Extrinsic Evidence in Patent Claim Interpretation: Understanding the Post-Markman Confusion

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EXTRINSIC EVIDENCE IN PATENT CLAIM INTERPRETATION: UNDERSTANDING THE POST-MARKMAN CONFUSION

I. INTRODUCTION

Patent claim interpretation is often pivotal to the outcome of a patent infringement suit. Proving infringement requires that the infringing product incorporate all the elements of a patent claim. Often, since the details of the defendant’s product are usually readily discernable by examination of the product itself or through discovery, interpretation of the claim in question is often dispositive to the determination of infringement. Frequently, interpretation of a single phrase or individual word in the claim determines the outcome. The scrutinized words or phrases may be technical in nature or quite ordinary.

Patent claim interpretation is discussed at length in the Federal Circuit’s 1995 Markman decision (Markman I) that was affirmed by the Supreme Court in 1996 (Markman II). These and subsequent Federal Circuit decisions have discussed the role of extrinsic evidence in patent claim interpretation, but have left less than clear guidance to the district courts regarding its usage. Much of the confusion appears to be attributable to the Federal Circuit’s Vitronics Corp. v. Conceptronic, Inc. ruling, partly from the ruling itself and partly from misinterpretation by the lower courts. Vitronics promulgated rules that, if considered in isolation, could be easily read as dogmatically indicating when extrinsic evidence should and should not be used. Several cases demonstrate this perspective with negative impacts on claim interpretation. Fortunately, recent Federal Circuit rulings recognize this situation and successfully resolve much of the confusion by providing...

1 For brevity, the term "product" is used, although 35 U.S.C. § 101 states that "any new and useful process, machine, manufacture, or composition of matter" may be patented.


balanced direction to the lower courts regarding the use of extrinsic evidence. Furthermore, a recent Supreme Court ruling, albeit not a patent case, affirms the broad latitude of trial judges in considering expert testimony. These developments are expected to provide more freedom to the district courts in deciding when to use extrinsic evidence with the result of higher quality rulings.

II. BACKGROUND

A patent infringement case involves two elements: "construing the patent and determining whether infringement occurred . . ." The Supreme Court stated as early as 1853 that "the first is a question of law, to be determined by the court . . . . The second is a question of fact, to be submitted to a jury." This division has not been as simple as it appears. The Federal Circuit initially held that claim construction was a matter of law, but by its own admission, it inconsistently treated claim interpretation in subsequent rulings as "a legal or factual issue, or a mixed issue." Markman I firmly declared claim interpretation to be a legal issue within the sole province of the court. The Supreme Court affirmed and purified what it termed a "mongrel practice" by stating that "construction of a patent, including terms of art within its claim, is exclusively within the province of the court" and should not be submitted to the jury. The Court based their finding on examination of the historical context, various patent treatises, and its own precedent. In addition, the Court reasoned that judges, given their special training and practice, are more likely to properly and consistently interpret claims.

In many cases, though, interpreting technological subtleties of a patent claim is a daunting task for a district court judge, who is not likely to be

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7 Markman II, 517 U.S. at 384.
8 Id. at 384 (quoting Winans v. Denmead, 56 U.S. (15 How.) 330, 338 (1853)).
9 Markman I, 52 F.3d at 976-77.
10 In its opinion, the Federal Circuit listed nine Supreme Court cases clearly holding claim construction was a matter of law.
11 Markman II, 517 U.S. at 378.
12 Id. at 372.
13 Markman II, 517 U.S. at 382; id. at 384 n.10.
versed in technology. The Supreme Court recognized well over 100 years ago that

judges will [not] always possess the requisite knowledge of the meaning of the terms of art or science used in letters patent, [therefore] it often becomes necessary that they should avail themselves of the light furnished by experts relevant to the significance of such words and phrases. The judges are not, however, obliged to blindly follow such testimony. 14

Obviously, the sophistication of technology at that time pales in comparison with the current state of the art, and judges are even more likely to be overwhelmed. As a result of Markman II, district court judges hold what are now referred to as “Markman hearings” in which extrinsic evidence is presented to assist the judge’s claim interpretation.

In reality, judges were accomplishing this prior to Markman II by using the judicial tools of either court appointed experts15 or special masters. 16 Trial courts have used such resources to assist in technical matters, particularly in patent cases17 for a long time. 18 Some courts, such as the Northern District of California, home of Silicon Valley and a great deal of high technology patent litigation, have formalized local court rules specific to patent litigation, including requiring each party to submit their claim interpretations, description of infringed elements, and any relevant extrinsic information. 19

14 Markman II, 517 U.S. at 387 (quoting A. Walker, Patent Laws § 189, at 173 (3d ed. 1895)).
15 Fed. R. Evid. 706.
17 In a survey of 431 active district court judges, 20% indicated that they had employed an expert witness at least once with patent cases being the second most common application. Joe S. Cecil & Thomas E. Willging, Court-Appointed Experts, in Reference Manual on Scientific Evidence, 525, 535-36, 540-41 (Fed. Judicial Ctr. Ed., 1994).
18 Although use of special masters was formalized by Federal Rule of Civil Procedure 53 in 1938, use of special masters by the courts was made much earlier. See, e.g., Heckers v. Fowler, 69 U.S. 123 (1864) (citing the use of a “referee” in a patent case).
A *Markman* hearing is usually conducted at or near the end of discovery.\(^{20}\) If it has not occurred at this point, parties will often "routinely move for the early resolution of the claim construction issue either under Federal Rule of Civil Procedure 56 or 12(b)(6)"\(^{21}\) requiring the judge to address claim interpretation. If evidence does not support summary judgment of infringement and a trial is required, the jury acts as fact finder in determining whether the defendant’s product incorporates all the elements of the construed claim. In practice, interpretation of the claim in question often allows summary judgement to be entered.\(^{22}\) Consequently, the *Markman* hearing often serves as a "mini trial."\(^{23}\)

Before examining the use of extrinsic evidence in claim interpretation, it is necessary to understand how claim interpretation proceeds in conjunction with intrinsic evidence.

### III. Patent Claim Interpretation Using Intrinsic Evidence

*Markman* I was significant in holding that claim interpretation was a finding of law. That may have contributed to its lengthy *en banc* ruling on April 5, 1995.\(^{24}\) *Markman* I describes claim interpretation with a balanced tone and highlights the discretion the court has when considering extrinsic evidence. For example:

This [extrinsic] 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. . . . The court may, in its discretion, receive extrinsic evidence in order "to aid the court in

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\(^{21}\) *Elf Atotech N. Am.*, 894 F. Supp. at 857.

\(^{22}\) See Voice Techs. Group, Inc. v. VMC Sys., Inc., 164 F.3d 605, 612, 49 U.S.P.Q.2d (BNA) 1333, 1337 (Fed. Cir. 1999) (stating that claim construction is often determinative in infringement cases).

