analytical difficulty. The determination of whether the facts in evidence satisfy the applicable legal rule is often termed a mixed question of law and fact.¹⁶ In the absence of a Supreme Court ruling on the standard of review for mixed questions, courts have not been uniform in their

12. According to one source:

It is commonly said that questions of fact are for the jury and questions of law are for the judge. A more realistic analysis would be that questions the legal system assigns to the jury are called "questions of fact," and questions the legal system assigns to the judge are called "questions of law."

LON L. FULLER & MELVIN A. EISENBERG, *BASIC CONTRACT LAW* 594-95 (4th ed. 1981). See also Marc E. Sorini, *Factual Malice: Rediscovering the Seventh Amendment in Public Person Libel Cases*, 82 GEO. L.J. 563, 586 (1993); *Wunderlich v. United States*, 117 CL. Cl. 192, 212-13 (1950), *rev'd on other grounds*, 342 U.S. 98 (1951) ("And judges and lawyers began to call [contract interpretation questions] 'questions of law,' as a short way of saying that they should be decided by the judge.").

13. Richard D. Friedman, *Standards of Persuasion and the Distinction Between Fact and Law*, 86 NW. U. L. REV. 916, 922 (1992).

14. *Id.* at 917; Henry P. Monaghan, *Constitutional Fact Review*, 85 COLUM. L. REV. 229, 235 (1985).

15. Monaghan, *supra* note 14, at 235. Put another way:

The fact-finding function is to determine that part of reality that is relevant to the adjudication of the action. We might think of this function as the reconstruction in imagination of that portion of reality, as if making a mental film. The law-determining function, then, is to prescribe the consequences to be attached to that aspect of reality.

Friedman, *supra* note 13, at 918.

16. See *Pullman-Standard v. Swint*, 456 U.S. 273, 289 n.19 (1982).

approaches, reviewing mixed questions sometimes *de novo* and sometimes with deference.¹⁷

The problem with mixed questions is that applying the law to the facts is not always a mechanical operation. There is often substantial leeway in applying the rules of law, which are not always described with great precision. Full articulation of a legal rule most likely involves specifying a result for each possible combination of relevant facts. This burden is obviously impossible to meet in the majority of cases.¹⁸ Additional complications arise because the courts do not always recognize the application of legal rules as a distinct step, but treat it as legal or factual instead.¹⁹

A familiar example is the reasonable person standard in the classical negligence rule. When asked to assess the reasonableness of the defendant's conduct, the jury is often given little guidance in its task. Accordingly, the jury must elaborate upon the legal rule to some extent in order to apply it, and is thus performing a law-declaration as well as a fact-finding task.²⁰ While more properly termed a mixed question, negligence is usually held to be a question of fact subject to clearly erroneous review.²¹

The real questions informing the fact/law distinction are whether the judge or jury should render a decision on an issue and how that decision should be reviewed on appeal. These questions implicate such policy considerations as the following: which body is in the best position to answer the question as a matter of judicial administration;²² the expertise of the actors;²³ whether the decision will be dominated by fact-finding or rule-making;²⁴ the type of evidence to be considered;²⁵ the need for

17. See generally WRIGHT & MILLER, *supra* note 5, § 2589.

18. See Friedman, *supra* note 13, at 920-21.

19. See Monaghan, *supra* note 14, at 237.

20. See Friedman, *supra* note 13, at 922-23.

21. See Patricia J. Kaeding, *Clearly Erroneous Review of Mixed Questions of Law and Fact: The Likelihood of Confusion in Determination in Trademark Law*, 59 U. CHI. L. REV. 1291, 1313-14 (1992).

22. See, e.g., *Miller v. Fenton*, 474 U.S. 104, 114 (1985).

23. See, e.g., Friedman, *supra* note 13, at 923-34 ("[W]here the general principle is that prevailing community standards are to supply the norm, the jury may be more likely than a court to act in accordance with those standards; 'reasonable speed' and 'ordinary care' are good illustrations."). By contrast, judges may have more expertise when it comes to contract interpretation. See *infra* note 37 and accompanying text.

24. See, e.g., *United States v. McConney*, 728 F.2d 1195, 1202 (9th Cir.), *cert. denied*, 469 U.S. 824 (1984).

25. As the *Miller* Court noted: "When, for example, the issue involves the credibility of witnesses and therefore turns largely on an evaluation of demeanor, there are compelling and familiar justifications for leaving the process of applying law to fact to the trial court and according its determination presumptive weight." *Miller*, 474 U.S. at 114.

uniformity,²⁶ and whether appellate review would produce useful precedent.²⁷

III. MARKMAN

A. *The State of the Law Before Markman*

The Supreme Court has not issued a detailed opinion on the interpretation of patent claims. A number of old Supreme Court cases have held that claim construction is ultimately a matter of law,²⁸ and in *Markman* the issue was not seriously in dispute.²⁹ Rather, what divided the Federal Circuit here was the issue of whether factual disputes could arise during claim construction, and, if so, how they should be treated.

The first Federal Circuit case to address the issue, *SSIH Equipment S.A. v. United States International Trade Commission*, held that claim

26. See, e.g., *Salve Regina College v. Russell*, 499 U.S. 225, 231-32 (1991). The need for uniformity is also said to be one reason for leaving contract interpretation to the court. See *infra* note 37 and accompanying text.

27. See generally Evan Tsen Lee, *Principled Decision Making and the Proper Role of Federal Appellate Courts: The Mixed Questions Conflict*, 64 S. CAL. L. REV. 235 (1991). The author argues that "the Seventh Circuit's decision in favor of 'clearly erroneous' review embraces a definition of appellate review under which appellate decision making must be either 'principled' — i.e., capable of producing meaningful precedent — or deferential to trial court findings." *Id.* at 237.

De novo review of mixed questions can lead to the development of new law:

Of course, a series of law application decisions may impel a court to undertake explicit norm elaboration. This is especially true where appeals are taken and opinions written. The court on appeal will be impelled to give a rule formulation for the various factual instances it has considered, particularly if they present a recurring core situation.

Monaghan, *supra* note 14, at 237 n.48 (citations omitted).

