

BELL & HOWELL V. ALTEK

By Jennifer Urban

I. INTRODUCTION

In *Bell & Howell Document Management Products Co. v. Altek Systems*,¹ the Federal Circuit reversed a district court decision denying a preliminary injunction brought by Bell & Howell Document Management Products Co. against Keystone Jackets for patent infringement. In its decision, the court criticized the district court for relying on expert testimony when construing the claims at issue. Such criticism is representative of a continuing difficulty in patent litigation: the proper courtroom procedures for patent claim construction.

Claim construction is decided as a matter of law rather than a matter of fact; therefore, according to recent caselaw, the use of expert testimony in construing claims is available to the judge only rarely. Despite being aimed at increasing certainty for trial participants, this general rule and the Federal Circuit's application of it, have resulted in uncertainty, and much confusion on the federal bench and among patent litigants. Although the reasoning behind the present rule is sound, the technical nature of patent claims creates difficulties in the application of the rule. Consequently, the present confusion will not be resolved until the technical complexities of claim construction are realistically addressed.

II. HISTORICAL UNDERPINNINGS

A. Claim Construction as a Matter of Law

Literal patent infringement analysis involves two steps: 1) the proper construction of the claim at issue; and 2) a determination of whether or not the accused product or process infringes the properly construed claim.² Early Supreme Court decisions,³ and numerous subsequent district court

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1. 132 F.3d 701, 45 U.S.P.Q.2d (BNA) 1033 (Fed. Cir. 1997).

2. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976, 34 U.S.P.Q.2d (BNA) 1321, 1326 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370, 391 (1996).

3. See, e.g., *Coup v. Royer*, 155 U.S. 565, 577 (1895); *Bates v. Coe*, 98 U.S. 31, 38-39 (1878) ("[I]t is the province of the court to determine what the subject matter is...."); *Winans v. Denmead*, 56 U.S. (15 How.) 330, 338 (1853) (describing the court's

decisions, have repeatedly stated that patent claim interpretation is a matter of law.⁴

A fundamental reason why claim interpretation is a matter of law is that the patent grant of governmental rights to the patent holder is considered analogous to a statutory grant of rights, which are construed by the court alone.⁵ Other central reasons justifying claim interpretation as a matter of law are rooted in the overarching principles behind patent law itself: that it is desirable for the public to benefit from the technological invention,⁶ and that patent protection is provided as an incentive for innovation.⁷ In order to meet these goals, patents must be integrated documents which can be construed without reference to outside information,⁸ allow-

determination of what a patented device is as a "question of law, to be determined by the court, construing the letters-patent, and the description of the invention and the specification of the claim annexed to them."); *Silby v. Foote*, 55 U.S. (14 How.) 218, 225 (1852) ("The construction of the claim was undoubtedly for the court.").

4. *See, e.g., Snellman v. Ricoh Company, Ltd.*, 862 F.2d 283, 287, 8 U.S.P.Q.2d (BNA) 1996, 2000 (Fed. Cir. 1988) ("[C]laim interpretation is a question of law..."); *Mannesmann Demag Corp. v. Engineered Metal Products Co., Inc.*, 793 F.2d 1279, 1282, 230 U.S.P.Q. (BNA) 45, 46 (Fed. Cir. 1986) ("The threshold question of claim interpretation is, on appeal, reviewed for legal correctness."); *Windsurfing International, Inc. v. AMF Inc.*, 782 F.2d 995, 1000, 228 U.S.P.Q. (BNA) 562, 566 (Fed. Cir. 1986) ("Claim interpretation is question of law"); *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 866, 228 U.S.P.Q. (BNA) 90, 93 (Fed. Cir. 1985) ("Claim interpretation, a threshold inquiry when resolving infringement, is a question of law.... Hence, when interpreting 'anaerobic' we need not defer to the district court under a 'clearly erroneous' standard."); *Molinaro v. Fannon/Courier Corp.*, 745 F.2d 651, 654, 223 U.S.P.Q. (BNA) 706, 707 (Fed. Cir. 1984) ("Claim interpretation ... is an issue of law..."); *ACS Hospital Sys., Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. (BNA) 929, 932 (Fed. Cir. 1984) ("Claim construction is a question of law."); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956, 220 U.S.P.Q. (BNA) 592, 596 (Fed. Cir. 1983) ("Claim interpretation is a legal matter subject to review free of the clearly erroneous standard applicable to fact findings."); *Ebeling v. Pak-Mor Mfg. Co.*, 683 F.2d 909, 911 (5th Cir. 1982) ("[C]onstruction of patent claims is a question of law..."); *Stern Lighting, Inc. v. Allied Elec. Supply, Inc.*, 431 F.2d 539 (5th Cir. 1970) ("But there are rare cases in which an appellate court may consider infringement directly. One such case is that in which the construction of the patent, itself a question of law, is the main determinant.").

5. *See Markman*, 52 F.3d at 985-87, 34 U.S.P.Q.2d at 1336 ("The more appropriate analogy for interpreting patent claims is the statutory interpretation analogy. Statutory interpretation is a matter of law strictly for the court. There can be only one correct interpretation of a statute that applies to all persons.").

6. *See* ROBERT P. MERGES, ET. AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE*, 123 (1997).

7. *See id.* at 135. The theory is that, without the limited monopoly and attending economic benefits conferred by patent protection, inventors will lack the requisite incentive to invest in creating and marketing new products. *See id.* at 135.

8. *See Vanderveer v. Erie Malleable Iron Co.*, 238 F.2d 510, 514 (3d Cir. 1956).

ing someone reasonably skilled in the art to understand and reproduce the invention.⁹ Just as a statute should have “one interpretation ... that applies to all persons,”¹⁰ a patent claim should have only one interpretation that applies to all who are skilled in the art. If it has more than one interpretation, then the claim does not properly define the parameters of the property right conveyed by the patent. The claim, therefore, does not meet important notice requirements—it fails to inform the inventor who wishes to invent around the patent exactly what intellectual property is already owned by the patent holder.

A claim need not, however, be completely understandable when considered in the absence of all other information. The modern view is that both the prosecution history¹¹ and the state of the prior art¹² are to be considered when interpreting patent claims.¹³ As the Federal Circuit stated in 1987, “It is [the] interpretation based on established facts that constitutes a legal conclusion reviewable as a matter of law.”¹⁴ Because of this need to consider factual questions prior to construing the claims, courts have, historically, often hinged their legal claim constructions on these underlying questions of fact.¹⁵ And, stating that factual findings must be made in or-

9. See 35 U.S.C. § 112 (1994) (requiring the specifications to “contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same....”).

10. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 986, 34 U.S.P.Q.2d (BNA) 1321, 1336 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370, 391 (1996).

11. See *Graham v. John Deere*, 383 U.S. 1, 33 (1966).

12. See *Autogiro Co. of America v. United States*, 384 F.2d 391, 399, 155 U.S.P.Q. (BNA) 697, 704 (Ct. Cl. 1967).

13. Prosecution history consists of the negotiations between the inventor and the PTO. “Prior art” consists of previous inventions, publications, etc.

14. *Perini America Inc. v. Paper Converting Machine Co.*, 832 F.2d 581, 584, 4 U.S.P.Q.2d (BNA) 1621, 1624 (Fed. Cir. 1987).

15. Perhaps the most famous articulation of this idea was formulated by the Supreme Court in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 378 (1996), describing claim construction as a “mongrel practice” between fact and law. *Id.* See also *H.H. Robertson, Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 389, 2 U.S.P.Q.2d (BNA) 1926, 1929 (Fed. Cir. 1987) (“Claim construction is reviewed as a matter of law.... However, interpretation of a claim may depend on evidentiary material about which there is a factual dispute, requiring resolution of factual issues as a basis for interpretation of the claim.”); *Studiengesellschaft Kohle v. Eastman Kodak Co.*, 616 F.2d 1315, 1324, 206 U.S.P.Q. (BNA) 577, 585 (5th Cir. 1980). (“The construction of a patent is a matter of law.... Of course, factual findings may be employed in arriving at the patent’s proper construction.”).

der to interpret claims, courts have left these findings, and even the actual claim constructions, to the jury.¹⁶

B. The Historical Use of Expert Testimony in Claim Construction

Because of the factual nature of infringement claims, it has been historically commonplace to use expert testimony to aid in findings of fact such as construing the prior art,¹⁷ finding the level of ordinary skill in the art, and even during the legal process of interpreting the claims at issue in patent litigation and in proceedings before the PTO.¹⁸ Courts have also used extrinsic evidence, including expert testimony, to decide the questions of fact upon which the legal claim constructions rest.¹⁹ As Judge Learned Hand stated in 1920, however:

[T]he judge should understand what the specifications say. That is the only permissible use of expert testimony which we recognize. When the judge has understood the specifications, he cannot avoid the responsibility of deciding himself all questions of infringement and anticipation, and the testimony of experts upon these issues is inevitably a burdensome experience.²⁰

The fact that judges shoulder this responsibility, as well as the perceived partisan nature of expert testimony,²¹ has resulted in a confusing hodge-

16. See, e.g., *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974, 226 U.S.P.Q. (BNA) 5, 8 (Fed. Cir. 1985) (stating that when a dispute arises as to the meaning of a claim term, "an underlying factual question arises, and construction of the claim should be left to the trier or jury under appropriate instruction."); *McGill, Inc. v. John Zink Co.*, 736 F.2d 666, 671-72, 221 U.S.P.Q. (BNA) 944, 948 (Fed. Cir. 1984) ("If the language of the claims is undisputed, the district court could interpret or construe the undisputed claims as a matter of law.... 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...."); *Continental Conveyor & Equip. Co., Inc. v. Prather Sheet Metal Works, Inc.*, 709 F.2d 403 (5th Cir. 1983) (finding that it is not error to allow a jury to consider the question of the meaning of a term in the claim along with the factual question of infringement); *Baker Oil Tools Inc. v. TRW Inc.*, 673 F. Supp. 1061, 1067, 3 U.S.P.Q.2d (BNA) 1691, 1695 (N.D. Okla. 1987) ("[E]xpert witnesses may be used to construe claims....").

17. See, e.g., *Control Components v. Valtek, Inc.*, 609 F.2d 763 (5th Cir. 1980) (citing expert testimony); *Autogiro Co. of America v. U.S.*, 384 F.2d 391, 155 U.S.P.Q. (BNA) 697 (Ct. Cl. 1967).

18. See DONALD S. CHISUM, CHISUM ON PATENTS § 5.04[4] (1998).

19. See *supra* note 16.

20. *Kohn v. Eimer*, 265 F. 900, 902 (2d Cir. 1920).

21. See *Eagle Iron Works v. McInahan Corp.*, 429 F.2d 1375, 1380-81 (3d Cir. 1970); HERBERT F. SCHWARTZ, PATENT LAW & PRACTICE, 134 (2d ed. 1995) (recom-

podge of case law. Some cases suggest that the use of experts be limited, or avoided all together²² Other cases, however, suggest that experts are necessary to the process of interpreting claims.²³

A middle ground is the increased use of court-appointed experts,²⁴ which may provide a less biased source of information about the technology than partisan experts. Courts must take care, however, that experts do not actually undertake the claim construction. This last restriction is imperative, especially since recent caselaw, discussed in Part III, *infra*, states that factual determinations must be clearly divorced from claim construction, which is a matter of law.

mending that the number of expert witnesses be limited to avoid confusion, especially if they correct one another's testimony on the same subject).

22. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455-56 n.3, 46 U.S.P.Q.2d (BNA) 1169, 1173 n.3 (Fed. Cir. 1998) (reaffirming that extrinsic evidence including expert testimony may only be used to aid the court in understanding the technology, and is not to be relied upon for purposes of claim interpretation); *Methode Electronics, Inc. v. Elco Corp.*, 385 F.2d 138, 140 (3d Cir. 1967) ("The meaning of words in a claim is not necessarily determined on the opinion of experts...."); *Minnesota Mining & Mfg. Co. v. Carborundum Co.*, 155 F.2d 746, 749 (3d Cir. 1946) ("[T]he words of a patent application, like the words of specific claims therein, always raise a question of law for the court and may not be determined by the opinion of experts."); *Solomon v. Renstrom*, 150 F.2d 805, 808 (8th Cir. 1945) ("The interpretation of the claims of a patent is not to be determined by the opinion of experts, but is a question of law for the court."); *Eli Lilly & Co. v. A.H. Robins Co.*, 228 U.S.P.Q. (BNA) 757, 760 (E.D. Va. 1985) (finding interpretation of the claim at issue by the examiner who was involved in the prosecution to be "of little help to the Court in interpreting the claims of the patent in suit. The responsibility is that of the courts.").

