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## Living Before, Through, and With *Markman*: Claim Construction as a Matter of Law

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# LIVING BEFORE, THROUGH, AND WITH *MARKMAN*: CLAIM CONSTRUCTION AS A MATTER OF LAW

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## INTRODUCTION

The issues surrounding the meaning and scope of patent claims are in most cases pivotal to the determination of whether an accused product or process infringes the patent in suit. These issues can also be central to the question of patent validity, which is typically challenged by a defendant sued for infringement. Although district courts in jury cases had discretion to leave questions of claim interpretation for the jury to decide *en route* to the jury's ultimate factual determination of infringement, and did so in many important patent trials, the Court of Appeals for the Federal Circuit concluded that the issue of claim interpretation was purely a matter of law within the exclusive province of the court. However, a minority of the Federal Circuit judges believed that the interpretation of patent claim language necessarily required the determination of underlying fact-based issues and was properly within the constitutionally mandated role of the jury.

To a large extent this debate was resolved in *Markman v. Westview Instruments, Inc.*<sup>1</sup> (“*Markman I*”), an otherwise factually unremarkable case, through a profound *en banc* Federal Circuit decision, holding that claim construction is a matter exclusively for the court, wholly outside the province of the jury and, thus, a pure question of law.

The *Markman I* decision was accompanied by a notably critical concurring opinion by the then Chief Judge of the Court<sup>2</sup> and a

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<sup>1</sup> 52 F.3d 967 (Fed. Cir. 1995).

<sup>2</sup> *Id.* at 989 (Mayer, C.J., concurring).

lengthy dissenting opinion.<sup>3</sup> Although the case was also heard and unanimously affirmed by the Supreme Court ("*Markman II*"),<sup>4</sup> considerable debate within the Federal Circuit and the patent bar followed, resulting in another *en banc* decision to clarify and confirm the *Markman I* decision on the issue of appellate review of claim construction issues.<sup>5</sup>

One of the rationales offered for rendering claim construction an issue purely for the court was to improve the efficiency and predictability of patent cases.<sup>6</sup> However, an equally evident but underlying basis for this conclusion was the belief among certain Federal Circuit judges that juries were not capable of correctly and consistently determining claim construction issues.<sup>7</sup>

The principal focus of this article is to address the procedural and substantive stages of a patent case from the viewpoint of how *Markman* claim construction raises important strategic ramifications for the parties and significant legal decision-making complications for the district court and appeals court. Many of the prominent opinions decided in the wake of *Markman* are referenced to illustrate and aid in the discussion. Reference will also be made to a prominent patent action in which the principal author was extensively involved.<sup>8</sup> This case was tried to a jury prior to *Markman I*, decided by the court on motions for judgment as a matter of law in between the Federal Circuit and Supreme Court *Markman* opinions, and reviewed by the Federal Circuit after the Supreme Court's *Markman II* decision.

## I.

### THE *MARKMAN* DECISIONS

#### A. *The Trial Court Ruling*

The case was tried before a jury, which was asked to interpret the meaning of a pivotal claim term on its way to rendering a verdict on infringement. The jury necessarily, but not expressly, agreed with the patentee's interpretation in finding infringement by the defendant. In deciding post-trial motions for judgment as a matter of law, however,

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<sup>3</sup> See *id.* at 999 (Newman, J., dissenting).

<sup>4</sup> *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

<sup>5</sup> *Cybor Corporation v. FAS Technologies, Inc.*, 138 F.3d 1448 (Fed. Cir. 1998) (*en banc*).

<sup>6</sup> See *Markman*, 52 F.3d at 979.

<sup>7</sup> *Id.* at 979, 989.

<sup>8</sup> *CVI/Beta Ventures, Inc. v. Tura LP*, 905 F. Supp. 1171 (E.D.N.Y. 1995), *rev'd and vacated in part*, 112 F.3d 1146 (Fed. Cir. 1997), *cert. denied*, 522 U.S. 1109, 118 S. Ct. 1039, 140 L. Ed. 2d 105 (1998); See also *Cybor Corp.*, 138 F.3d at 1476-77 (Rader, J., dissenting).

the court disagreed with the jury, adopted the defendant's claim interpretation, and entered judgment of non-infringement.<sup>9</sup>