28. See, e.g., *Bates v. Coe*, 98 U.S. 31, 38-39 (1878) ("In construing patents, it is the province of the court to determine what the subject-matter is upon the whole face of the specification and the accompanying drawings."); *Winans v. Denmead*, 56 U.S. (15 How.) 330, 338 (1853) ("[T]wo questions arise. The first is, what is the thing patented; the second, has that thing been constructed, used, or sold by the defendants. The first is a question of law, to be determined by the court, construing the letters-patent, and the description of the invention and specification of claim annexed to them. The second is a question of fact, to be submitted to a jury."); *Silby v. Foote*, 55 U.S. (14 How.) 218, 225 (1852) ("The construction of the claim was undoubtably for the court.")

29. In her dissent, Judge Newman makes a distinction between "interpretation" and "construction" of the claims. The former is the process of assigning meaning to the language and, she argues, is a question of fact; the latter determines the legal effect of the language and is a question of law. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 1000-02 (Fed. Cir.), cert. granted, 64 U.S.L.W. 3201, 64 U.S.L.W. 3238 (Sept. 27, 1995) (Newman, J., dissenting).

The majority rejects this distinction. See *id.* at 976 n.6.

construction is a matter of law.³⁰ Following this case a line of Federal Circuit opinions continued to hold that claim construction is strictly a matter for the court.³¹

A second line of cases developed, however, which held that there are factual determinations relevant to claim construction. The first such case was *McGill, Inc. v. John Zink Co.*,³² in which the losing party sought to have a jury verdict set aside by arguing that the jury had erroneously construed one of the claims. The court explored whether any set of facts supported by substantial evidence existed that would allow the construction to which the losing party objected.³³ The court also noted in dictum that:

If, however, the meaning of a term of art in the claims is disputed and extrinsic evidence is needed to explain the meaning, construction of the claims could be left to a jury. In the latter instance, the jury cannot be directed to the disputed meaning for the term of art.³⁴

This line of cases culminated in *Tol-O-Matic, Inc. v. Proma Produkt und Marketing Gesellschaft m.b.H.*³⁵ In that case, the court held:

Interpretation of the claim words "provide for lateral support" required that the jury give consideration and weight to several underlying factual questions, including in this case the description of the claimed element in the specification, the intended meaning and usage of the claim terms by the patentee, what transpired during the prosecution of the patent application, and the technological evidence offered by the expert witnesses.³⁶

It is against this backdrop that the Federal Circuit decided *Markman*.

B. The Majority Opinion

The Federal Circuit's holding that patent construction is a question of law follows immediately from its decision to base the meaning of the

30. 718 F.2d 365, 376 (Fed. Cir. 1983) ("With respect to infringement, the question of 'what is the thing patented' is one of law.") (quoting *Winans*, 56 U.S. (15 How.) at 337).

31. See, e.g., *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 822-23 (Fed. Cir. 1992).

32. 736 F.2d 666 (Fed. Cir.), cert. denied, 469 U.S. 1037 (1984).

33. *Id.* at 672.

34. *Id.* (citations omitted).

35. 945 F.2d 1546 (Fed. Cir. 1991).

36. *Id.* at 1550.

claims solely on the patent application itself: the claims, the specification, and the prosecution history. Extrinsic evidence such as expert testimony as to the meaning of terms or the state of the art is not determinative, though it can still be persuasive. In so deciding, the Federal Circuit has established an approach to the interpretation of patent claims analogous to the process of statutory interpretation and unlike the interpretation of contracts.

To understand the foregoing distinction, it is useful to consider first the application of these considerations in the contracts context. It has long been recognized that contract analysis comprises two stages. The first stage, termed "interpretation," consists of assigning meaning to the language. Historically, whenever this meaning could be easily determined from the words of the contract — i.e., where the language was said to be unambiguous — the court has interpreted the contract. Judges rather than juries have assumed this task for various policy reasons.³⁷ Though in such cases interpretation is termed a "question of law," the judge must actually undertake a factual determination of either the meaning intended by the contracting parties or the meaning that an average person would ascribe to the language.³⁸ Where the language is ambiguous, so that determining the meaning requires consideration of extrinsic evidence, interpretation becomes a question for the trier of fact.³⁹ There is no legal meaning to the language of a contract which exists independently of these factual questions.⁴⁰

The second stage, termed "construction," consists of applying the legal rules to the meaning assigned by the interpretation phase in order to determine the legal effect of that meaning.⁴¹ Construction is a question for the judge.⁴²

In contrast to the contracts example, *Markman* holds that, in the case of patent claims, the subjective understanding of neither the patentee nor

37. According to one author:

[J]uries historically have not been allowed to construe the language of written contracts, supposedly because of jurors' possible illiteracy, because of the need for certainty in commercial affairs, and because of the greater familiarity of judges with commercial matters. The obvious fear that juries might "rewrite" contracts to achieve popular justice is never even mentioned.

Martin B. Louis, *Allocating Adjudicative Decision Making Authority Between the Trial and Appellate Levels: A Unified View of the Scope of Review, the Judge/Jury Question, and Procedural Discretion*, 64 N.C. L. REV. 993, 1012-13 n.138 (1986) (citations omitted).

38. 3 ARTHUR CORBIN, CORBIN ON CONTRACTS § 554, at 219 (1960).

39. *Id.* at 226-27.

40. *Id.* at 219 ("There is no 'legal' meaning, separate and distinct from some person's meaning in fact.")

41. *Id.* § 534, at 9.

42. *Id.* at 227.

the PTO determines the meaning assigned to the language.⁴³ The court thus declines to follow the objective approach of adopting the meaning that one skilled in the art would assign to the claims. It is true that the majority states that "the focus is on the objective test of what one of ordinary skill in the art at the time of the invention would have understood the term to mean."⁴⁴ Yet the opinion also states that if there is an ambiguity as to the meaning of a term, construction should not depend on evidence outside of the patent itself and the prosecution history. The court notes that the Patent Act states that the patent application "shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter" of the invention.⁴⁵ The court construes this language to mean that a patent must define itself.⁴⁶ Moreover, *Markman* implies that truly ambiguous claims would render the patent invalid.⁴⁷

This is not to say that expert testimony, learned treatises, and other extrinsic evidence are never useful in ascertaining the meaning of words in a patent.⁴⁸ The court can learn the meaning of technical or "jargon" terms through these methods. To the extent that there is a dispute as to the meaning of terms, however, such expert testimony cannot resolve apparent ambiguities, because the patent must be self-defining.