23. See *Baker Oil Tools Inc. v. TRW Inc.*, 673 F. Supp. 1061, 1067 (N.D. Okla. 1987) ("[E]xpert witnesses may be used to construe claims.... The expert must first be shown to be a person skilled in the art to which the invention pertains before his testimony should be given any weight ... because the specification and claims are addressed to such persons."); *Howes v. Medical Components, Inc.*, 227 U.S.P.Q. (BNA) 246 (E.D. Pa. 1985); *Max Daetwyler Corp. v. Input Graphics, Inc.*, 583 F. Supp. 446, 450 (E.D. Pa. 1984) ("Although the question of whether a patent has been infringed is an issue of fact, the construction of a patent is a question of law.... The only exception to this rule is *when extrinsic evidence is necessary* to resolve a dispute about a term of art in the claim.") (emphasis added); *Biuro Projektow Zakladow Przerobki Mechanicznej Wegla "Separatork" v. UOP, Inc.*, 203 U.S.P.Q. (BNA) 175, 177 (N.D. Ill. 1979) ("[C]onstruction of a patent claim is a question of law for the court *if extrinsic evidence is not needed to resolve a dispute about terms of art in the claim.*") (emphasis added).

24. See FED. R. EVID. 706 ("The court may appoint an expert witness agreed upon by the parties, and may appoint expert witnesses of its own selection.").

III. MARKMAN AND VITRONICS

A. *Markman* and Claim Construction

In 1996, the Supreme Court decided *Markman v. Westview Instruments, Inc.*,²⁵ finally laying to rest any argument about whether claim interpretation was an issue of fact or law. Rejecting a Seventh Amendment claim that the jury should decide the meaning of a disputed claim for which expert testimony was provided, the Court stated that “the interpretation of a so-called patent claim, the portion of the patent that defines the scope of the patentee’s rights, is a matter of law reserved entirely for the court.”²⁶

While *Markman* left no doubt that the court, rather than a jury, is to construe patent claims, district courts have been left with little guidance in how to accomplish this goal.²⁷ For example, in *Elf Atochem North America, Inc. v. Libbey-Owens-Ford Co.*,²⁸ the district court suggested that *Markman* gave it three options: 1) “the court can attempt to resolve these disputes on the paper record;”²⁹ 2) “the court can hold a trial to resolve the disputes;”³⁰ or 3) the court “can wait until trial and attempt to resolve claim disputes the evening before the jury must be instructed.”³¹

District courts have often opted for the second choice, holding “*Markman* hearings” in order to decide claim construction before the infringement trial begins.³² According to the court in *Elf Atochem*, this option serves multiple purposes: 1) it avoids the “serious practical problems of how to adequately and fairly rule on these difficult and vitally important issues ... while a jury waits;”³³ and 2) “[allows] the Federal Circuit to review the claim interpretation issue before trying the case to a jury, in order to avoid wasting ... time because the court erroneously instructed the jury

25. 517 U.S. 371 (1996).

26. *Id.* at 372.

27. See *Ethicon Endo-Surgery v. United States Surgical Corp.*, 93 F.3d 1572, 1577, 40 U.S.P.Q.2d (BNA) 1019, 1022 (Fed. Cir. 1996); *Moll v. Northern Telecom Inc.*, 37 U.S.P.Q.2d (BNA) 1839, 1842 (E.D. Pa. 1995) (“While the *Markman* decision holds that the court, rather than that jury, should interpret the claims, the opinion does not explicitly prescribe how this should be accomplished....”).

28. 894 F. Supp. 844 (D. Del. 1995).

29. *Id.* at 850.

30. *Id.*

31. *Id.*

32. See *Ethicon Endo-Surgery*, 93 F.3d at 1577, 40 U.S.P.Q.2d at 1842. The practice of using a pre-trial hearing was pioneered by the Delaware district court in *Elf Atochem*.

33. *Elf Atochem*, 894 F. Supp. at 858, 37 U.S.P.Q.2d at 1075.

on the meaning of a claim term.”³⁴ Trial courts do not, however, have an obligation to decide upon a final interpretation of claims early in the case. Instead, the court may interpret the claims at a later date, “when the parties have presented a full picture of the claimed invention and prior art.”³⁵

B. Evidentiary Procedure for Claim Construction: *Vitronics*

In *Vitronics Corp. v. Conceptronic, Inc.*,³⁶ the Federal Circuit provided guidelines for interpreting claims, stating that “a court has numerous sources that it may properly utilize for guidance.”³⁷ First, the court should look to the intrinsic evidence, defined as the patent itself, including the claims, the specification, and the prosecution history.³⁸ Among this information, the words of the claims, both asserted and nonasserted, are considered first.³⁹ Generally, words are given their ordinary meaning,⁴⁰ but a patentee is free to act as his or her “own lexicographer,”⁴¹ giving the words special definitions, as long as those special definitions are clearly stated in the specification.⁴² In order to identify and understand these special definitions, one must review the specification, which “acts as a dictionary when it expressly defines terms used in the claims or when it de-

34. *Elf Atochem North America, Inc. v. Libbey-Owens-Ford Co.*, 894 F. Supp. 844 (D. Del. 1995). To date, however, the Federal Circuit has refused to take any such certified questions. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1479, 46 U.S.P.Q.2d (BNA) 1169, 1194 (Fed. Cir. 1998) (Newman, J., additional view). Note that this situation may encourage district court judges to adopt a claim construction which results in a finding of non-infringement, solely for the purpose of having the Federal Circuit review the claim construction prior to a full trial.

35. *Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, 74 F.3d 1216, 1221, 37 U.S.P.Q.2d (BNA) 1529, 1532 (Fed. Cir. 1996).

36. 90 F.3d 1576, 39 U.S.P.Q.2d (BNA) 1573 (Fed. Cir. 1996).

37. *Id.* at 1582, 39 U.S.P.Q.2d at 1576.

38. *See id.*

39. *See id.*

40. The ordinary meaning for a “technical term used in a patent document is interpreted as having the meaning that is would be given by persons experienced in the field of the invention....” *Id.* at 1582, U.S.P.Q.2d at 1576-77 (quoting *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1578, 38 U.S.P.Q.2d (BNA) 1126, 1129 (Fed. Cir. 1996)).

41. *Id.* at 1582, 39 U.S.P.Q.2d at 1577 (citing *Hoechst Celanese*, 78 F.3d at 1578, 38 U.S.P.Q.2d at 1129).

42. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582, 39 U.S.P.Q.2d (BNA) 1573, 1577 (Fed. Cir. 1996). These definitions may even be “contrary to or inconsistent with one or more of their ordinary meanings.” *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563, 15 U.S.P.Q.2d (BNA) 1032, 1043 (Fed. Cir. 1990).

finer terms by implication,⁴³ and is thus “the single best guide to the meaning of a disputed term.”⁴⁴ Finally, the court may consider the patent’s prosecution history, including any express representations made by the applicant regarding the scope of the claims,⁴⁵ and the prior art cited in the prosecution history if necessary.⁴⁶

According to the court, this intrinsic evidence will usually resolve any ambiguities in the claim language.⁴⁷ Further, the intrinsic evidence constitutes the public record of the patentee’s claim, and the court may not allow it to be altered by extrinsic evidence, such as expert testimony.⁴⁸ If the public record is altered (by either the patentee or the alleged infringer offering incorrect expert testimony), then the public’s right to design around what is claimed in the public record would be rendered meaningless.⁴⁹ Therefore, it is usually improper to rely on extrinsic evidence as an aid in claim interpretation,⁵⁰ and such evidence should be used only if the claims remain truly ambiguous after all of the intrinsic evidence has been considered.⁵¹ In addition, even if expert testimony is admissible, it may not be considered for the purposes of claim construction if it is inconsis-

43. *Vitronics Corp.* 90 F.3d at 1582, 39 U.S.P.Q.2d at 1577 (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 U.S.P.Q.2d (BNA) 1321, 1330 (Fed. Cir. 1995)).

44. *Id.* at 1582, 39 U.S.P.Q.2d at 1577.

45. *See id.* at 1582-83, 39 U.S.P.Q.2d at 1577.

46. *See id.* at 1583, 39 U.S.P.Q.2d at 1577, (citing *Autogiro Co. of America v. United States*, 384 F.2d 391, 399, 155 U.S.P.Q. (BNA) 697, 704 (Ct. Cl. 1967)).

47. *See Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1583, 39 U.S.P.Q.2d (BNA) 1573, 1577 (Fed. Cir. 1996) (quoting *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1562, 15 U.S.P.Q.2d 1039, 1043 (“Claim interpretation involves review of the specification, the prosecution history, the claims ... and, if necessary, other extrinsic evidence, such as expert testimony.”)).

48. Other examples of extrinsic evidence are treatises and dictionaries. Like experts, these may be consulted by judges for the purpose of better understanding the underlying technology. Judges may also rely on dictionary definitions, as long as they do not contradict “any definition found in or ascertained by a reading of the patent documents.” *Id.* at 1584 n.6, 39 U.S.P.Q.2d at 1578 n.6.

49. *See id.* at 1583, 39 U.S.P.Q.2d at 1577.

50. *See id.* at 1583, 39 U.S.P.Q.2d at 1577 (citing *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1216, 36 U.S.P.Q.2d (BNA) 1225, 1228 (Fed. Cir. 1995) (“In construing the claims we look to the language of the claims, the specification, and the prosecution history. Extrinsic evidence may also be considered, if needed to assist in determining the meaning or scope of technical terms in the claims.”); *Hormone Research Found.*, 904 F.2d at 1562, 15 U.S.P.Q.2d at 1043 (“Claim interpretation involves a review of the specification, the prosecution history, the claims ... and, if necessary, other extrinsic evidence, such as expert testimony.”)).

51. *See Vitronics Corp.*, 90 F.3d at 1584, 39 U.S.P.Q.2d at 1578.

tent with the specification or if it varies or contradicts the claim language.⁵²

Prior art may also be used to demonstrate how those skilled in the art use disputed terms. This is acceptable whether or not the prior art was cited in the specification or the file history,⁵³ however, like expert testimony, it may not to be used “when the disputed terms can be understood from a careful reading of the public record.”⁵⁴ In *Vitronics*, the court states that prior art can be useful, and may also

make it unnecessary to rely on expert testimony and may save much trial time. As compared to expert testimony, which often only indicates what a particular expert believes a term means, prior art references may also be more indicative of what those skilled in the art generally believe a certain term means.⁵⁵

In general, the court finds prior art documents and dictionaries to be “more objective and reliable guides” than expert testimony.⁵⁶ Indeed, the court states that “these sources ... are to be preferred over opinion testimony ... opinion testimony on claim construction should be treated with the utmost caution, for it is no better than opinion testimony on the meaning of statutory terms.”⁵⁷

Vitronics, however, distinguishes the extrinsic evidence used for interpreting claims from the same kinds of evidence used to “help in understanding the technology.”⁵⁸ The judge may always use expert testimony as an aid in understanding the technology being claimed.⁵⁹ But, as discussed

52. *See id.* (citing *Southwall v. Tech, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 34 U.S.P.Q.2d (BNA) 1673 (Fed. Cir. 1995)).

53. *See id.* at 1584, 39 U.S.P.Q.2d at 1578.

54. *Id.* at 1584, 39 U.S.P.Q.2d at 1579 (citing *Kearns v. Chrysler Corp.*, 32 F.3d 1541, 1547, 31 U.S.P.Q.2d (BNA) 1746, 1750 (Fed. Cir. 1994)).

55. *Id.* at 1584, 39 U.S.P.Q.2d at 1579, (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 983, 34 U.S.P.Q.2d (BNA) 1321, 1332-33 (Fed. Cir. 1995) 1332-33 (“First the testimony of Markman and his patent attorney on the proper construction of the claims is entitled to no deference.... This testimony about construction, however, amounts to no more than legal opinion—it is precisely the process of construction that the court must undertake.”)).

56. *Id.* at 1585, 39 U.S.P.Q.2d at 1579.

57. *Vitronics Corp. v. Conceptronc, Inc.*, 90 F.3d 1576, 1585, 39 U.S.P.Q.2d (BNA) 1573, 1579 (Fed. Cir. 1996). In part, the court finds this because these sources are “available to the public in advance of litigation.” *Id.*

58. *Id.* at 1585, 39 U.S.P.Q.2d. at 1579.

59. *See id.* at 1584, 39 U.S.P.Q.2d at 1578 (“[E]xtrinsic evidence in general, and expert testimony in particular, may be used only to help the court come to the proper understanding of the claims....”). *See also* *Mantech Environmental Corp. v. Hudson Envi-*

infra, it seems unlikely that the expert's testimony regarding the technology itself would never influence the judge's interpretation of the claim language.

C. The Use of Expert Testimony Today

Despite the *Vitronics* paradigm, the Federal Circuit has overruled district courts on the issue of claim interpretation at a rate of nearly 40% during recent years.⁶⁰ When overruling these decisions, the Federal Circuit has frequently criticized the district judges' improper use of expert testimony.⁶¹ Therefore, district judges have been forced to carefully consider their use of expert testimony, even for the purposes of understanding the technology.