\(^{23}\) See *Markman I*, 52 F.3d at 1008 n.5 (Judge Newman dissenting) (predicting that judges will hold evidentiary hearings functioning as a mini, or preliminary, trial); *Elf Atotech North America, Inc.*, 894 F. Supp. at 850 (referring to a two day *Markman* hearing as a "Markman Trial").

\(^{24}\) The ruling was approximately 54 pages long.
coming to a correct conclusion" as to the "true meaning of the language employed" in the patent.\textsuperscript{25}

Markman I was affirmed by the Supreme Court on April 23, 1996. The Markman II ruling was much shorter and focused on the province of the court regarding claim interpretation rather than the process of claim construction. Markman II did touch upon the consideration of extrinsic evidence and acknowledged the court's discretion in considering extrinsic evidence.\textsuperscript{26}

Three months later, on July 25, 1996, a Federal Circuit panel comprising Judges Michel, Lourie, and Friedman released \textit{Vitronics Corp. v. Conceptronic, Inc.}\textsuperscript{27} Vitronics summarized procedures for claim interpretation, but used language more extreme than perhaps intended. It stated that "in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history."\textsuperscript{28} The court actually prioritized consideration of intrinsic evidence in that order and indicated the claims and specification must be examined, but consideration of the prosecution history is optional.\textsuperscript{29} The court added that "[i]n most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence."\textsuperscript{30} The impropriety of using extrinsic evidence is emphasized again by the Court where it stated that "[o]nly 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 claims]."\textsuperscript{31} This statement appears to discourage any use of extrinsic evidence, but a subsequent sentence recognizes that "[e]xtrinsic evidence may also be considered, if needed to assist in determining the meaning or scope of technical terms in the claims."\textsuperscript{32} However, this statement is followed with a warning that "where

\begin{itemize}
  \item \textsuperscript{25} \textit{Markman I}, 52 F.3d at 980 (citation omitted).
  \item \textsuperscript{26} See \textit{supra} note 14 and accompanying text.
  \item \textsuperscript{27} \textit{Vitronics}, 90 F.3d 1576.
  \item \textsuperscript{28} \textit{id.} at 1576.
  \item \textsuperscript{29} \textit{id.} at 1582.
  \item \textsuperscript{30} \textit{id.} at 1583 (emphasis added).
  \item \textsuperscript{31} \textit{id.} at 1584 (emphasis added).
  \item \textsuperscript{32} \textit{Vitronics}, 90 F.3d at 1583 (quoting \textit{Pall Corp. v. Micron Separating, Inc.}, 66 F.3d 1211, 1216, 36
\end{itemize}
the public record unambiguously describes the scope of the patented invention, *reliance on any extrinsic evidence is improper.*

This leaves the trial judge in an unenviable position of determining when extrinsic evidence can be used. On the one hand, *Markman I*, as well as the Supreme Court, states that judges may consult extrinsic evidence to understand the terms and concepts of a patent claim. On the other hand, *Vitronics* indicates that if the meaning of a word in a claim could be derived from the specification, use of extrinsic evidence is improper. Recognizing the supremacy of the Supreme Court's view, perhaps *Vitronics* should be interpreted to mean that only generically related extrinsic evidence can be accessed to understand general concepts of the patent technology. This implies that specific extrinsic evidence directly related to the patent claim technology would be improper.

This interpretation raises various narrow but relevant questions. Would the propriety of using extrinsic evidence depend on whether it was sought in reference to a word or concept in the scrutinized claim rather than a word or concept used in the specification? Would the propriety of consulting a dictionary depend on whether it was an unabridged English dictionary or a technical dictionary? What if it is not clear whether the specification adequately defines the term?

A hindsight perspective of the resulting confusion of reconciling these perspectives was provided by Judge Rader in a separate opinion in a subsequent case involving patent claim interpretation:

> Under the guise of setting standards for claim construction, this court instructs experienced trial judges that they may use experts to understand, but not to interpret, the claim terms. As a matter of logic, this instruction is difficult to grasp. . . . In practice, how does this court's lofty appellate logic work? As this court acknowledges, a trial court must often resort to experts to learn complex new technologies. . . . What happens when that learning influences a trial judge's interpretation of the claim terms?

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33 *Id.* at 1583 (emphasis added).
Are trial judges supposed to disguise the real reasons for their interpretation?  

IV. SUBSEQUENT INTERPRETATION OF VITRONICS  

Prior to Vitronics, it was clearly established and reiterated by the Supreme Court in Markman II that judges could use experts to help them understand patent cases. Had Vitronics, in summarizing claim interpretation, promulgated a new restriction on hearing extrinsic evidence? There is no indication Vitronics attempted to signal new restrictions per se, but there is certainly some empirical evidence that some district courts interpreted Vitronics as such.

In Tridelta Industries v. Frymaster Corp., the district court interpreted Vitronics as requiring courts to look “to extrinsic evidence to assist in construing a patent claim only if the intrinsic evidence is ambiguous.” Furthermore, the court added that it should not rely on an expert witness for the plaintiff whenever the “testimony could be construed as expert evidence, and thus extrinsic evidence.” This is an unsatisfying answer to Judge Rader’s question on how a trial judge should use experts to understand, but not to interpret patent claims.

A more extreme position of excluding extrinsic evidence based on Vitronics was taken in Rohm and Haas Co. v. Lonza Inc. The district court stated “having reviewed the intrinsic evidence, it appears to be unnecessary—and insupportable—to go beyond the proffered record.” The court denied the defendants’ requests for discovery of extrinsic evidence at the Markman hearing. Perhaps this judge was uncertain about how to use the evidence to understand the patent while avoiding its use in interpreting the patent claim. If so, the court may have erred on the side of caution by excluding the extrinsic evidence completely.

These two district courts interpreted Vitronics as a limitation on considering extrinsic evidence, one that discourages, if not completely shuns,
its usage. This impact of Vitronics was recognized and criticized by Judge Rader as being too dogmatic in its guidance on extrinsic evidence:

In Vitronics Corp. v. Conceptronic, Inc. this court gave trial courts detailed guidance to avoid expert testimony in claim construction, ultimately condemning reliance on such testimony as “rarely, if ever,” proper. This appellate perspective discounted the relevance and helpfulness of testimony from experts skilled in the art to determine the meaning of claims. 40

Practitioners, as well, have commented that Vitronics directs district courts away from utilizing experts “so long as the court thinks that the patent documents are clear.” 41

Ironically, one does not have to look beyond Vitronics itself to find the incongruity in its view of extrinsic evidence. A footnote indicates that:

Although technical treatises and dictionaries fall within the category of extrinsic evidence, as they do not form a part of an integrated patent document, they are worthy of special note. Judges are free to consult such resources at any time in order to better understand the underlying technology and may also rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents. 42

Vitronics clearly indicates treatises, as a form of extrinsic evidence, may be consulted by a judge at any time in order to better understand the technology. It follows then, that a judge could consult with the author of the technical treatise at any time as well. After all, if written communication with an expert is allowed, verbal communication with the same expert

42 Vitronics, 90 F.3d at 1584 n.6 (emphasis added).
should be allowed as well. Assuming the author is an expert with respect to the litigated patent technology and the judge can consult with the expert at any time, then this conclusion cannot be easily squared with the statements in *Vitronics*\(^{43}\) indicating that experts can only be consulted if the intrinsic evidence is ambiguous. As previously mentioned, this places the judge in the difficult position of using nebulous guidelines to determine when it is appropriate to use extrinsic evidence. As exemplified by previous cases, district courts may err on the conservative side by excluding evidence that may facilitate claim interpretation.