43. As the court puts it:

No inquiry as to the subjective intent of the applicant or PTO is appropriate or even possible in the context of a patent infringement suit. The subjective intent of the inventor when he used a particular term is of little or no probative weight in determining the scope of a claim (except as documented in the prosecution history).

Markman, 52 F.3d at 985.

44. *Id.* at 986.

45. 35 U.S.C. § 112 (1988), quoted in *Markman*, 52 F.3d at 986.

46. See *Markman*, 52 F.3d at 986 ("This statutory language has as its purpose the avoidance of the kind of ambiguity that allows introduction of extrinsic evidence in the contract law analogy.")

47. See *id.* ("Ambiguity, undue breadth, vagueness, and triviality are matters that go to claim validity for failure to comply with 35 U.S.C. § 112, ¶ 2, not to interpretation or construction.") (quoting *Intervet Am., Inc. v. Kee-Vee Lab., Inc.*, 887 F.2d 1050, 1053 (Fed. Cir. 1989)).

48. The majority, in fact, encourages the use of such evidence:

Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises. This evidence may be helpful to explain scientific principles, the meaning of technical terms, and terms of art that appear in the patent and prosecution history. Extrinsic evidence may demonstrate the state of the prior art at the time of the invention. It is useful "to show what was then old, to distinguish what was new, and to aid in the construction of the patent."

Id. at 980 (quoting *Brown v. Piper*, 91 U.S. 37, 41 (1875)).

In this case, Markman himself testified as one skilled in the art that the term "inventory" was not limited to articles of clothing.⁴⁹ According to *Markman*, this testimony was only a legal opinion, which the district court was not required to adopt and could ignore entirely.⁵⁰

That the Federal Circuit's standard is correct follows logically from the differences in purposes between patents and contracts. Because a contract is a private agreement, the courts should uphold the agreement that the contracting parties actually wanted. A patent, however, is a public document, an important function of which is to inform the public as to the scope of the patentee's rights. As such, a would-be competitor should be able to ascertain the scope of the patent by referring only to the public documents.⁵¹ It would be a very poor rule that tied this scope to the subjective intent of a few people.

Furthermore, given the limitations of language, there is no guarantee that a particular term in a claim has been used in the ordinary or conventional way. In fact, an inventor is allowed to be her own lexicographer.⁵² Reliance on the understanding of those skilled in the art would thus be misplaced, as they would not be in a position to pinpoint the term's meaning in a particular patent. In order to divine the proper construction of a particular term in a particular patent, the judge should

49. *Id.* at 983.

50. In the court's language:

[A]s to these types of opinions, the court has complete discretion to adopt the expert legal opinion as its own, to find guidance from it, or to ignore it entirely, or even to exclude it. . . .

. . . .
 . . . The district court exercised its discretion in finding unhelpful Markman's testimony that he meant "inventory," or that one of ordinary skill in the art would understand "inventory," to mean something to the contrary, and furthermore the district court rejected the testimony as conflicting with the meaning derived from the patent and prosecution history.

Id.

51. According to the court:

[I]t is only fair (and statutorily required) that competitors be able to ascertain to a reasonable degree the scope of the patentee's right to exclude. They may understand what is the scope of the patent owner's rights by obtaining the patent and prosecution history — "the undisputed public record" — and applying established rules of construction to the language of the patent claim in the context of the patent.

Id. at 978-79 (quoting *Senmed, Inc. v. Richard-Allan Med. Indus.*, 888 F.2d 815, 819 n.8 (Fed. Cir. 1989)) (citations omitted).

52. *Fromson v. Advanced Offset Plate, Inc.*, 720 F.2d 1565, 1569 (Fed. Cir. 1983) ("The dictionary does not always keep abreast of the inventor. It cannot. Things are not made for the sake of words but words for things. To overcome this lag, patent law allows the inventor to be his own lexicographer.") (quoting *Autogiro Co. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967)).

see how it is used in the specification and how it is described in the prosecution history. The description of the preferred embodiment, for example, would give a concrete example of how a term is used.⁵³ The inventor may also have clarified the term's meaning in responding to a patent examiner's prior rejection of the invention. If, based on this information, the meaning is unclear, then invalidity based on ambiguity may be the proper result.

One might argue that patent construction under *Markman* is a mixed question of law and fact. Presumably, however, the "facts" in a claim adjudication (i.e., the information in the patent application) are not in dispute. No fact-finding is required, so this mixed question is answered most efficiently by the judge. It makes sense, therefore, to style claim construction a matter of law, in the sense of its being a question for the court. An obvious benefit of this result, too, is that it opens the rules of construction to appellate review, thus allowing the law in this area to develop. The combination created by *Markman* — a body of data available to all (the patent application) together with well-developed rules of construction — is the best way to enable anyone to determine the metes and bounds of a patent.

Thus *Markman* establishes that, unlike contracts, patents consist of legally operative language, the meaning of which exists independent of the meaning that any individual would assign to the term in isolation.

C. Legislative Versus Adjudicative Facts

There is no contradiction in the conclusion that, though expert testimony, learned treatises, and other extrinsic evidence are all useful, they do not create questions for the jury. Such extrinsic evidence may be analytically factual and even support a factual dispute. Nevertheless, facts extrinsic to the patent itself are properly understood as legislative rather than adjudicative facts and are thus within the province of the judge's exclusive consideration.

This distinction is of crucial importance. Adjudicative facts are "simply the facts of the particular case" while legislative facts bear less directly on the outcome of the dispute: they serve as the basis for the

53. See *Markman*, 52 F.3d at 979 ("For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims.").

decision-making process.⁵⁴ Adjudicative facts "relate to the parties, their activities, their properties, their business,"⁵⁵ and are generally established by the introduction of evidence unless they are indisputable. The establishment of legislative facts, by contrast, need not be based on the evidence formally introduced in the adjudication.⁵⁶

For example, when a witness uses the term "car," the tribunal furnishes from non-evidentiary sources the basic understanding of what a car is.⁵⁷ But what if the dispute instead concerns the interpretation of a patent on a "gizmo"? By receiving extrinsic evidence concerning the nature of this unfamiliar technical term, the judge can gain some of the understanding of one skilled in the art so as to make a more informed claim construction. The extrinsic evidence thus helps establish a legislative fact — what a gizmo is — which the judge can employ in deciding the case.