Practitioners, too, have been forced to rethink their litigation strategies since *Markman* was decided.⁶² Expert testimony, however, remains an important tool for the litigator, as evidenced by professional writings on the subject.⁶³ Therefore, in order to introduce expert testimony during claim construction proceedings, attorneys attempt to establish at the onset that

ronmental Services, Inc., 152 F.3d 1368, 1373, 47 U.S.P.Q.2d (BNA) 1732, 1737 (Fed. Cir. 1998) (finding the district court "legally correct both in admitting and accepting the testimony of the parties' expert witnesses 'for the purpose of background in the technical area at issue...").

60. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1476, 46 U.S.P.Q.2d (BNA) 1169, 1192 (Fed. Cir. 1998) (Rader, J., dissenting).

61. See, e.g., *Donnelly Corp. v. Gentex Corp.*, No. 97-1391, U.S. Dist. LEXIS 22382, at *22 (Fed. Cir. Sep. 11, 1998); *Bell & Howell Document Management Prod. Co. v. Altek Sys.*, 132 F.3d 701, 705, 45 U.S.P.Q.2d (BNA) 1033, 1037 (Fed. Cir. 1997); *J.T. Eaton & Co., Inc. v. Atlantic Paste & Glue Co.*, 106 F.3d 1563, 1570, 41 U.S.P.Q.2d (BNA) 1641, 1646 (Fed. Cir. 1997) (overturning a district court claim construction that was based on expert testimony).

62. See, e.g., David J. Brezner, *Presenting the Witnesses Special to a Patent Trial*, 531 PLI/PAT 61, 68 (1998) ("As *Markman* was decided only three years ago, litigators are still weighing the pros and cons of various approaches to claim interpretation."); Thomas L. Creel & Michael Shih, *Markman's Continuing Seas of Change*, 489 PLI/PAT 133, 145 (1997) ("In light of the new *Markman* rules, a practitioner must think carefully about how and when to present the issue of claim construction ... [and] how to present technical evidence to a judge in order to help the court read the claims as one of ordinary skill in the art would. It seems that district courts are willing to allow expert testimony ... to help it [sic] understand the technology and technical terms.").

63. See Brezner, *supra* note 62 at 74 ("The technical expert continues to be a powerful tool for use during a *Markman* hearing.").

claim language is ambiguous—these ambiguities will allow them to introduce expert testimony under the *Vitronics* rules.⁶⁴

IV. CASE SUMMARY

A. Background

Through assignment, Bell & Howell owns U.S. Patent Nos. 4,523,401 and 4,452,666,⁶⁵ which claim jackets for holding microfiche strips (the '401 patent), and a method for producing these jackets (the '666 patent).⁶⁶ The jackets consist of transparent top and bottom panels held together by "in situ" ribs of plastic.⁶⁷ The ribs form channels which hold the microfiche in place within the jackets; the thickness of the microfiche strips that can be placed within the jackets is determined by the thickness of the ribs.⁶⁸

The '401 and '666 patents are continuations of the same application.⁶⁹ They have the same written description, and each patent contains one independent claim.⁷⁰ The claim limitation at issue in the instant case is the

64. *See id.* at 75 ("[I]n order to set a foundation for use of expert testimony on the meaning of specific claim limitations, it is imperative for the party to establish an ambiguity in each of the limitations for which such testimony is offered.")

65. *See Bell & Howell Document Management Prods. Co. v. Altek Sys.*, No. 96-C3385, U.S. Dist. LEXIS 15484, at *2 (E. D. Ill. October 17, 1996).

66. *See Bell & Howell Document Management Prod. Co. v. Altek Sys.*, 132 F.3d 701, 702, 45 U.S.P.Q.2d (BNA) 1033, 1035 (Fed. Cir. 1997).

67. *Id.*

68. *See id.* at 703, 45 U.S.P.Q.2d at 1035.

69. *See id.* at 703 n.1, 45 U.S.P.Q.2d at 1035 n.1.

70. *See id.* at 703 n.2, 45 U.S.P.Q.2d at 1035 n.2. Claim 1 of the '401 patent is as follows:

1. A multi-channel transparent jacket for accommodating microfilm strips having a predetermined thickness and a predetermined width and whose length is no greater than the length of the jacket, said jacket comprising:

(A) top and bottom rectangular panels in superposed relation formed of flexible polyester film having predetermined polymeric properties; and

(B) a plurality of in situ ribs formed of moldable plastic material compatible with the material of said panels and integrally bonded thereto to form a unitary structure free of adhesive or other bonding agents and in which the properties of said panels are unimpaired, said ribs maintaining said panels in parallel planes to define open-end channels whose width is substantially equal to the width of said strips, said ribs having a thickness substantially equal to the thickness of said

requirement that the in situ ribs be “integrally bonded ... free of adhesive” to the panels.⁷¹ Arguing that Keystone Jackets, Inc. was producing jackets “integrally bonded” to panels, Bell & Howell sued Keystone, alleging infringement of the ’401 and ’666 patents, and moved for a preliminary injunction.⁷² Keystone argued that because its jackets have no intermingling of the molecules of the rib and panel materials, they are “mechanically,” rather than “integrally” bonded, and so do not infringe the ’401 and ’666 patents.⁷³

Both parties presented expert testimony to support their interpretations of the claims.⁷⁴ Keystone’s expert witness, Dr. Robin McCarley, testified that mechanical bonding occurs when two micro-roughened surfaces come together and one is heated—the molten material then flows into the grooves on the roughened surface of the other material, forming many bonds.⁷⁵ Integral bonding, according to Dr. McCarley, occurs when the molecules of two materials intermingle, obliterating the interface between

strips, each channel having an entry slot cut into said bottom panel adjacent the front end of the jacket.

U.S. Patent No. 4,523,401, issued June 18, 1985. Claim 1 of the ’666 patent is as follows:

1. A method of producing individual multi-channel transparent jackets for accommodating microfilm strips having a predetermined thickness and width, each jacket being composed of front and rear rectangular panels in superposed relation formed of flexible transparent polyethylene terephthalate film having predetermined polymeric properties, the method comprising the steps of:

(A) directing a plurality of spaced extruded molten streams of moldable polyester material ... onto the surface of a first web... [;]

(B) advancing said first web carrying said streams concurrently with a second web of panel material into combining rolls having an adjustable nip...;

(C) adjusting said nip with reference to the cross-sectional area of the streams to effect compression and flattening thereof between said webs ... to a degree forming in situ ribs ... being integrally bonded to each of said webs to create a unitary combined web free of adhesive and other bonding agents...; and

(D) transversely sectioning said combined web to form open-ended channels in a stip-receiving [sic] condition, thereby defining said individual jackets.

U.S. Patent No. 4,452,666, issued June 5, 1984.

71. *Bell & Howell*, 132 F.3d 7 at, 703, 45 U.S.P.Q.2d at 1035-36.