### B. *The Federal Circuit Decision*

The patentee appealed the district court judgment and, during the appeal, the case was taken *en banc*. In *Markman I*, the Court of Appeals for the Federal Circuit affirmed the judgment and held that claim interpretation was a question of law reserved strictly for the court.<sup>10</sup> The Court reasoned that claim construction was a question of law, not fact, and as such, its determination by the court would better ensure reasonable certainty for competitors as to what is and what is not infringing.<sup>11</sup> This reasonable certainty would in part be ensured by the fact that a judge would apply as law established rules of construction.<sup>12</sup>

Reviewing the trial court's claim interpretation *de novo*, the Court noted that the trial court considered the claims themselves, the specification, and the prosecution history, together with expert testimony on how those skilled in the art would interpret the claims.<sup>13</sup> The Court reached its conclusion based only on the claims themselves, the specification, and the prosecution history, and rejected the expert testimony to the extent that it was inconsistent with the specification and prosecution history.<sup>14</sup>

*Markman I* attempted to define the proper uses of intrinsic and extrinsic evidence in the claim construction process. The Court held that claims should be construed primarily by reference to intrinsic evidence,<sup>15</sup> while extrinsic evidence may be helpful to explain scientific principles, technical terms, and terms of art that appear in the patent and prosecution history, and to demonstrate the state of the art at the

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<sup>9</sup> *Markman*, 52 F.3d at 982. The central claim interpretation issue was the meaning of the term "inventory" in a patent claim covering a dry-cleaning inventory control system. *Markman* argued that inventory included invoice totals of dollar amounts, while *Westview* argued that inventory pertained only to the articles of clothing. Holding for *Westview*, the trial judge ruled that the term inventory as used in the claims required the tracking of articles of clothing, not dollar amounts.

<sup>10</sup> *Id.* at 979.

<sup>11</sup> *Id.* at 979 ("... it is only fair (and statutorily required) that competitors be able to ascertain to a reasonable degree the scope of the patentee's right to exclude.").

<sup>12</sup> *Id.* at 978 ("The reason that the courts construe patent claims as a matter of law and should not give such task to the jury as a factual matter is straightforward: It has long been and continues to be a fundamental principle of American law that 'the construction of a written evidence is exclusively with the court'").

<sup>13</sup> *Id.* at 979.

<sup>14</sup> *Id.* at 982-983.

<sup>15</sup> *Id.* at 979 (Intrinsic evidence constitutes the claims, the written description, and the prosecution history.).

time of the invention.<sup>16</sup> Further, while extrinsic evidence may aid the court in understanding the patent, it may not be used to vary or contradict the claim terms.<sup>17</sup> The *Markman I* decision, however, gave little if any guidance as to how or when a district court should integrate its determination of claim construction into the traditional trial process.

### C. The Supreme Court Decision

In *Markman II*, the Supreme Court granted certiorari and unanimously affirmed the Federal Circuit, holding that claim interpretation was a matter of law exclusively for the court.<sup>18</sup> The Court addressed the policy implications of allowing a jury to engage in claim interpretation as opposed to reserving the task for the judge.<sup>19</sup> The Court concluded that judges are better at construing written instruments and that it would be the rare occasion where the interpretation hinged on the credibility of an expert.<sup>20</sup> The Court further emphasized the value of consistency and uniformity in patent claim construction, which would be “ill served by submitting issues of document construction to juries.”<sup>21</sup>

Because the focus of the Federal Circuit’s *en banc* opinion concerned the involvement of the jury in claim construction issues, the Supreme Court did not address the issue of appellate review of claim construction determinations, notwithstanding that it repeatedly provided that claim construction was not a purely legal matter.<sup>22</sup>

## II.

### THE EFFECT OF *MARKMAN* AND ITS PROGENY

There is little dispute that *Markman* and the issue of matter-of-law claim construction touch just about every aspect of a patent case, from pre-suit preparations, through discovery and trial, to the appeal. Neither the Federal Circuit’s *en banc* decision nor the Supreme Court decision, however, clearly addressed many important issues, such as the proper timing of a claim construction determination by the trial

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<sup>16</sup> *Id.* at 980 (Extrinsic evidence constitutes the expert and inventor testimony, dictionaries, and technical treatises and articles.).

<sup>17</sup> *Id.* at 981.

<sup>18</sup> *Markman*, 517 U.S. at 370.