**V. THE INTRINSIC/EXTRINSIC DEMARCATION LINE**

The preceding demonstrates some question as to when extrinsic evidence may be consulted and that some evidence, such as dictionaries and treatises, cannot be easily classified as extrinsic or intrinsic on initial consideration. This latter point could be viewed as whether the intrinsic/extrinsic dividing line is a bright or fuzzy line. However, the question of whether there is any demarcation line at all between intrinsic and extrinsic evidence is raised by *J.T. Eaton & Co. v. Atlantic Paste & Glue Co.*\(^{44}\) This case raises questions about the segregation of intrinsic/extrinsic evidence and demonstrates why extrinsic evidence should be liberally accepted by the courts even if intrinsic evidence is sufficient for interpreting the claim.

Eaton built the proverbial better mousetrap and sought to patent it. The mousetrap consisted of a circular dish container with a layer of adhesive that the mouse becomes stuck to once it steps on the adhesive. Prior to the invention, glue-based mousetraps required the user to prepare the trap on site, since the adhesive could not withstand shipping at high temperatures. Eaton’s innovation allowed the adhesive to be shipped without any sagging.

\(^{43}\) To add to the confusion, some district courts indicate that technical treatises and dictionaries can only be considered if the intrinsic evidence is ambiguous. See Rohm and Haas Co. v. Lonza Inc., 997 F. Supp. 635, 638 (E.D. Pa. 1998) (stating that if intrinsic analysis resolves ambiguity, it would be improper to resort to extrinsic evidence such as expert testimony, dictionaries, or learned treatises); Stairmaster Sports/Medical Products, Inc. v. Groupe Procycle, Inc., No. Civ.A. 97-396 MMS, 1998 WL 290296, at *3 (D. Del. May 20, 1998) (stating that if the meaning of the patent is still ambiguous, the court may then consider extrinsic evidence).

\(^{44}\) 106 F.3d 1563, 41 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1997).
or flowing. This was reflected in a claim limitation requiring the adhesive to have “a plastic flow temperature above 120°F.”

During patent prosecution, Eaton provided several test protocols with the results relating to the adhesive plastic flow properties since there was no standard industry definition. The tests involved measuring the sag or flow of the adhesive in vertical and inverted horizontal positions under various temperatures and for various time periods. The patent examiner found adhesive existing in prior art that anticipated Eaton’s claims and requested tests conducted on the prior art adhesive to overcome an “obviousness” rejection. Subsequently, a separate company, Hampton Chemical, sought to invalidate Eaton’s patent as obvious in light of previous patents and products. Hampton Chemical requested that the Patent Office reexamine the patent and also employ an expert to test the prior art for the “120°F plastic flow” limitation. Meanwhile, Eaton employed a separate expert to test the prior art adhesive in an attempt to show that it did not meet the limitation. Furthermore, Atlantic Paste & Glue had conducted their own tests of the “120°F plastic flow” limitation.

As is evident, numerous tests were conducted not only by the parties involved in the suit, but also by others not involved in the suit (namely Hampton Chemical). Such test results and expert testimony are typical of the extrinsic evidence considered by a court in a Markman hearing. In this case, however, the evidence was included as part of the patent prosecution history and was therefore categorized as intrinsic evidence. As indicated in Vitronics, intrinsic evidence may be considered by the district court in claim interpretation.

During the trial, the judge allowed the parties to present additional expert testimony and test results with respect to claim interpretation. However, the district judge could have excluded such extrinsic evidence in construing the patent claim and relied solely on the intrinsic evidence. Indeed, under Vitronics, if the judge could interpret the claim based on the intrinsic evidence alone, then the extrinsic evidence should not have been

45 Id. at 1565.
47 Eaton, 106 F.3d at 1569.
48 Id.
49 Markman I, 52 F.3d at 981.
50 Vitronics, 90 F.3d at 1582.
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considered.\textsuperscript{51} Although this did not happen, such conjecture is not outlandish given the previously mentioned examples of \textit{Rohm and Haas} and \textit{Tridelta Industries}.

This example highlights the potential arbitrariness of excluding evidence simply because it falls on one side or the other of the intrinsic/extrinsic dividing line. In this case, Hampton Chemical was not involved in the lawsuit, but had an interest in the outcome of the suit and was able to introduce their test results into the official record by requesting reexamination. However, aside from the prosecution history, Hampton Chemical would not be able to interject such data into the trial record of which they were not a party. Under \textit{Vitronic}'s dicta, even parties to the patent infringement trial are not assured of being able to introduce their test results; \textit{Vitronics} would only allow it to be considered if the intrinsic evidence was insufficient. Furthermore, information contained in the prosecution history is available for review on appeal, but extrinsic evidence excluded at trial is not available. These scenarios demonstrate why extrinsic evidence should generally be freely admitted by the trial court, if only to be discounted and made available in the record for consideration on appeal. A party in a trial should be assured they can enter extrinsic evidence to counter third party "extrinsic" evidence converted into intrinsic evidence by virtue of being incorporated into the prosecution history.

The result in \textit{J. T. Eaton & Company} was that the Federal Circuit examined the tests and proffered an interpretation of the plastic flow test. Its interpretation was based on a test contained in the record that "no party advocated throughout the protracted history of this patent."\textsuperscript{52} That the Federal Circuit can overrule a lower court's claim interpretation is not surprising, but its interpretation differed from that used by the patent examiner, the Board of Appeals, and two federal judges. The Federal Circuit then held Eaton to the new interpretation of "120°F plastic flow" and ruled on the case. This result was criticized as unfair in Judge Rader's strong dissent:

\begin{quote}
This court decides this issue against Eaton on the basis of a failure of proof—that is, Eaton's failure to prove
\end{quote}

\textsuperscript{51} \textit{Id.}
\textsuperscript{52} 106 F.3d 1563, 1572 (Rader, J., dissenting). The patent was prosecuted for eight years in the Patent Office and litigated in district court for another twelve years.
infringement under a claim meaning no one had ever imagined before this court's pronouncement. . . . [T]his court might at least have afforded Eaton an opportunity to present evidence of infringement under this panel's novel claim construction. Accordingly, even if I could accept the court's claim meaning, I would remand the case for further proceedings. 53

Because Eaton had included their prior test results in the prosecution history, the results were available for consideration by the Federal Circuit. Eaton could not have reasonably anticipated that a different claim interpretation would be used at appeal, and even if Eaton had anticipated this, they could not alter the record examined by the appeals court. In retrospect, it is hard to find where Eaton could have corrected its mistake.