72. *Bell & Howell Document Management Prod. Co. v. Altek Sys.*, 132 F.3d 701, 703, 45 U.S.P.Q.2d (BNA) 1033, 1035 (Fed. Cir. 1997).

73. *Id.* at 703-04, 45 U.S.P.Q.2d at 1036.

74. *See Bell & Howell Document Management Prods. Co. v. Altek Sys.*, No. 96-C3385, U.S. Dist. LEXIS 15484, at *4 (E. D. Ill. October 17, 1996).

75. *See id.*

them.⁷⁶ Thus, Dr. McCarley concluded that Keystone's product employed mechanical bonding, with no intermingling of molecules.⁷⁷

Bell & Howell's witness, Dr. John Muzzy, testified that integral bonding occurs when "you can't define the interface anymore."⁷⁸ On cross-examination, he admitted that the interface between the rib and panel materials of Keystone's product was discernible when observed with an electron micrograph—as such, Keystone's product did not involve integral bonding of this kind.⁷⁹ He stated, however, that the accused product had "an integral bond in the manner in which 'integral bond' is defined in the patent:"⁸⁰ a bond created by a rib material that served by itself as an adhesive, rather than by using other adhesives.⁸¹

B. The District Court's Decision

Relying on the expert testimony to interpret the meaning of "integrally bonded ... free of adhesive," the United States District Court for the Northern District of Illinois denied Bell & Howell's motion for a preliminary injunction, adopting a claim construction that favored Keystone.⁸² The district court decided that "chemists have a clear definition of 'integral bonding.' It means exactly what both Dr. Muzzy and Dr. McCarley agreed that it means: that the two surfaces unite by an exchange of molecules so as to obliterate the interface between them."⁸³ In addition, the district court stated that construing "integrally bonded" to necessarily mean that there was no adhesive would mean that the phrase "free of adhesive" in the claim was "superfluous."⁸⁴ This construction of the claim meant that "actual integral bonding into a single unitary piece of material" was required for infringement to occur; however, the district court thought it clear that Keystone's product was *mechanically* bonded.⁸⁵ Therefore, it decided that Bell & Howell had not established the clear likelihood of infringement necessary to grant a preliminary injunction.⁸⁶

76. *See id.*

77. *See id.*

78. *Id.*

79. *See id.* at *5.

80. *Bell & Howell Document Management Prods. Co. v. Altek Sys.*, No. 96-C3385, U.S. Dist. LEXIS 15484, at *5 (E. D. Ill. October 17, 1996).

81. *See id.*

82. *Id.* at *12.

83. *Id.* at *8-*9.

84. *Id.* at *10-*11.

85. *Bell & Howell Document Management Prod. Co. v. Altek Sys.*, 132 F.3d 701, 704, 45 U.S.P.Q.2d (BNA) 1033, 1036 (Fed. Cir. 1997).

86. *See id.*

C. The Federal Circuit's Decision

The Federal Circuit reversed, stating that the district court erred in relying on expert testimony to construe the claim language. Stating that "reliance on extrinsic evidence⁸⁷ is proper only when the claim language remains genuinely ambiguous after consideration of the intrinsic evidence,"⁸⁸ the court held, "[B]ecause the intrinsic evidence unambiguously defines the disputed claim limitation, the district court's reliance on the expert testimony of McCarley and Muzzy to contradict the intrinsic evidence when interpreting the claims was error."⁸⁹

The Federal Circuit explained its rationale for the rule that the use of extrinsic evidence in claim construction is usually improper by reference to the "notice" function of patents.⁹⁰ In order for the public's right to design around the patent to be a meaningful one, knowledge available to the public must be sufficient. Later inventors must have access to a public record that is reasonably clear and reliable so that those later inventors know exactly what is covered by the patent—what rights are already owned, and what constitutes novel, patentable material.⁹¹ Claims that remain ambiguous to the reader even after the specifications and file wrapper have been considered fail to serve this purpose. Similarly, allowing expert testimony to change the meaning of the claims renders this right meaningless, allowing both enforcers and infringers to construe the patent in a way that falls outside of that which could have been understood from the public record.⁹²

According to the Federal Circuit, the use of extrinsic evidence is allowable only if the claim language is "genuinely ambiguous" after consid-

87. "Extrinsic evidence is that evidence which is external to the patent and file history, such as expert testimony, inventor testimony, dictionaries, and technical treatises and articles." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584, 39 U.S.P.Q.2d (BNA) 1573, 1578 (Fed. Cir. 1996), *quoted in Bell & Howell*, 132 F.3d at 706 n.5, 45 U.S.P.Q.2d at 1037 n.5. Prior art may also constitute extrinsic evidence. *See Bell & Howell*, 132 F.3d at 706, 45 U.S.P.Q.2d at 1037 (citing *Vitronics Corp.*, 90 F.3d at 1584-85 n.5, 39 U.S.P.Q.2d at 1578-79 n.5).

88. *Bell & Howell*, 132 F.3d at 706, 45 U.S.P.Q.2d at 1038.

89. *Id.* at 707, 45 U.S.P.Q.2d at 1039.

90. *See id.* at 706, 45 U.S.P.Q.2d at 1037-38 ("[C]ompetitors are entitled to review the public record, apply the established rules of claim construction, ascertain the scope of the patentee's claimed invention and, thus, design around the claimed invention.").

91. *See Bell & Howell Document Management Prod. Co. v. Altek Sys.*, 132 F.3d 701, 706, 45 U.S.P.Q.2d (BNA) 1033, 1037-38 (Fed. Cir. 1997).

92. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583, 39 U.S.P.Q.2d (BNA) 1573, 1577 (Fed. Cir. 1996) ("Allowing the public record to be altered or changed by extrinsic evidence introduced at trial, such as expert testimony, would make this right meaningless.") (citations omitted).

eration of all of the intrinsic evidence.⁹³ In *Bell & Howell*, the court did not find the intrinsic evidence to be ambiguous. Pointing to the specifications⁹⁴ and the prosecution history,⁹⁵ the court decided that “integrally bonded ... free of adhesive” meant that “the ribs bond to the panels without the use of a separate adhesive layer between the ribs and the panels.”⁹⁶ Further, it did not find “free of adhesive” to be superfluous to “integrally bonded,” but that those phrases existed as “mutually enforcing definitions.”⁹⁷

Because the Federal Circuit’s claim construction tended to support *Bell & Howell*, the court remanded to the district court, asking it for a decision on whether or not to issue the preliminary injunction against *Keystone*. On remand, the district court decided to grant *Bell & Howell*’s motion for a preliminary injunction.⁹⁸

V. DISCUSSION

A. The “Ambiguity” Requirement

Markman was intended to create certainty and predictability in patent litigation⁹⁹ but, instead, confusion reigns. Despite the genuine usefulness of the *Vitronics* paradigm, the nature of claim construction creates uncertainty which has yet to be resolved by the Federal Circuit. Scientific language is like any trade jargon—each field has its own lexicon. Hence, it is eminently likely that words will be used in ways that differ from lay use, or that they will be completely unfamiliar to individuals outside of the field in which particular patents issue. This inherent uncertainty is com-

93. See *Bell & Howell*, 132 F.3d at 706, 45 U.S.P.Q.2d at 1039.

94. “In the jacket [of the prior art], preformed plastic or paper ribs are adhesively secured to the top and bottom panels. Hence, the ... ribs act as carriers for an adhesive agent to effect lamination....” *Id.* at 706, 45 U.S.P.Q.2d at 1038.