More generally, by considering the distinction between legislative and adjudicative facts, one can see that expert testimony is helpful only in determining legislative facts. This follows from the conclusions in *Markman* that: (1) the use of expert testimony is discretionary and may be ignored by the court entirely;⁵⁸ and (2) the meaning must ultimately be found based on the patent and the prosecution history.⁵⁹ It is clear that, under *Markman*, expert testimony is to be used to aid the process of legal reasoning and nothing more.⁶⁰ In addition, the discretionary

54. FED. R. EVID. 201(a) advisory committee's notes. Judge Robert Keeton's analysis is also instructive:

The essence of the distinction between premise facts and adjudicative facts is the purpose for which they are used in deciding a case. . . . [T]o determine whether a fact is an adjudicative or a premise fact . . . we must answer the questions: "Why, under the reasoning of the court, is the disputed fact material to the disposition of the case before the court, and is it, or was it, material to decision of an issue of law?"

Robert E. Keeton, *Legislative Facts and Similar Things: Deciding Disputed Premise Facts*, 73 MINN. L. REV. 1, 21 (1988). Note that Judge Keeton uses the term "premise fact" instead of "legislative fact." *Id.* at 8 n.21.

55. 2 KENNETH DAVIS, ADMINISTRATIVE LAW TREATISE 353 (1958), quoted in FED. R. EVID. 201(a) advisory committee's notes.

56. FED. R. EVID. 201(a) advisory committee's notes.

57. *See id.*

58. *See supra* note 50 and accompanying text.

59. *See supra* notes 43-46 and accompanying text.

60. As the court stated: "The court may, in its discretion, receive extrinsic evidence in order 'to aid the court in coming to a correct construction' as to the 'true meaning of the language employed' in the patent." *Markman*, 52 F.3d at 980 (quoting *Seymour v. Osborne*, 78 U.S. (11 Wall.) 516, 546 (1871)). However, "[t]he district court's claim construction, enlightened by such extrinsic evidence as may be helpful, is still based on the patent and prosecution history." *Id.* at 981.

nature of the use of such expert testimony indicates that it is useful only for establishing legislative facts.⁶¹

Categorizing these facts as legislative means that they are for the court rather than the jury to decide and that they can be decided anew on appeal.⁶² Both of these results flow from the nature of legislative facts: they are simply part of the lawmaking process.

Even if the extrinsic evidence is acknowledged to constitute a set of adjudicative facts for the fact finder (e.g., the state of the art at the time of the patent application), claim construction should, on policy grounds, still be decided by the judge. In this case, the extrinsic evidence will be only one of the factors to be considered when construing the claims. The other factors will be the claims themselves, the specification, and the prosecution history. The various factors must be balanced in some fashion. The balancing is apt to be complicated, because the patent claims, specification, and prosecution history should be given greater weight than extrinsic evidence, and, of course, there is always the possibility that the patent is invalid due to ambiguity. It would thus be a difficult task to fashion a charge to the jury detailed enough to describe how these factors should be considered in a principled manner. If the jury were instead given only a highly unarticulated instruction, it would have to do a great deal of its own rule-making. The rules would be ad hoc and unreviewable, leading to nonuniformity and unpredictability in the fundamental question of the scope of the patent. Leaving the task to the judge, by contrast, allows the process of appellate review to develop meaningful rules for considering the various factors.

D. *The Dissent and the Special Concurrence*

In her dissent, Judge Newman argues that claim construction raises issues of fact because construction may require resolution of scientific or technological facts — i.e., that these facts are properly considered adjudicative facts.⁶³ It is true that such expert testimony is often useful to explain “the way things work” in areas of the natural or technological world. Yet claim construction is simply about assigning meaning, and the meaning of a word exists only in the human mind. It is not an

61. According to Judge Keeton:

Litigants may present testimonial evidence of expert witnesses on disputed premise-fact questions and trial courts may receive and consider such evidence. The parties need not offer such evidence, however, and trial courts are not bound to receive it, or having received it, are not bound to consider it as if it were presented in relation to an adjudicative-fact dispute.

Keeton, *supra* note 54, at 32.

62. *Id.* at 22.

63. See *Markman*, 52 F.2d at 1004-06 (Newman, J., dissenting).

element of the natural world. Scientific or technological questions can be resolved by doing experiments, running tests, making observations, or building devices, but none of these procedures will ever establish the meaning of a word. Though an expert may be able to testify to the common usage of a word in her field, she is in no better position than anyone else to say what the word means in the context of a particular invention.

As a specific example, Judge Newman refers to *Moeller v. Ionetics, Inc.*,⁶⁴ where the court construed the terms "electrode" and "electrode body."⁶⁵ In fact, the case demonstrates the limitations of expert testimony. In *Moeller*, the invention was an electrode system used for selectively measuring the concentration of potassium cations in solution which consisted of a wire sheathed in an ion-specific membrane.⁶⁶ The alleged infringer, Ionetics, argued that "electrode" referred only to the ion-selective tip of its product and not the entire length of the wire.⁶⁷ Moeller, on the other hand, contended that professionals in the industry used the term "electrode" inconsistently to refer to three distinct items: (1) the entire electrode system; (2) the entire length of the wire; and (3) the tip of the wire.⁶⁸ If Ionetics and Moeller had each offered expert testimony advancing these positions, how should the dispute have been resolved? Surely, the answer is this: by determining how the term "electrode" is used in the particular patent in issue. It turned out that the term "electrode" was used in different ways in the patent itself.⁶⁹

Similarly, both the special concurrence and the dissent take issue with the majority's characterization of the prosecution history as the "undisputed public record,"⁷⁰ arguing that what occurred during the prosecution may be a factual matter in dispute.⁷¹ In asserting this view, Judges Mayer and Newman rely most heavily on *Smithkline Diagnostics, Inc. v. Helena Laboratories Corp.*⁷² and *Arachnid, Inc. v. Medalist*

64. 794 F.2d 653 (Fed. Cir. 1986).