VI. THE "TOUCHSTONE" FUNCTION OF EXTRINSIC EVIDENCE

If the circumstances allow the court to clearly identify a rational line dividing extrinsic and intrinsic evidence, then Vitronics indicates that excluding extrinsic evidence at trial is proper if the judge is able to interpret the claim using intrinsic evidence. This leads to the "bootstrap" problem when excluding extrinsic evidence. Given at least two competing interpretations based on the intrinsic evidence, how can the judge be certain that his interpretation is correct without considering extrinsic evidence? In other words, how does the judge know when the intrinsic evidence is so clear in supporting a given claim interpretation that examining extrinsic evidence is of no value? If the judge has any doubt concerning the claim interpretation supported by the intrinsic evidence, consulting extrinsic evidence would serve as a touchstone, validating the conclusion.

This "touchstone" function springs from the same rationale that requires the judge to examine the specification in conjunction with the claim. Because the "description may act as a sort of dictionary, which explains the invention and may define terms used in the claims," 54 consulting the specification allows validation of a meaning derived from the claim. While intrinsic evidence in the specification may lend weight to a given claim

53 Id. at 1577.
54 Markman I, 52 F.3d at 979.
interpretation, it may not be dispositive. This is when consulting extrinsic evidence may be useful.

However, this benefit is lost if extrinsic evidence is excluded by the trial judge. Such exclusion further prevents the appellate court from using it to validate the trial court's interpretation. Perhaps this problem was what Judges Newman and Mayer of the Federal Circuit had in mind when they stated that “[t]he Federal Circuit’s ruling that extrinsic evidence must be restricted unless there is a facial ambiguity in the meaning of the claim is an unnecessary restraint on potentially useful evidence.”

VII. TEST FOR EXCLUDING EXTRINSIC EVIDENCE

Two examples illustrate different circumstances for when consulting extrinsic evidence would be useful and provide a test for determining when to seek out extrinsic evidence. The first example, *York Products Inc. v. Central Tractor Farm & Family Center*, is a case where extrinsic evidence was largely not used, nor would its consideration have been useful. The case involved a patent for a plastic liner for a pick-up truck bed that incorporated ridges in the side wall construction. The ridges allowed boards to be inserted across the truck bed for securing loads carried in the pickup bed. The claim indicated that the ridges must extend a “substantial part of the entire height [of the side wall].” The infringement suit focused on how high the ridges were required to extend up the side wall. The court noted that nothing in the specification imparted a unique meaning to the term “substantial”; therefore, the ordinary meaning of the word should be used. The court determined the meaning of the term “substantial” with the aid of an English dictionary. However, the court largely validated the interpretation using intrinsic evidence, the drawings contained in the specification.

Admittedly, it is difficult for a trial judge to know when a claim interpretation is sufficiently supported by the intrinsic evidence and when consideration of extrinsic evidence would be useful and should be sought out. In this case, aside from consulting a dictionary, no consideration of extrinsic evidence was provided, mentioned, or offered. It is hard to imagine

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55 *Cybor Corp.*, 138 F.3d at 1480 (concurring).
56 *99 F.3d 1568, 40 U.S.P.Q.2d (BNA) 1619 (Fed. Cir. 1996).*
57 *Id. at 1572.*
58 *Id. at 1573.*
how expert testimony, for example, would affect the interpretation and benefit the court.

However, other cases are not so obvious and the question remains: how does a judge know when claim interpretation would benefit from examining extrinsic evidence? To answer this question, it should be noted that *York Products* did not involve any complicated technology, nor was the term "substantial" amenable to clarification by those skilled in the art. No special education or expertise was required to understand the concept, claim, or word. Furthermore, no indication was mentioned of extrinsic evidence offered by the parties to assist the judge in claim interpretation. With these aspects all being in accordance with the ordinary nature of the term in question, the judge could be reasonably assured that seeking further extrinsic evidence would not enhance the quality of claim interpretation.

*Voice Technologies Group, Inc. v. VMC Systems, Inc.* is an example where the judge should have considered extrinsic evidence. This case uniquely demonstrates a situation where some of the patentee’s extrinsic evidence was “discarded” by the judge as irrelevant to the patent interpretation. Fortunately for the patentee, the court then added the extrinsic evidence to the record when it granted summary judgment of non-infringement, thus preserving the evidence for consideration on appeal. On appeal, the holding was reversed in part due to the very “discarded” extrinsic evidence that conclusively showed that the trial court’s claim interpretation was incorrect.

The patentee, VMC Systems, claimed patent infringement from Voice Technologies Group’s telecommunications product: a Private Branch Exchange (PBX) incorporating an adjunct processor for providing enhanced service capabilities. Faced with pre-trial motions and cross-motions for summary judgment, the district court conducted a *Markman* hearing considering the extrinsic evidence for claim interpretation. At issue was the meaning of the claim elements “telephone emulation” and “talk path.” The district court ruled “that the meaning of ‘telephone emulation’ was unclear as used in the specification” and “the term should be defined as it would be

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50 Except that beyond contained in a simple dictionary.
51 164 F.3d 605.
52 Id. at 611.
53 Id.
54 Id. at 616.
55 Id. at 611.
understood by a person of skill in the field of the invention."\(^{65}\) Having determined the intrinsic evidence was insufficient for claim interpretation, the court turned to extrinsic evidence.

Accordingly, the court entertained statements from the executive vice president of Voice Technologies and its expert witness, while VMS offered testimony of its president and product manager, deposition of the two co-inventors, and a videotape demonstrating the product's operation. Voice Technologies objected to the videotape as evidence, and the district court initially excluded it, as well as the inventors' testimony.\(^{66}\) The district court interpreted the Federal Circuit's *Markman* ruling as rendering inventor testimony irrelevant. The district court stated:

\[
\text{[Voice Technologies] argues that the declaration, the video demonstration, and the transcript are all irrelevant under } \textit{Markman}, \text{ as a subjective, unreliable, "after the fact" attempt to construe a claim by the inventor. This Court agrees. The declaration does not set forth any qualifications of Mr. Oshima [a co-inventor of the patent] which would allow it to be read as a declaration of an expert or one "skilled in the art."}\(^{67}\)
\]

This result is a perverse reversal of common sense. The president, who presumably is not engaged in the day-to-day design of communication systems, is deemed to be an expert in the area of PBX design. Perhaps this is so, but nothing is mentioned of any qualifications other than his title. The inventor, who is intimately familiar with the technology and engaged in the design of such systems on a daily basis, is not deemed to be an expert in the field of PBX design.