95. “Several references in the prosecution history show that by using the term ‘integrally bonded,’ the patentee was attempting to distinguish its claims over the paper-ribbed prior art that used a separate adhesive layer between the ribs and the panels.” *Id.* at 707, 45 U.S.P.Q.2d at 1038.

96. See *Bell & Howell Document Management Prod. Co. v. Altek Sys.*, 132 F.3d 701, 707, 45 U.S.P.Q.2d (BNA) 1033, 1038 (Fed. Cir. 1997).

97. *Id.* at 707, 45 U.S.P.Q.2d at 1039.

98. *Bell & Howell Document Management Prod. Company v. Altek Sys.*, No. 96C-3385, U.S. Dist. LEXIS 457 (1998).

99. Part of Judge Archer’s reasoning in *Markman* was that “a judge, trained in the law, will ... apply the established rules of construction, and in that way arrive at the *true and consistent scope* of the patent owner’s rights to be given legal effect.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 978, 34 U.S.P.Q.2d (BNA) 1321, 1329 (Fed. Cir. 1995).

pounded by the fact that technology and science change at an extremely rapid pace: new terms and new meanings for existing terms are, arguably, created and discarded more rapidly than those outside the field can learn them.¹⁰⁰

This already substantial hurdle for judges attempting to interpret claim language is actually still higher. At its simplest level, claim drafting requires “not only understanding the essence of current technology, but also understanding the essence of past technology, then drawing in words the perceived distinction between current and past technology.”¹⁰¹ But the goal of a claim drafter is broader than simply describing the technology at hand—it is to create and define the parameters of a property right.¹⁰² For this reason, he or she attempts to distinguish a new technology from the present state of the art while simultaneously defining it broadly enough to capture the greatest property right available to the patentee.¹⁰³ The result of this complex mental process is, hopefully, an accurate reflection of the distinction between old and new technologies that also gives the patentee claims with the broadest possible scope. Therefore, accurately construing a claim is likely to be a complex process, requiring the interpreter to: 1) understand the underlying technology; 2) understand the language used in the given field to describe the underlying technology; 3) understand the state of the art in which the claimed invention exists; and 4) understand the parameters of the (presumably) unique place occupied within that field by the claimed invention. While the specification and prosecution history will no doubt be of great help in this endeavor, the subtleties of scientific jargon are likely to be difficult to tease out, resulting in one judge’s am-

100. Practitioners understand that this uncertainty exists, and that it is a source of the ambiguity necessary for introducing expert testimony into evidence. *See, e.g.,* Brezner, *supra* note 62, at 76 (“Claim terms having a peculiar meaning in the technical field, terms of approximation defining the scope of range limitations in a claim, as well as means-plus-function limitations are all possible sources of claim ambiguities that may lend themselves to the use of technical expert testimony.”).

101. Bradley D. Lytle & Gregory J. Maier, *The Strategic Use of Means-Plus-Function Claims*, 80 J. PAT. & TRADEMARK OFF. SOC’Y 241, 241 (1998).

102. *See, e.g., Markman*, 52 F.3d at 978, 34 U.S.P.Q.2d at 1329 (citing 35 U.S.C. § 154 (1984) (“A patent is a government grant of rights to the patentee.”)).

103. *See* ROBERT P. MERGES, *PATENT LAW AND POLICY* 14 (1997) (“The overall goal when drafting claims is to make them as broad as the Patent Office will allow.”). This complexity can make it quite difficult for claim drafters to write an accurate specification. *See* Robert D. Katz and Steven J. Lee, *Advanced Claim Drafting and Amendment Writing for Chemical Inventions*, 464 PLI/PAT 335, 339 (1996) (“Because of the numerous challenges presented by patent claim drafting, the Supreme Court long ago recognized that a patent specification is one of the most difficult legal documents to draw with accuracy.”) (citing *Topliff v. Topliff*, 145 U.S. 156 (1892)).

biguous claim being another's perfectly clear and understandable claim.¹⁰⁴ *Vitronics'* reasonable-sounding requirement that the claim language be ambiguous before extrinsic evidence is allowed, then, may cause more confusion (over what is "ambiguous") than certainty.

It is true that the specification and prosecution history will help the judge, and in some (or even many) cases, will result in a reduced need for expert testimony. This is not, however, the panacea that we might hope. First, the fact remains that the judge will almost always be required to learn a new technology in order to decide the case. Further, in *Bell & Howell*, the district court looked to the specification and the prosecution history and found only more uncertainty—in order to work around the prior art and avoid obviousness, the patentee had extensively debated with the PTO over the meaning of "integral."¹⁰⁵

In light of the above, the Federal Circuit's finding in *Bell & Howell* that the district court erred in relying on expert testimony to construe the claim language "integrally bonded ... free of adhesive" because the intrinsic evidence was "clear and unambiguous,"¹⁰⁶ while reasonable and perhaps correct, is not necessarily the right answer. Notably, the district court did not find the intrinsic evidence sufficient for the purposes of claim construction. Given the patentee's debate with the PTO, and the fact that the district court's reading of the specification did not show that the "inventor merely meant that the in situ ribs were merely to adhere to the panels without an adhesive,"¹⁰⁷ it seems quite reasonable for the court to desire guidance from extrinsic sources. As both the district court's and the Federal Circuit's opinions are reasonable given the evidence, the case at hand is illustrative of the inherent ambiguity that results when judges, who are not themselves experts in the field wherein the patent issued, attempt to make the fine distinctions necessary to properly construe patent claims. Pragmatically and realistically, claim language and intrinsic evidence that

104. For example, in *Eastman Kodak v. Goodyear*, 114 F.3d 1547, 1552, 42 U.S.P.Q. 2d (BNA) 1737, 1739-43 (1997) the majority, even after considering the specification and the prosecution history, found the claims sufficiently ambiguous to warrant expert testimony. The dissent, however, stated that the "claim is clear on its face, when read in light of the specification...." *Id.* at 1561, 42 U.S.P.Q.2d at 1747 (Lourie, J., dissenting-in-part).