<sup>19</sup> *Id.*

<sup>20</sup> *Id.* at 388-89.

<sup>21</sup> *Id.* at 391.

<sup>22</sup> *Id.* at 377-79 (The construction of a term of art following receipt of evidence is “a mongrel practice.”), at 388 (Claim construction “falls somewhere between a pristine legal standard and a simple historical fact.”), at 390 (Claim construction has “evidentiary underpinnings.”).

judge (particularly in a jury case), the role of the expert on issues regarding the meaning of technical claim terms, the standard of appellate review of a trial court's claim construction, and the trial court's role on remand when its construction is modified on appeal. Therefore, many district court and Federal Circuit opinions subsequent to *Markman* illustrate how the courts are still grappling with these important aspects of a patent case as affected by *Markman* claim construction.

### A. *The Markman Hearing*

The ultimate question of patent infringement, the central factual issue of most patent cases, often merges with the claim interpretation determination of the trial court. Therefore, timing of claim construction profoundly affects the strategies of the parties during all phases of a patent action. From the vantage point of the trial judge and the litigants, *Markman* has created deviations from the normal procedural course of litigation.<sup>23</sup>

District courts have developed a proceeding independent of the trial, which has become known as a *Markman* hearing, to accommodate the claim construction determination.<sup>24</sup> As such, the *Markman* hearing has become an important part of the patent litigation process. Some courts, however, have resisted conducting free-standing *Markman* proceedings, preferring instead to interpret claim language through conventional motion practice.<sup>25</sup> Arguably, combined hearings held in the context of formal motions for summary judgment or for preliminary injunction allow the judge to construe the claims in the context of the ultimate factual issue of infringement disputed by the parties.

Just as the issue of claim construction is solely for the court, the timing of a claim construction determination is also within the sole discretion of the court, with only the strict limitation in jury cases that

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<sup>23</sup> *Cybor Corp.*, 138 F.3d at 1474 (Rader, J., dissenting).

<sup>24</sup> William F. Lee & Anita K. Krug, *Still Adjusting to Markman: A Prescription for the Timing of Claim Construction Hearings*, 13 HARV. J.L. & TECH. 55, 68 (1999) (“... *Markman* hearings have become prevalent . . .”); see *Elf Atochem North America, Inc. v. Libbey-Owens-Ford Co., Inc.*, 894 F. Supp. 844, 850 (D. Del. 1995) (holding a two-day “*Markman* Trial”).

<sup>25</sup> *Mediacom Corp. v. Rates Technology, Inc.*, 4 F. Supp. 2d 17, 22 (D. Mass. 1998) (“Only through the use of traditional dispositive motions will the [c]ourt remain moored to familiar procedures and standards of decisions, and focus on the application of legal rules to discrete factual circumstances. Otherwise, the [c]ourt risks crafting elegant, but ultimately useless, statements of claim construction that fail to address the particular controversy before it.”).

the issue be decided before the jury is instructed.<sup>26</sup> As such, the timing of claim construction among district courts has generally been inconsistent, taking place before discovery, during or after discovery, in conjunction with preliminary injunction or summary judgment motions, or during trial.

Despite a potential efficiency advantage,<sup>27</sup> determining claim construction before the close of pre-trial discovery may be premature, because it commits the parties to a single claim meaning before the factual context of the case has developed.<sup>28</sup> Pre-discovery claim construction could foreclose the possibility of unearthing prior art and other evidence that may be inconsistent with a previously adopted claim interpretation.<sup>29</sup> Further, if a premature claim interpretation proved erroneous, a later modification by the district court would unnecessarily complicate and lengthen discovery, ultimately proving inefficient.<sup>30</sup> Thus, many courts are reluctant to determine claim construction before the close of discovery.<sup>31</sup>

The procedural strategy of the parties, in terms of whether and when to move for summary judgment or for a preliminary injunction, affects the nature and timing of the *Markman* hearing. Although a claim interpretation ruling is pivotal to the entire patent trial, *Markman* rulings are not subject to interlocutory appeal.<sup>32</sup> Thus, litigants have developed the practice of using preliminary injunction and summary judgment motions to obtain early claim construction rulings and possible pre-trial Federal Circuit review of the district court's claim construction.<sup>33</sup> Because the Federal Circuit is the final arbiter of

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<sup>26</sup> *Sofamor Danek Group, Inc. v. DePuy-Motech Inc.*, 74 F.3d 1216, 1221 (Fed. Cir. 1996) (“*Markman* does not obligate the trial judge to conclusively interpret claims at an early stage in a case.”).