Perhaps the district court was influenced by a passage from *Markman I* which stated that the inventor's testimony "on the proper construction of the claims is entitled to no deference."\(^{68}\) However, a careful reading of *Markman I* shows the inventor's testimony may be considered to enhance the court's understanding of the patent and related technology, but "not for

\(^{65}\) Voice Techs., 164 F.3d at 611.
\(^{66}\) Id.
\(^{67}\) Id.
\(^{68}\) *Markman I*, 52 F.3d at 983.
the purpose of varying or contradicting the terms of the claims." The Federal Circuit directly addressed this confusion:

We express concern that this court's Markman decision may have led the district court to exclude the Oshima declaration and video demonstration during claim construction. Although in Markman this court stated that "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," this statement does not disqualify the inventor as a witness, or overrule the large body of precedent that recognizes the value of the inventor's testimony. . . . Markman did not hold that the inventor can not explain the technology and what was invented and claimed; the Federal Circuit held only that the inventor can not by later testimony change the invention and the claims from their meaning at the time the patent was drafted and granted. 0

As common sense dictates, the Federal Circuit recognized that the inventor is an expert in his field, and, if testimony from one skilled in the field is allowed, the inventor should be allowed to testify about the invention. It can be presumed the judge will not blindly follow such testimony if it contradicts the other evidence or attempts to enlarge or modify claims. 71

Using the previously defined criteria for ascertaining when extrinsic evidence should be considered, the first question to ask is whether complicated technology is involved, such that special education or expertise would facilitate understanding its concepts. Obviously, adjunct-to-PBX system communication is considered high technology. In addition, judges are not normally skilled in this art. Consequently, testimony of one with industry expertise or formal engineering education would benefit the judge in understanding the technology. Extrinsic evidence was offered and the judge accepted some of the extrinsic evidence in forming his interpretation

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49 Id. at 981.
50 Voice Techs., 164 F.3d at 615 (citations omitted).
51 The same point has been stated using the oft quoted phrase "an inventor may not be heard to proffer an interpretation that would . . . treat the claim as a 'nose of wax.'" Senmed, Inc. v. Richard-Allan Medical Indus. Inc., 888 F.2d 815, 819 n.8, 12 U.S.P.Q.2d (BNA) 1508, 1512 n.8 (Fed. Cir. 1989).
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but discarded other portions offered by the patentee. Indeed, the district court “criticized the evidence submitted by VMC as ‘add[ing] to the confusion over the issue of voice or talk path.’”

In this instance, the Federal Circuit indicated that the inventor’s testimony was critical to claim interpretation and supported reversal of the lower court. The Federal Circuit stated that “[t]he declaration of Oshima [the co-inventor] exposes ambiguities in the Orr and Fritzinger analyses [witnesses for Voice Technologies], and their distortion of the . . . invention.” The Federal Circuit also added that the videocassette demonstrated the flaws in Voice Technologies arguments as well. Had the district court given greater consideration to extrinsic evidence, it might have detected its error and discovered the specification had clearly defined the ambiguous term. While discarding evidence inconsistent with a conclusion is one way for a district court to build a record supporting that conclusion, judicial integrity should incorporate the evidence and state the reasons why it is not persuasive or relevant to a given claim interpretation.

While extrinsic evidence is not always necessary to derive the proper claim interpretation, it may facilitate interpretation and function as a touchstone to test the interpretation. The danger of including extrinsic evidence in the trial record is small. If extrinsic evidence does not support the interpretation, the trial court can indicate its reasons why the evidence was not relevant, and the Federal Circuit can affirm or reverse on appeal. Fortunately, the “excluded” evidence in this case was eventually included in the record allowing consideration by the Federal Circuit. Had it been excluded, this may have jeopardized the quality of the Federal Circuit’s decision.

VIII. A MODERATING VIEW OF EXTRINSIC EVIDENCE

The benefit of considering extrinsic evidence even when the intrinsic evidence is thought to be unambiguous is illustrated in the recent Federal Circuit ruling Pitney Bowes Inc. v. Hewlett-Packard Co. The Federal Circuit also used this case to signal to the district courts to take a moderating view

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71 Voice Techs., 164 F.3d at 611.
72 Id. at 615.
73 182 F.3d 1298.
of the use of extrinsic evidence and recognize that “no strict, uniform rules can anticipate every variable in assessing complex technical evidence.”

Pitney Bowes’ patent pertained to an improvement in laser printing technology. Laser printers operate by directing a laser beam onto a photoreceptive drum. The drum is electrically charged, and at each point where the laser beam is directed, the electrical charge on the drum dissipates. Subsequently, the drum passes over toner material that attaches itself to the discharged areas on the drum. The drum then transfers the toner to the paper where the toner is fused onto the paper at high temperature. The drum is wiped clean and recharged to repeat the process. The laser beam is very tiny, resulting in a correspondingly tiny discharge dot on the drum, which in turn results in a tiny dot on the paper. Hundreds of dots are used to compose a single character, and as the dots only approximate the letter’s shape, imperfections exist in the lines or edges around the printed letter. These jagged edges are known in the industry as “jaggies.” The Pitney Bowes patent was directed to enhancing print quality by reducing the jaggies using varying sized dots to smooth out the edges. The patent included several methods of varying the toner dot size by altering the laser beam striking the photoreceptive drum. The first method varied the intensity of the laser beam and the second method varied the duration that the laser beam was directed onto the photoreceptor.

Consequently, different size discharge spots can be produced on the photoreceptor drum by a single laser beam by changing its intensity or duration. In describing this process, Pitney Bowes indicated the laser beam creates a spot of light on the drum with the resulting electrostatic discharge area described as a spot. The confusion becomes apparent when interpreting the following claims using the word “spot”:

1. A method of producing on a photoreceptor an image of generated shapes made up of spots, comprising:
   directing a plurality of beams of light towards a photoreceptor, each beam of light generating a spot on the photoreceptor and controlling a parameter of the light beams to produce spots of different sizes whereby the

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75 Id. at 1314 (additional views of Rader & Plager, JJ).
76 Additional methods described in the patent are not relevant to the immediate discussion.
appearance of smoothed edges are given to the generated shapes.

2. The method of claim 1 wherein the parameter controlled is light beam intensity.

3. Apparatus for producing on a photoreceptor an image of generated shapes made up of spots, comprising:
   means for directing a plurality of beams of light toward a photoreceptor to generating [sic] a plurality of spots on the photoreceptor and means for generating spots of different sizes whereby the appearance of smoothed edges are given to the generated shapes.77

At issue in the district court was the interpretation of the word “spot” in the phrase “to produce spots of different sizes.” Are different size laser beam spots produced? Or are different size electrostatic discharge spots on the drum produced? The first interpretation describes the means used to produce the end, and the second interpretation is the end itself. Either interpretation results in varied spots of toner on the paper serving to reduce the jaggies.