65. See *Markman*, 52 F.3d at 1006 (Newman, J., dissenting) ("I do not see how the Federal Circuit could have decided, de novo on appeal, the meaning of 'electrode body' in this particular invention without finding disputed technological facts.").

66. *Moeller*, 794 F.2d at 654-55.

67. *Id.* at 657.

68. *Id.*

69. See *id.* ("[T]he patent specification variously refers to both the electrode assembly and the sensitive tip of the electrode as 'the electrode.' As a further complication, claim 4 refers not only to an 'electrode,' but also to an 'electrode system' and an 'electrode body.'").

70. *Markman*, 52 F.3d at 980.

71. *Id.* at 989-90 (Mayer, J., concurring in the judgment) (citing *Arachnid, Inc. v. Medalist Mktg. Corp.*, 972 F.2d 1300, 1302 (Fed. Cir. 1992)); *id.* at 1004 (Newman, J., dissenting) (citing *Smithkline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 882 (Fed. Cir. 1988)).

72. 859 F.2d 878 (Fed. Cir. 1988).

*Marketing Corp.*⁷³ It is evident, however, that in each of these cases *what* occurred during the prosecution was not in dispute. Rather, the disputes were about *why* the examiner accepted or rejected certain claims and the significance to be attached to his actions.⁷⁴ Given that subjective intent is not directly relevant to claim construction under *Markman*, the court should not have to explore the reasoning behind the examiner's determination.

Finally, to the extent that claim construction does call for determining the significance of the PTO's actions, this can be effectively done through rule-making. The question in *Arachnid* was whether a claim for an electronic dart game "wherein the value of points earned in a particular turn of said one or more different dart games is dependent upon scoring segments hit during previous player turns" includes within its scope dart games with non-point-dependent scoring.⁷⁵ After rejecting an earlier claim which clearly included both dependent and non-dependent scoring, the examiner suggested the language in the final claim, which referred only to dependent scoring, and then accepted the claim. The *Arachnid* court held that a jury could reasonably find, on the basis of the examiner's behavior, that the claim was limited to dependent scoring.⁷⁶ However, just as easily, the court could have held as a matter of law that such a sequence of events makes the term "dependent" a limitation. This latter course would have been more useful, as it would have resulted in a rule of law applicable to similar situations in the future.

E. The Seventh Amendment

Judge Mayer in his special concurrence and Judge Newman in her dissent each vigorously criticize the majority opinion on the ground that it contravenes the Seventh Amendment. The Seventh Amendment provides:

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury shall be otherwise re-

73. 972 F.2d 1300 (Fed. Cir. 1992).

74. In *Smithkline* the court was able to construe the claim as a matter of law, even though it did not determine the purpose of the amendment in issue. See *Smithkline*, 859 F.2d at 885.

75. *Id.* at 1302.

76. *Id.*

examined in any Court of the United States, than according to the rules of the common law.⁷⁷

What is preserved, however, is the right to the jury trial itself, rather than to its various incidents.⁷⁸ In particular, the Seventh Amendment preserves only the "substance"⁷⁹ or "fundamental elements"⁸⁰ of trial by jury. The Supreme Court has stated that the substance of the right requires that questions of fact be settled by the jury.⁸¹

What is meant by "fact" in this formulation, however, is unclear. The Seventh Amendment might refer to all questions which are analytically factual (i.e., questions of historical fact); or it might refer only to those questions which are conventionally termed factual (i.e., those questions which have been allocated to the jury under common law principles). The latter interpretation has substantial support.⁸² It also squares better with both the preservationist approach of the Seventh Amendment and the historical assignment of many analytically factual questions, such as the meaning of a contract term, to the judge.

Under this latter approach, the inquiry would seem to be whether the meaning of patents was a jury question in 1791. Not only would this be a difficult inquiry, but it would be misleading, as the substantive law regarding the requirements of describing the invention has changed dramatically since that time. In fact, patent "claims" did not even exist under the first patent act, and were not required until 1870.⁸³ Perhaps the most that can be gleaned from the historical inquiry is that, as noted by

77. U.S. CONST. amend. VII.

78. *Colgrove v. Battin*, 413 U.S. 149, 155-56 (1973).

79. *Id.* at 156 (internal quotation marks omitted).

80. *Galloway v. United States*, 319 U.S. 372, 392 (1943).

81. See *Walker v. New Mexico & So. Pac. R.R.*, 165 U.S. 593, 596 (1897).

82. See, e.g., *Baltimore & Carolina Line v. Redman*, 295 U.S. 654 (1935), where the Supreme Court stated:

The aim of the Amendment, as this Court has held, is to preserve the substance of the common-law right of trial by jury, as distinguished from mere matters of form or procedure, and particularly *to retain the common-law distinction between the provide of the court and that of the jury*, whereby . . . issues of law and issues of fact are to be determined by the jury under appropriate instructions by the court.

Id. at 657 (emphasis added). See also *Gasoline Products Co., Inc., v. Champlin Refining Co.*, 283 U.S. 494 (1931), in which the Court proclaimed: "All of vital significance in trial by jury is that issues of fact be submitted with such instructions and guidance by the court as will afford opportunity for that consideration by the jury *which was secured by the rules governing trials at common law.*" *Id.* at 498 (emphasis added).

83. Judge Mayer notes that the original patent act required only a "specification," and that the distinction between the "specification" and the "claims" did not arise until later. Yet, inexplicably, he finds this development to be irrelevant to the Seventh Amendment question. See *Markman*, 52 F.3d at 996 (Mayer, J., concurring in the judgment).

the majority, it has long been held that "the construction of a written evidence is exclusively with the court."⁸⁴

Even if the Seventh Amendment were interpreted to require the submission of all analytically factual questions to the jury, however, the *Markman* opinion would be valid.⁸⁵ The Seventh Amendment is a procedural rule which speaks only to the question of whether adjudication of a particular issue must be sent to the jury once it has been decided that the issue is relevant to the claim at bar.⁸⁶ It seems clear, however, that it is the province of the judge, in interpreting the Patent Act, to decide which issues are relevant, and hence which disputes must be adjudicated. Once the judge has decided that a particular factual dispute need not be resolved under the Act, the Seventh Amendment disappears. But the Seventh Amendment cannot constrain the judge's decision in this matter; if it did, it would govern the substance of every claim under the Patent Act, something clearly beyond its scope. The Federal Circuit in *Markman* was thus free to obviate the Seventh Amendment analysis by adopting a standard of claim construction raising no factual questions.