<sup>27</sup> Mark L. Austrian & Shaun Mohler, *Timing is Everything in Patent Litigation—Fulfilling the Promise of Markman*, 9 FED. CIR. BAR JOURNAL 227, 230 (1999) (“Unfortunately, most district courts have not seen fit to hold these hearings before the parties have engaged in extensive and combative discovery.”). According to Austrian and Mohler, waiting until the close of discovery to hold a *Markman* Hearing defeats the main benefit of *Markman*—narrowing the issues for pre-trial and trial proceedings. *Id.* at 230.

<sup>28</sup> Constance S. Hutner *et al.* *Markman Practice Procedures and Tactics*, 572 PLI/PAT. 715, 722 (1999).

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> Austrian & Mohler, *supra* note 27, at 235; David H. Binney & Toussaint L. Myricks, *Patent Claim Interpretation after Markman—How Have the Trial Courts Adapted?*, 38 IDEA: J.L. & TECH. 155, 184 (1997) (proposing that the ideal time for claim construction is shortly after the close of discovery).

<sup>32</sup> *Cybor Corp.*, 138 F.3d at 1479.

<sup>33</sup> Rulings on preliminary injunctions are considered interlocutory decisions subject to appeal under 28 U.S.C. § 1292 (2000). Only the grant of a motion for summary judgment is considered a final decision subject to appeal. 28 U.S.C. § 1291 (2000); *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1313 (Fed. Cir. 1999) (Denial of a motion for sum-

claim meaning, litigants have tended toward obtaining the Federal Circuit's imprimatur on the claim construction as early as possible, thus avoiding the possibility of dual trials should the Federal Circuit reverse.<sup>34</sup>

Lastly, claims may be interpreted during trial, after the presentation of evidence, or just prior to jury instruction. As discussed below, delaying claim interpretation may also create several problems and ultimately undermine *Markman's* promise of efficiency and certainty in patent actions.

### B. Claim Construction and Summary Judgment

One effect of *Markman* has been that the parties, at an early stage of the case, focus their efforts not on preparation for trial, but on obtaining the Federal Circuit's imprimatur on a favorable claim construction. As a result, patent litigants have turned to pre-trial motions in an effort to obtain an early claim construction from the Court.

Before *Markman*, where claim meaning was ambiguous and extrinsic evidence presented equally plausible interpretations, courts would typically deny summary judgment.<sup>35</sup> However, since *Markman*, disagreement over claim-term meaning in the context of summary judgment does not necessarily create a genuine issue of material fact, simply because claim construction is a matter of law solely for the court.<sup>36</sup>

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mary judgment is not a final judgment subject to appeal.); *Elf Atochem North America, Inc.*, 894 F. Supp. at 857 ("As evidenced by this case and others pending in this court, in view of *Markman*, parties will now routinely move for the early resolution of the claim construction issue either under either Federal Rule of Civil Procedure 56 or 12(b)(6)."); *Austrian & Mohler*, *supra* note 27, at 230 ("[*Markman*] hearings are most often held in conjunction with preliminary injunction hearings, summary judgment motions, or trial.").

<sup>34</sup> *Elf Atochem North America, Inc.*, 894 F. Supp. at 857.

<sup>35</sup> *Id.* at 849 (Pre-*Markman*, "where affidavits from expert witnesses present equally plausible interpretations, courts would deny summary judgment and allow a jury to resolve the meaning of the claims based upon all evidence including credibility of expert witnesses."), citing *In re Mahurkar Double Lumen Hemodialysis Catheter Patent Litig.*, 831 F. Supp. 1354, 1359 (N.D. Ill. 1993) (Easterbrook, J.).

<sup>36</sup> *Southwall Technologies v. Cardinal IG Co.*, 54 F.3d 1571, 1578 (Fed. Cir. 1995) (granting summary judgment of non-infringement). Summary judgment on the issue of patent infringement involves determining: (1) the scope and meaning of the claims, and (2) whether the accused device or process falls within the scope of the claims as construed. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1577 (Fed. Cir. 1989). The former constitutes a question of law, while the latter constitutes a question of fact. *Id.* Summary judgment is appropriate when the admissible evidence fails to demonstrate a genuine issue of material fact and when the moving party is entitled to judgment as a matter of law. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1537-38 (Fed. Cir. 1991). A "genuine" issue is one that a reasonable jury, on the record before the court, could resolve in favor of the non-moving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248-49 (1986).