Hewlett-Packard’s printer varied the duration of the laser beam (the beam itself being a constant size) in order to vary the size of the discharge spot. Hewlett-Packard argued that “spots of different sizes” in the claims referred to a varying spot of light. It supported this interpretation by pointing to the additional specificity in the second claim that varies the intensity of the light. Hewlett-Packard inferred that varying the intensity of the laser beam produced a varying size light beam. Thus, it argued “spot of different sizes” referred to light spots. Since Hewlett-Packard’s product varied the duration, not the size of the light beam, such an interpretation would result in the judge granting Hewlett-Packard’s motion for summary judgment for non-infringement. However, if the interpretation is that the varying spot referred to the discharge spot on the drum, then Hewlett-Packard’s printer, which varied the duration of the laser beam, would produce this result. This would lead to granting Pitney Bowes’ motion for summary judgment for infringement. The outcome was determined by which interpretation of “spot” the judge selected.

77 Pitney Bowes, 182 F.3d at 1302 (emphasis added).
Using the claim interpretation procedure in *Vitronics*, the court's first step was to analyze the claims themselves. The district court found the claim language supported either interpretation. Since "[c]laims must be read in view of the specification, of which they are a part," the district court proceeded to examine the specification. There were forty-four instances of "spot" in the specification and Pitney Bowes argued the first forty-two referred to the spot created by the laser beam while the last two instances referred to the discharge spot. The district court disagreed with this inconsistent interpretation of "spot" and found that all uses of "spot" referred to a laser beam light. "[T]he district court reasoned that 'since inventors "must use words in the same way in the claims and in the specification," it is logical to conclude that the word spot also means a light spot when used in the claims . . .'".

Having selected an interpretation with cogent support from the specification, the district court examined the remaining intrinsic evidence, the prosecution history, and noted that the examiner amended the title so that "spot" was changed to "light spot." The district court stated that this furthered the interpretation as meaning "light spot" since the patent "'examiner was in the best position to fully understand the nature of the invention and the meaning of the terms used in the patent.'".

As stated in *Vitronics*, "[i]n most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence." Since there was no genuine ambiguity of the meaning of "spot" after examination of the intrinsic evidence, a district court relying on *Vitronics* should not have considered any extrinsic evidence regarding claim interpretation.

However, the district court did consider extrinsic evidence in the form of expert witnesses' affidavits, supplemental affidavits, and rebuttal affidavits. To no surprise, the extrinsic evidence consisted of conflicting expert testimony concerning measuring the size of a light spot. Hewlett-Packard's
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expert witness indicated that in digital printing the "spot" size of light is defined by the area of the light spot exceeding a certain threshold intensity.² Thus, Pitney Bowes' second claim reference to varying the intensity would result in the varying light spot size of the other claims. Pitney Bowes' expert testified that in optics, the size of a laser beam spot does not increase with intensity and that the varying size spot was the discharge spot.³

On appeal, Pitney Bowes claimed the court improperly relied on extrinsic evidence.⁴ Even though the trial court had determined that the intrinsic evidence supported its conclusion that "spot" referred to a 'light spot,' the trial court felt obligated to consider extrinsic evidence.⁵ This situation certainly required special training and education to understand. Expertise of those skilled in the art would benefit the trial court as both parties offered such expert testimony for consideration. Based on this criteria, the district court properly considered the extrinsic evidence.

IX. THE FEDERAL CIRCUIT'S RESPONSE

The Federal Circuit reversed the district court's findings, ruling that "spots of differing sizes" refers to discharge spots created on the drum.⁶ Although the district court followed the claim interpretation procedure spelled out in Vitronics, Judge Rader noted that "Vitronics offers good counsel when it urges trial judges to focus on the patent document—notably the claims themselves—to ascertain the scope of patent coverage. This appellate court, however, should refrain from dictating a claim interpretation process that excludes reliable expert testimony."⁷

On appeal, the first step was to review the claim itself.⁸ Although the use of "spot" appeared ambiguous, the Federal Circuit indicated that a careful reading led to the proper interpretation of "spot."⁹ The key was to examine the preamble where the first usage of "spot" occurs. Quite often, the preamble adds little to the substance of the claim. But when "the [claim]
preamble is ‘necessary to give life, meaning, and vitality’ to the claim . . . .” then the claim preamble should be construed as if in the balance of the claim. 90 Here, the preamble refers to a method or apparatus for “producing on a photoreceptor an image of generated shapes made up of spots . . . .”91 Since the images of generated shapes are the characters on the photoreceptor drum, these shapes must be the discharge areas. As the shapes are made up of spots, the “spots” must be the discharge spots on the photoreceptor drum. The “spots” cannot be beams of light, since the laser beam creates discrete separate dots and cannot by itself be the generated shapes. Recall that the claim involved “an image of generated shapes made up of spots . . . .”92

Furthermore, since the spots of varying sizes have the appearance of smooth edges, this can only refer to the discharge spots, since the laser beam shape is a constant dot. This first instance of “spots,” as used in the preamble, fixes the subsequent meanings of “spot” employed in the claim and results in consistent usage of the word throughout the claim.

Given that an interpretation is derived from the claims themselves, the Federal Circuit next examined the specification to support the meaning of “spot.”93 Regarding the forty-four uses of “spot” in the specification, the Federal Circuit noted while consistency is a general rule, previous cases94 have recognized various meanings attributable to a same word or phrase in a claim.95 The Federal Circuit noted that there were distinct meanings attached to the use of “spot” in the specification and that this should put the reader on notice of the different uses of the word.

The third form of intrinsic evidence relied on by the district court was the prosecution history, in which the title was amended during prosecution. The court noted the “near irrelevancy of the patent title to claim construction,”96 and concluded that the district court accorded too much weight to the change in title.97 The main purpose of the title is to assist in

90 Id. at 1306 (quoting Kropa v. Robie, 187 F.2d 150, 152, 88 U.S.P.Q. (BNA) 478, 481 (CCPA 1951)).
91 Pitney Bowes, 182 F.3d at 1302 (emphasis added).
92 Id. at 1302.
93 Id. at 1310.
95 Pitney Bowes, 182 F.3d at 1310.
96 Id. at 1312.
97 Id. The Court noted only one instance of case law in which the patent title was relevant to claim construction: Exxon Chemical Patents, Inc. v. Lubrizol Corp., 64 F.3d 1553, 35 U.S.P.Q.2d (BNA) 1801 (Fed. Cir. 1995).
indexing and searching at the Patent Office, not to "demarcate the precise boundaries of the claimed invention."\(^98\)

During this reinterpretation of the claim using *intrinsic* evidence, the Federal Circuit neither recast any of its previous characterizations on claim interpretation, nor does it identify any blatant misapplications by the district court of intrinsic claim interpretation procedures.