Unfortunately, there is little useful case law on what questions must go to the jury under the Seventh Amendment. Most of the detailed cases construing the Seventh Amendment are concerned with whether there is a right to a jury trial in a given action at all. Nobody in *Markman* seriously disputed that in a patent infringement suit for damages, there is a right to a jury trial.

Judges Mayer and Newman make the objection, also on Seventh Amendment grounds, that the *Markman* decision renders this right hollow. They point out that, as a practical matter, deciding the meaning of claims often decides the outcome of the case.⁸⁷ But since the question of whether the accused product infringes remains a factual matter under *Markman*, the significance of the jury in patent infringement suits will hardly disappear. Moreover, the Federal Circuit's decision in *Hilton*

84. *Id.* at 978 (quoting *Levy v. Gadsby*, 7 U.S. (3 Cranch) 180, 186 (1805)).

85. An argument for this interpretation can perhaps be made from *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242 (1986), in which the Court proclaimed that "[c]redibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge." *Id.* at 255. Because that case concerned the standards for granting summary judgment under the Federal Rules of Civil Procedure, however, it did not mention the Seventh Amendment at all.

86. This idea is familiar from the summary judgment context: "Only those disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment. Factual disputes that are irrelevant or unnecessary will not be counted." *Id.* at 248.

87. See *Markman*, 52 F.3d at 989 (Mayer, J., concurring) ("[T]o decide what the claims mean is nearly always to decide the case."); *id.* at 999 (Newman, J., dissenting) ("Deciding the meaning of the words used in the patent is often dispositive of the question of infringement.").

*Davis Chemical Co. v. Warner-Jenkinson Co.*⁸⁸ that infringement under the doctrine of equivalents is a jury question and that it is available in all cases assures that juries will play quite an active role in determining the meaning of patent claims.⁸⁹

IV. HILTON DAVIS AND THE DOCTRINE OF EQUIVALENTS

In *Hilton Davis* the Federal Circuit clarified and arguably extended the doctrine of equivalents, which seeks to protect the substance of an invention by allowing a finding of patent infringement where the accused product is similar enough to the patented invention, even though it does not fall within the literal language of the claims.⁹⁰

A. The Majority Opinion

The court in *Hilton Davis* held that infringement under the doctrine of equivalents requires that the differences between the claimed and accused products be only "insubstantial."⁹¹ The substantiality of the differences is to be determined from the vantage point of one skilled in the art, based on "objective evidence."⁹² The application of the doctrine of equivalents is non-discretionary.⁹³

This formulation is arguably an extension, because the test previously articulated by the Supreme Court asked whether the allegedly infringing product or process "performs substantially the same function in substantially the same way to obtain the same result."⁹⁴ The Federal

88. 62 F.3d 1512 (Fed. Cir. 1995).

89. An additional benefit of the *Markman* approach is that it renders the meaning of claims more clearly ascertainable; because potential claimants will have a better understanding of what will and will not infringe, *Markman* may actually engender a decrease in patent infringement litigation.

90. See *id.* at 1530 (Newman, J., concurring) ("The doctrine of equivalents derives from the principle that an inventor should be secure in the patent rights granted by law, even against those who manage to avoid the letter of the invention as it was described or claimed in the patent document."); *id.* at 1517 ("[L]imiting enforcement of exclusive patent rights to literal infringement 'would place the inventor at the mercy of verbalism and would be subordinating substance to form.'") (quoting *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607 (1950)).

91. *Id.* at 1518. According to the court: "With this case, this court explicitly holds that the application of the doctrine of equivalents rests on the substantiality of the differences between the claimed and accused products or processes, assessed according to an objective standard." *Id.*

92. *Id.* at 1519.

93. *Id.* at 1522 ("The trial judge does not have discretion to choose whether to apply the doctrine of equivalents when the record shows no literal infringement.")

94. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 608 (1950).

Circuit explicitly rejects this "function-way-result" formulation as the only test:

It goes too far, however, to describe the function-way-result test as "the" test for equivalency. . . . The function-way-result test often suffices to assess equivalency because similarity of function, way, and result leaves little room for doubt that only insubstantial differences distinguish the accused product or process from the claims. But evaluation of function, way, and result does not necessarily end the inquiry.⁹⁵

Specifically, other relevant considerations might include the following: evidence that one of ordinary skill in the art would recognize the interchangeability of the accused and claimed elements; evidence of copying; and evidence of "designing around" the patent claims.⁹⁶

Admittedly, it is open to debate whether the patent system should even attempt to accord protection to an invention beyond the literal language of the claims.⁹⁷ Furthermore, the doctrine of equivalents may not be the best way to effectuate this goal. If the doctrine is to be maintained at all, however, the majority's formulation is a good one. Though recasting the test in terms of the substantiality of differences may be vague and offer little guidance, it follows naturally from the highly fact-specific inquiry that must occur. The myriad ways in which one can infringe on the substance of an invention without infringing the literal claims prevents the formulation of a more highly-articulated legal rule. The function-way-result test, focused as it is on a mechanical analogy, is not broad enough, especially for new technologies.⁹⁸

The determination of substantiality is properly for the jury. Analytically, the test has both factual and legal components. The factual component is easily seen by considering the ways in which substantial differences can be shown: whether the accused product performs the same function in the same way with the same result; whether experts would recognize elements of the accused product to be interchangeable with elements of the claimed invention; and whether those skilled in the

95. *Hilton Davis*, 62 F.3d at 1518.

96. *Id.* at 1519-20.