105. See *Bell & Howell Document Management Prods. Co. v. Altek Sys.*, No. 96-C3385 U.S. Dist. LEXIS 15484 at *11 (E. D. Ill. October 17, 1996). The patentee wished to rely on Webster's Third Edition International Dictionary, and argued that the term "integral bonding," itself, precluded adhesives. *Id.*

106. *Bell & Howell Document Management Prod. Co. v. Altek Sys.*, 132 F.3d 701, 705, 45 U.S.P.Q.2d (BNA) 1033, 1037 (Fed. Cir. 1997).

107. *Bell & Howell*, U.S. Dist. LEXIS at *11-*12.

all judges would find “clear and unambiguous” seems likely to be rare outside of relatively simple technologies.

Judge Michel, the author of *Vitronics*, stated that it is often read too narrowly—that extrinsic evidence may be used, but may not vary the meaning of the claims.¹⁰⁸ That evidence, however, may not be introduced at all unless the claim language remains ambiguous after consideration of the intrinsic evidence.¹⁰⁹ As it stands, this rule encourages litigators to attempt to “introduce” ambiguity during the technology tutorial,¹¹⁰ a strategy that is likely to increase judicial confusion rather than prevent it. In addition, it will result in the claim language, itself, becoming unnecessarily confusing.

B. Evidence Presented To Explain The Technology May Color Judges’ Constructions, Even If It Does Not Directly Address Claim Interpretation.

To understand the underlying technology will often be to decide the construction of the claims. Teaching the judge the lexicon of any given technology will necessarily result in the judge relying upon that teaching during claim construction. Therefore, limiting expert testimony to teaching the technology is not likely to produce a claim construction unbiased by extrinsic evidence. Further, litigators’ strategies will lead them to use teaching the technology as a way to introduce ambiguity into the claims.¹¹¹

Even if ambiguity is not introduced by the litigants’ teaching, the judge’s understanding of the technology is necessarily based on extrinsic evidence. This occurs because patents are written for those with ordinary skill in the art,¹¹² and the judge must gain a sufficient level of knowledge in the relevant art for the patent to be understandable. The judge’s understanding of the claim language will necessarily be rooted in his or her understanding of the technology, an understanding that is likely to differ

108. Judge Paul Michel, Remarks at a *Berkeley Technology Law Journal* and Berkeley Center for Law and Technology sponsored Forum (Nov. 11, 1998).

109. See *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1584, 39 U.S.P.Q.2d (BNA) 1573, 1578 (Fed. Cir. 1996) (“Only if there were still some genuine ambiguity in the claims, after consideration of all available intrinsic evidence, should the trial court have resorted to extrinsic evidence, such as expert testimony, in order to construe [the] claim.”).

110. See *supra* note 64 and accompanying text.

111. See *id.*

112. See, e.g., *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 986, 34 U.S.P.Q.2d (BNA) 1321, 1335 (Fed. Cir. 1995) (“ideally there should be no ‘ambiguity’ in claim language to one of ordinary skill in the art that would require resort to evidence outside the specification and prosecution history.”) (emphasis added).

based upon the teachings of experts and other extrinsic evidence. "Integral bonding," as the district judge said, means exactly what both Dr. Muzzy and Dr. McCarley say it means.¹¹³ The claim language, however, has differing legal meanings, depending upon whether Dr. Muzzy's or Dr. McCarley's teachings hold more weight. The district court's greatest mistake may have been made, not by choosing one expert's testimony over another, but by characterizing their testimonies as claim interpretations, rather than background evidence. If this is the case, then the goal to limit expert claim interpretation is not being met by the *Vitronics* rule. In fact, the result may be even more damaging than overt expert interpretation, because the experts' biased viewpoints, reflected in their teachings, do not seem to be as biased as they would if they were contained within posited claim constructions. Therefore, they may be viewed with less scrutiny on appeal, allowing one side a kind of "back-door" claim interpretation. As with the ambiguity requirement, the theory behind allowing experts for the purpose of "understanding the technology"¹¹⁴ is sound, but the reality is sobering.

VI. CONCLUSION

Patent cases in general, and claim constructions in particular, are an understandable source of frustration for federal district judges.¹¹⁵ The technology described by claim language is often complex, and outside the experience of the judge who must construe it. Experts are very likely necessary to aid in judges' understanding, but using partisan experts imparts the risk that the experts' testimony will vary the meaning of claim language in favor of their clients. This risk is compounded by judges' likely unfamiliarity with the scientific jargon of the field in which the patent issued—this unfamiliarity may make it difficult for the judges to distinguish between partisan experts.

This problem is particularly thorny because carefully articulated rules (such as those in *Vitronics*), while certainly helpful, do not reach the underlying problem: patent claims are written to be understood by those skilled in the art, and expert help of some type is very likely to be necessary. One possible solution is the use of court-appointed experts. Another

113. See *supra* note 83.

114. See *supra* notes 58-59.

115. See JAMES M. AMEND, PATENT LAW: A PRIMER FOR FEDERAL DISTRICT COURT JUDGES 20 (forthcoming 1999). ("Judicial frustration is evident in [patent cases] because, although there is a general acknowledgement that experts may be necessary in patent cases, courts frequently feel that experts are usurping their role and offering legal conclusions.").

possibility is the use of special masters.¹¹⁶ Finally, some suggest a federal district bench of expert judges, analogous to the Federal Circuit.¹¹⁷ All of these, and especially the last, address the underlying problem as identified by this Note. Each proposed solution also has its attendant difficulties, some of which (such as the expense and legal intricacies involved in creating an expert bench) are quite daunting. In this increasingly technology and intellectual property-driven economy, however, the need for predictability in patent litigation (and, therefore, claim interpretation) is too strong to justify the present confusion surrounding the use of expert testimony in patent claim construction. The problem is, undeniably, a challenging one; it is also undeniably important, and must be addressed.

116. *But see* United States v. Microsoft, 147 F.2d 935, 955 (D.C. Cir. 1998) (finding the district court's use of a special master an abuse of discretion, in part because "it is very doubtful that complexity tends to legitimate references to a master at all.").

117. *See, e.g.*, Edward V. Di Lello, Note, *Fighting Fire with Firefighters: A Proposal for Expert Judges at the Trial Level*, 93 COLUM. L. REV. 473 (1993).