However, the same cannot be said with respect to the Federal Circuit’s comments on *extrinsic* evidence, namely the district court’s perspective of *Vitronics* and use of extrinsic evidence.\(^99\) It could have been expected that the Federal Circuit would chastise the district court for considering extrinsic evidence when it was not necessary. Instead the Federal Circuit states, “under *Vitronics*, it is entirely appropriate, perhaps even preferable, for a court to consult trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in the pertinent technical field.”\(^100\) This is the first indication in the opinion that the Federal Circuit is “reinterpreting” *Vitronics*.\(^101\) The Federal Circuit says “*Vitronics* does not prohibit courts from examining extrinsic evidence, even when the patent document is itself clear,”\(^102\) and “*Vitronics* does not set forth any rules regarding the admissibility of expert testimony into evidence.”\(^103\) The Federal Circuit’s view of *Vitronics* is that as long as the court does not rely on extrinsic evidence to contradict the intrinsic evidence, its use is proper.

The tone of the analysis indicates a shift from the previous narrow consideration of extrinsic evidence, and this perspective is confirmed by Judge Rader, who has been outspoken since *Markman* on the benefits of extrinsic evidence.

Today, this court takes the opportunity to restate the role of expert testimony. I applaud this court’s effort to express more trust in the “broad latitude” and “considerable leeway” afforded presiding trial judges in assessing the reliability of

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\(^98\) *Pitney Bowes*, 182 F.3d at 1312.

\(^99\) *Id.* at 1308 n.2.

\(^100\) *Id.* at 1309.

\(^101\) The opinion references *Vitronics* at least a half dozen times in clarifying what *Vitronics* stated.

\(^102\) *Pitney Bowes*, 182 F.3d at 1308 (emphasis added).

\(^103\) *Id.* (emphasis added).
expert testimony. . . . In this case, however, this court holds that the trial court did not err by improper reliance on expert testimony. Rather, the trial court erred in placing too much reliance upon the written description when the claim language admitted of a broader reading. The resulting construction of the claims thus contained limitations improperly imported from the written description. 104

Judge Rader recognizes that sole reliance on intrinsic evidence may render a plausible interpretation, but not one that may be borne by the extrinsic evidence.

While the extrinsic evidence consisted of two conflicting expert witnesses, what would have happened if there was only one; one that supported the Federal Circuit's finding of the meaning of "spot"? Should not the trial court at least have considered it to confirm the validity of its determination? Certainly, it is appropriate to use the specification or patent prosecution history to confirm the validity of a claim interpretation. Why not allow extrinsic evidence to do the same? Pitney Bowes sends the message that it is now acceptable for trial courts to consider extrinsic evidence.

X. HOW DID TRIAL COURTS COME TO INTERPRET Vitronics?

By the Federal Circuit's own perspective, the trial courts have incorrectly interpreted Vitronics. However, some of the Federal Circuit's own statements seem to indicate that the fault is not entirely with the trial courts.105 What can explain this apparent confusion?

One potential explanation requires examining the judicial circumstances of the rulings. In 1995, the Federal Circuit promulgated fairly well-developed guidelines in Markman I in an en banc ruling. That ruling was affirmed in 1996 by the Supreme Court in Markman II, but Markman II largely focused on claim interpretation as a matter of law. It did not clarify the line between using extrinsic evidence to educate the judge on technology and allowing extrinsic evidence to influence claim interpretation. This was

104 Id. at 1315 (citations omitted).
105 Compare supra note 33 with supra note 101 (indicating that use of extrinsic evidence is improper when the intrinsic evidence is clear, but also that no rules prohibiting its use are set forth).
the fine line described previously in *Tridelta*, in which testimony of an expert was construed as extrinsic evidence not to be relied on.

Arguably, the line was moved shortly thereafter to discourage consideration of extrinsic evidence, when, in July 1996, a the Federal Circuit panel consisting of Judges Michel, Lourie, and Friedman issued the *Vitronics* decision. Indication of diverging views in the Federal Circuit on the use of extrinsic evidence became evident in 1997 in *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*\(^{106}\) This case involved determination of a temperature in the process of making certain granules. The trial court found that the intrinsic evidence was not dispositive and thus entertained expert testimony. On appeal, the Federal Circuit panel consisted of Judges Lourie, Mayer, and Rader. Judges Mayer and Rader indicated that if the meaning is clear from intrinsic evidence, consideration of extrinsic evidence should be limited. However, they added:

As a general rule, the construing court interprets words in a claim as one of skill in the art at the time of invention would understand them. . . . Therefore, the testimony of one skilled in the art about the meaning of claim terms at the time of the invention will almost always qualify as relevant evidence.\(^{107}\)

However, Judge Lourie dissented, stating "[t]he claim is clear on its face, when read in light of the specification"—the majority "[h]as simply been mislead concerning what the specification clearly states and means."\(^{108}\) Judge Lourie adds that "I believe that there is no need to resort to extrinsic evidence to resolve an ambiguity in the claim,"\(^{109}\) but does not indicate how a judge is to know when there is no need. Obviously, the majority had a different perspective and saw the need to resort to extrinsic evidence.

Judge Lourie was on the *Vitronics* majority and maintained this view of the use of extrinsic evidence in *Pitney Bowes* as well. Thus, the diverging views between Federal Circuit judges as manifested in their rulings is

\(^{106}\) 114 F.3d 1547, 42 U.S.P.Q.2d (BNA) 1737 (Fed. Cir. 1997).
\(^{107}\) *Id.* at 1555.
\(^{108}\) *Id.* at 1561-62.
\(^{109}\) *Id.* at 1563.
partially responsible for the diverging views of the lower courts regarding extrinsic evidence.

Another hypothesis for the diverging perspective of the district courts is offered, but it represents a non-scholarly answer to an otherwise scholarly question. First, consider that district courts hear far fewer patent cases than the Federal Circuit and some district courts, by virtue of their location, may rarely adjudicate patent cases. In the aftermath of Markman II, subsequent district court cases on claim interpretation would surely research this area anew given the significant developments in patent claim interpretation. It is not surprising a judicial clerk researching the current status of claim interpretation would enlist an on-line service such as Westlaw. A common method of research would be to search the West Key Numbers on the topic, specifically “291k159” defining extrinsic evidence with respect to “construction and operation of letters patent.” As it happens, Vitronics is particularly rich in headnotes pertaining to extrinsic evidence, containing twelve. A search on this key number will return eight of the headnotes in Vitronics, more than any other case after Markman I. Although examining headnotes is not a suitable manner by itself to describe legal principles on a topic, it does provide some guidance on the issue. However, headnotes are often a sentence or two extracted or summarized from the case and lack the context from which they are taken.