97. *See, e.g., id.* at 1529 (Newman, J., concurring) ("I have, however, come to doubt that the doctrine of equivalents is the best way to achieve the result for which it arose, and I encourage the technology-user community to consider whether new procedures, through the legislative process, may better serve the national interest.").

98. *See id.* at 1518 ("As technology becomes more sophisticated, and the innovative process more complex, the function-way-result test may not invariably suffice to show the substantiality of the differences.").

art can offer objective evidence on the substantiality of the differences. All of these determinations implicate questions that are analytically factual: how the claimed invention functions; whether there are other ways of achieving the same result; and what those of ordinary skill would know. These are all scientific and technological facts that exist in the real world.

The legal component consists mainly of drawing the line between substantial and insubstantial differences. To some extent, the court can police this line through the use of judgment as a matter of law and by fashioning appropriate jury instructions. Little would be gained by giving the substantiality question to the court, because the decision on appeal would have minimal precedential value, given the fact-dependent nature of the adjudication. No conceivable doctrine of substantiality could achieve uniformity over all the various types of patents.⁹⁹

Furthermore, giving the question of the range of equivalents to the court would deprive the jury of two core functions: evaluating the credibility of the witnesses and weighing the evidence.¹⁰⁰ The doctrine of equivalents is also arguably a branch of the infringement inquiry, and thus, by Supreme Court precedent, should be left to the jury.¹⁰¹

B. The Dissenting Opinions

The three dissents raise at least two important objections to the majority's holding. First, the expanded doctrine of equivalents hampers the public's ability to discern the scope of the patentee's monopoly.¹⁰² Second, the majority's holding may put too much unreviewable power in the hands of juries, allowing them to find infringement whenever they

99. Compare the case of claim construction, *supra* notes 43-53 and accompanying text, where relatively few rules of construction could be made to apply in a wide variety of cases.

100. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986); *Miller v. Fenton*, 474 U.S. 104, 114 (1985).

101. See, e.g., *Winans v. Denmead*, 56 U.S. (15 How.) 330, 338 (1853).

102. See *Hilton Davis*, 62 F.3d at 1544-45 (Plager, J., dissenting) ("The matter before the court in these equivalence cases is not only the claims of the parties against each other, but the interest of the public in protecting reliance by competitors on the public record, and in ensuring that patent rights be given their due and no more."); *id.* at 1549 (Lourie, J., dissenting) ("[I]f the public comes to believe (or fear) that the language of patent claims can never be relied on, and that the doctrine of equivalents is simply the second prong of every infringement charge, regularly available to extend protection beyond the scope of the claims, then claims will cease to serve their intended purpose."); *id.* at 1563 (Niles, J., dissenting) ("[W]ith the extension of the legal protection for a patented invention beyond the literal words of the claims, the public's right to notice of what conduct is forbidden by a patent is compromised.").

want.¹⁰³ Though the dissents point out real problems, the solutions they offer are ultimately impractical.

In regard to the first objection, the doctrine itself necessarily reduces the certainty of the patentee's right to exclude. There is no way of avoiding the problem short of abolishing the doctrine entirely, and none of the members of the Federal Circuit has offered such a radical suggestion. The solution advanced by Judge Plager is to treat the doctrine of equivalents as available to the court "in the exercise of its extraordinary equity power."¹⁰⁴ Moreover, when exercising their equitable powers "judges bear the responsibility of ensuring that, when the claims being urged are not based on clearly defined rights, the balance that is struck is struck in the public interest."¹⁰⁵ Judge Lourie also argues that the doctrine of equivalents is equitable in nature and that the doctrine of equivalents "should be applied only in unusual cases."¹⁰⁶ By characterizing the doctrine of equivalents as an extraordinary remedy to be applied only in unusual cases and only in the public interest, the approaches advanced in these two dissents might seem to mitigate the problem of uncertainty.

The degree of uncertainty would, however, most likely be greater under these proposals, because each envisions an application of the doctrine of equivalents which is discretionary in nature.¹⁰⁷ Worse, both approaches rest on equitable considerations. Judge Plager proposes the following:

Thus in those special cases in which the competitor's product is literally different but the difference is so insubstantial as to constitute a "fraud on the patent," a court in the exercise of its extraordinary equity power may extend the remedy of infringement in order to protect the rights of the patentee granted by law.¹⁰⁸

103. See *id.* at 1538 (Plager, J., dissenting) ("[T]he reality is that the doctrine of equivalents is a virtually uncontrolled and unreviewable license to juries to find infringement if they so choose."); *id.* at 1549 (Lourie, J., dissenting) ("[T]he [doctrine of equivalents] should be applied only in unusual cases, to frustrate piracy. The fact-finder should principally be focused on claims . . . Otherwise, the meaning of the claims is diminished."); *id.* at 1550 (Nies, J., dissenting) ("I concur in Judge Plager's dissent on the issue of infringement to the extent of his eloquent statement of the problem.").

104. *Id.* at 1540 (Plager, J., dissenting).

105. *Id.* at 1544 (Plager, J., dissenting).

106. *Id.* at 1549 (Lourie, J., dissenting).

107. See *id.* (Lourie, J., dissenting) ("[T]he court must exercise discretion in weighing the relevant factors.").

108. *Id.* at 1540 (Plager, J., dissenting).

However, Judge Plager does not articulate the circumstances which would lead to such a special case as to constitute a “fraud on the patent,” other than to state that the balance should be struck in the public interest.¹⁰⁹ This is really no formulation at all. Someone seeking to design around a patent would have little way of knowing when she would be liable under this formulation of the doctrine.

Judge Lourie is more specific. His idea is that “[t]he whole purpose of the doctrine is to defeat piracy and to do justice to a patentee.”¹¹⁰ Under this conception, the alleged infringer’s intent would be relevant:

A pirate is one who intentionally copies a patented product, making only the most minor change to avoid literal infringement. An innocent developer who unintentionally happens to come close to the claims of a patent should be treated differently.¹¹¹

It would hardly lead to certainty if the scope of the right to exclude were to depend on the intent of a party. In this case, the economic value of a patent — which depends, after all, on its scope — would be difficult to measure, and the purpose behind having well-defined claims would be impaired. Moreover, there is no reason for basing the doctrine of equivalents on “good” or “bad” intent. “Designing around” a patent is generally considered socially useful. However, the intent in such cases is the same as it is for a “pirate”: to come close enough to a patent to capture some of its benefits. The distinction between the two cases is merely the substantiality of the difference. This, then, is what the focus of the inquiry should be. Attempting to distinguish between intent to “copy” and to “design around” does not serve the interest of certainty.

Nor does an equitably based doctrine of equivalents solve the reviewability problem. The standard of review for equitable determinations, abuse of discretion, would be no easier to overturn on appeal than a jury verdict. The only possible benefit is the requirement that the judge specify her reasoning in each case. However, courts can retain much of this benefit under the majority holding through the use of special verdicts. Moreover, the judge will properly include infringement under the doctrine of equivalents in the charge to the jury only when there is sufficient evidence to support infringement on that theory, and the doctrine of equivalents instruction will depend on what evidence of

109. *Id.* at 1544 (Plager, J., dissenting).

110. *Id.* at 1548 (Lourie, J., dissenting).

111. *Id.* (Lourie, J., dissenting).

equivalence has been presented.¹¹² In this way, appeals courts will be able to determine whether the proper legal rule has been applied.

Judge Nies advances a formulation of the doctrine of equivalents very different from that of the other dissenters. Under his view, a determination of infringement is properly a three-step process. First, the judge should rule as a matter of law on the meaning of the claims. Second, the judge should determine as a matter of law the scope of protection beyond their literal words (i.e., the range of permissible equivalents).¹¹³ Finally, the determination of whether an accused product or process falls within this scope is a question of fact, presumably for the jury.¹¹⁴

There are a number of problems with this formulation. First, the idea that the process of giving meaning to the claims is different from determining their legal effect was rejected in *Markman*. More importantly, it is unclear how, in Judge Nies's view, the trial court is to determine the scope of the claims. Initially, he says that "[t]he question of scope is whether one of skill in the art would understand that a specific element of the claim is not the only means that may be used in the claimed invention."¹¹⁵ This is, however, essentially a subset of the majority's test. Once the invention has been defined, the test is also analytically factual. Expert testimony would be used to show what actual experts would know. It would be improper to recast this as legal.

What is puzzling, however, is Judge Nies's explanation in the next sentence that the answer given by the expert will depend on "circumstances from which notice that the literal words of the claim are not meant to control may be inferred."¹¹⁶ Whether there are signs of such notice, such as the information contained in the patent and patent application, would seem to be a very different question from the one of what an expert would understand to be equivalent to a given element of an invention. Furthermore, one of the listed factors to be considered in Judge Nies's formulation is "the alleged infringer's own conduct,"¹¹⁷ a factor seemingly unrelated either to fungibility of elements or of notice.

112. The facts of *Hilton Davis* presented only equivalence by function-way-result, so the trial judge properly included only this prong of the doctrine of equivalents in his charge to the jury. See *id.* at 1523 ("The trial context left the jury to consider the evidence of function, way, and result presented by both parties, the only available evidence going to the substantiality of the differences. In the context of this trial, the instructions properly focused the jury on the evidence relevant to the doctrine of equivalents.").

113. *Id.* at 1683 (Nies, J., dissenting) ("The majority entirely omits the step of determining whether, as a matter of law, an element of the claim extends to equivalents.").

114. *Id.* at 1550 (Nies, J., dissenting).

115. *Id.* at 1562 (Nies, J., dissenting).

116. *Id.* at 1562 (Nies, J., dissenting).

117. *Id.* (Nies, J., dissenting).

At bottom, Judge Nies seems to be using the same equitable ideas as the other two dissenters, while characterizing them as "legal." Regardless of the label, the approach suffers from the same lack of certainty as the other approaches based on discretionary application of the doctrine of equivalents by the judge.¹¹⁸

V. CONCLUSION

Both *Markman* and *Hilton Davis* properly allocate the burdens of adjudication between judge and jury. *Markman* elucidates a standard for claim interpretation which does not rest on any disputed question of fact. Patent claims thus comprise legally operative language devoid of any factual predicates. This standard has the benefit of allowing any member of the public to determine with a high degree of certainty the metes and bounds of the patent grant by applying generally applicable rules of construction to the information contained in the patent application.¹¹⁹

While the meaning of claims may have been tightened by *Markman*, the actual right to exclude that flows from the claims has been effectively expanded by *Hilton Davis*. By insisting that infringement be determined on the basis of objective evidence rather than equitable considerations, however, the court has preserved much of the public's ability to determine the scope of the right to exclude. Finally, by recognizing that infringement under the doctrine of equivalents is primarily a question of fact, just as literal infringement is, the court left the ultimate question of infringement where it belongs — with the jury.

Together, *Markman* and *Hilton Davis* establish a rational and controlled method for apprehending the substance of an invention which may be elusive to describe in words. The method comprises two steps. First, the court construes the literal claims as a matter of law. By focusing on only the words in undisputed documents, *Markman* assures that there is a firm anchor to serve as the basis for finding the full scope of the invention. Second, the fact finder determines the substance of the invention, which may overflow the constraining bounds of the literal language. *Hilton Davis* applies the proper restraint to the scope of the right to exclude by insisting that the difference between the literal claims, construed as a matter of a law, and the accused invention be only

118. According to this dissent, the determination of the scope of equivalents "involves a judgment call by the district court that the words of the claim should or should not be controlling." *Id.* (Nies, J., dissenting).

119. Another benefit of the *Markman* standard is more careful patent drafting. No longer can an inventor rely on ambiguous terms that can be filled in later by expert testimony.

insubstantial. It is in this second step that scientific and technical evidence is crucial.

Thus, while the dissenters in *Markman* raise valid points, the collective approach announced by the majorities in *Markman* and *Hilton Davis* ultimately accommodate their concerns. The dissenters' intuition that expert testimony must somehow be involved in defining the invention finds expression in the second step of the process. Similarly, the majority opinion in *Hilton Davis* addresses the concerns of the *Markman* dissenters that juries should be involved. That the dissenters' concerns in *Markman* are so accommodated serves as further evidence that the collective approach set forth by the majority opinions in these cases is appropriate and correct.