Evidence these headnotes formed the basis of the district court’s view on extrinsic evidence can be found in Rohm and Haas which refused consideration of extrinsic evidence. The discussion in that case regarding Markman hearings and extrinsic evidence quoted six passages from previous cases to set forth the case law on the topic. Five of these were from Vitronics and one from Markman I. Each quoted passage was the whole or part of the West headnote from the respective cases. While further references were made to the cases, the quoted passages were all headnotes. This seems to indicate the court’s reliance on headnotes to ascertain the treatment of extrinsic evidence. The Vitronics’ headnotes are included in Appendix I, and the headnotes quoted in Rohm and Haas are indicated as well. A reading of just these headnotes leaves a decidedly skewed perspective that extrinsic evidence is to be used only with caution and that such consideration is

110 Search performed on October 25, 1999.
improper if claim interpretation can be ascertained without extrinsic evidence.

Searches performed for extrinsic evidence usage return the headnotes from the most recent cases. If done after Pitney Bowes, three headnotes will be returned from that case. A reading of these three provides a decidedly more moderate perspective on extrinsic evidence. Hopefully, a better understanding of the use of extrinsic evidence will occur as the legal community becomes aware of these recent cases.

XI. ROLE OF EXTRINSIC EVIDENCE IN FUTURE CASES

So where does use of extrinsic evidence stand? If Pitney Bowes influences the courts in any way regarding extrinsic evidence, the court is likely to affirm the judge’s discretion in considering extrinsic evidence so long as it is not relied upon to controvert a plain interpretation derived from the intrinsic evidence. As in York Products, if claim interpretation does not require those skilled in the art to explain aspects of the claim or complicated technology, seeking extrinsic evidence is unlikely to be useful, but unlikely to be found improper. If the claim can be clearly defined using intrinsic evidence alone, then extrinsic evidence may serve as a touchstone to validate the interpretation, but relying on extrinsic evidence to justify an interpretation contradicting intrinsic evidence will not be sustained. For the “hard” cases, where intrinsic evidence can equally support multiple interpretations, using extrinsic evidence will be proper and useful. Since opposing extrinsic evidence is frequently offered, it behooves the judge to explain in the decision how the evidence does or does not support the court’s interpretation. Although claim interpretation is reviewed de novo, Federal Circuit judges do recognize the time and effort spent by the trial judge and do “not reverse unless we are convinced that we should.”

Finally, the discretion of the trial court in considering such extrinsic evidence is also likely to be bolstered in light of a recent Supreme Court decision, Kumho Tire Co. Ltd. v. Carmichael. In this case, an engineer

111 These are included in Appendix II.
112 Cyber Corp., 138 F.3d 1448.
114 526 U.S. 137.
rather than a scientist provided expert testimony, and the Court ruled that the judge's gatekeeping functions apply not only to scientific, but all expert evidence, including engineering experts. Although the case involved a tort claim rather than a patent issue, the Court recognized the appropriateness of the trial judge to determine reliability and admissibility of expert testimony. The Court emphasized the judge is to be given broad latitude to determine when and how expert testimony is to be credited. That this view carries over into claim interpretation is affirmed by Judge Rader in *Pitney Bowes* when he quotes *Kuhmo Tire*: “[t]oday this court takes the opportunity to restate the role of expert testimony. I applaud this court’s effort to express more trust in the ‘broad latitude’ and ‘considerable leeway’ afforded presiding trial judges in assessing the reliability of expert testimony.”

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115 *Pitney Bowes*, 182 F.3d at 1315 (quoting *Kuhmo Tire*, 526 U.S. 537).
APPENDIX I

VITRONICS116 WESTLAW HEADNOTES
PERTAINING TO EXTRINSIC EVIDENCE

(Headnotes in capitalized text are the headnotes returned when searching for Westlaw Key Number "291k159.")

1. IN MOST SITUATIONS, ANALYSIS OF INTRINSIC EVIDENCE ALONE WILL RESOLVE ANY AMBIGUITY IN DISPUTED PATENT CLAIM TERM; IN SUCH CIRCUMSTANCES, IT IS IMPROPER TO RELY ON EXTRINSIC EVIDENCE.

2. In those cases where public record unambiguously describes scope of patented invention, reliance on any extrinsic evidence is improper.

3. CLAIMS, SPECIFICATION, AND FILE HISTORY, RATHER THAN EXTRINSIC EVIDENCE, CONSTITUTE PUBLIC RECORD OF PATENTEE'S CLAIM, RECORD ON WHICH PUBLIC IS ENTITLED TO RELY.

4. EVEN IF TRIAL JUDGE PERMISSIBLY DECIDED TO HEAR ALL POSSIBLE EVIDENCE BEFORE CONSTRUING PATENT CLAIM, EXPERT TESTIMONY, WHICH WAS INCONSISTENT WITH SPECIFICATION AND FILE HISTORY, SHOULD HAVE BEEN ACCORDED NO WEIGHT.

5. IN INSTANCES IN WHICH INTRINSIC EVIDENCE IS INSUFFICIENT TO ENABLE COURT TO DETERMINE MEANING OF CERTAIN PATENT CLAIMS, EXTRINSIC EVIDENCE MAY ALSO PROPERLY BE RELIED ON TO UNDERSTAND THE TECHNOLOGY AND TO CONSTRUE CLAIMS.

6. "Extrinsic evidence" is that evidence which is external to patent and file history, such as expert testimony,

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116 90 F.3d 1576 (Fed. Cir. 1996).
inventor testimony, dictionaries, and technical treatises and articles.

7. **Extrinsic Evidence in General, and Expert Testimony in Particular, May Be Used Only to Help Court Come to Proper Understanding of Patent Claims; It May Not Be Used to Vary or Contradict Claim Language.**

8. Extrinsic evidence may not contradict import of other parts of patent specifications.


10. As compared to expert testimony, which often only indicates what particular expert believes patent term means, prior art references may be more indicative of what all those skilled in art generally believe certain term means; reliance on such evidence is unnecessary and improper, however, when disputed terms can be understood from careful reading of public record.


12. **Prior Art Documents and Dictionaries Are to Be Preferred Over Opinion Testimony, Whether by Attorney or by Artisan in Field of Technology To Which Patent Is Directed, When Interpreting Patent Claim.**
1. In construing patent claims, courts are not prohibited from examining extrinsic evidence, even when the patent document is itself clear.

2. It is entirely appropriate, perhaps even preferable, for a court to consult trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in the pertinent technical field, especially with respect to technical terms, as opposed to non-technical terms in general usage or terms of art in the claim-drafting art, such as “comprising.”

3. A patent is both a technical and a legal document, and, while a judge is well-equipped to interpret the legal aspects of the document, he or she must also interpret the technical aspects of the document, and indeed its overall meaning, from the vantage point of one skilled in the art.

4. In construing patent claim, district court could rely on extrinsic evidence in discussing collateral argument, made by patentee, that alleged infringer’s proffered construction would exclude preferred embodiment from scope of patent, although use of extrinsic evidence to contradict claim construction apparent from intrinsic evidence would have been improper.

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