How to construe the claims in the context of summary judgment lies within the trial court's discretion. Neither *Markman* decision offered procedural guidance specific to summary judgment determinations. The district court may interpret the claims and resolve the summary judgment motion on a paper record, possibly with oral argument,<sup>37</sup> or it may hold a separate *Markman* hearing prior to ruling on the summary judgment motion.<sup>38</sup>

The Federal Circuit reviews the summary judgment finding as well as the underlying claim construction *de novo*.<sup>39</sup> Because the Federal Circuit has become in essence the final arbiter of claim meaning, it now appears to be in the parties' interest and in the interest of efficiency to place the district court's claim interpretation before the Federal Circuit as early as possible in the litigation process.<sup>40</sup>

### C. Expert Testimony and Other Extrinsic Evidence

As *Markman* and later cases teach, the court must construe patent claims based principally on an analysis of intrinsic evidence from the perspective of one skilled in the art.<sup>41</sup> However, based on the intrinsic evidence alone, a judge, who in most circumstances is untrained in the specific art, cannot realistically understand most technologically complex patents from the perspective of one of ordinary skill in the art.<sup>42</sup> Thus, the use of extrinsic evidence, particularly expert evidence, is essential for the court to have an accurate understanding of the technology and the claimed invention from the vantage point of one skilled in the art.<sup>43</sup>

The Federal Circuit has pronounced mixed and somewhat unclear views on the appropriate use of extrinsic evidence by the district court. These views arise principally from the Court's preference to

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<sup>37</sup> *Ekchian v. Home Depot Inc.*, No. 95-1273-A, 1995 WL 799588 (E.D. Va. Nov. 14, 1995), *vacated*, 104 F.3d 1299 (Fed. Cir. 1997); *Johansson v. Rose Displays Ltd., Inc.*, 924 F. Supp. 328 (D. Mass. 1996), *vacated*, 121 F.3d 727 (Fed. Cir. 1997); *R2 Medical Systems, Inc. v. Katecho, Inc.*, 931 F. Supp. 1397 (N.D. Ill. 1996).

<sup>38</sup> *Elf Atochem North America, Inc.*, 894 F. Supp. at 850.

<sup>39</sup> *Cybor Corp.*, 138 F.3d at 1456; *Conroy v. Reebok Int'l, Ltd.*, 14 F.3d 1570, 1575 (Fed. Cir. 1994).

<sup>40</sup> Under the *de novo* standard as thus far applied, there has been a significantly high incidence of obtaining reversal of a district court claim construction. *See Cybor Corp.*, 138 F.3d at 1476 (Rader, J., dissenting) (concluding that the high reversal rate on claim constructions provides no certainty at all and merely "opens the bidding").

<sup>41</sup> *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998).

<sup>42</sup> *Austrian & Mohler*, *supra* note 27, at 237. "What is the distinction between a trial judge's understanding of the claims and a trial judge's interpretation of the claims to the jury? Don't judges instruct the jury in accordance with their understanding of the claims? In practice, how does this court's lofty appellate logic work?" *Pitney Bowes Inc.*, 182 F.3d at 1314 (Rader, J., additional views).

<sup>43</sup> *Pitney Bowes Inc.*, 182 F.3d at 1309.

preserve *de novo* review of district court claim construction based on an analysis of the intrinsic evidence alone. The use of extrinsic evidence by district courts has varied because of these views. After hearing expert testimony, a court may determine that the testimony will be used solely to provide background for the relevant technology, relying entirely on intrinsic evidence to interpret the claims.<sup>44</sup> District courts are authorized, however, to use extrinsic evidence both to understand the technology and to construe the claims, where the intrinsic evidence alone “is insufficient to enable the court to determine the meaning of the asserted claims.”<sup>45</sup> However, the same Federal Circuit precedent directs that such circumstances and usage of extrinsic evidence “will rarely, if ever, occur” and that a district court cannot use extrinsic evidence to vary or contradict the claim terms.<sup>46</sup>

*Vitronics Corp. v. Conceptronic, Inc.*<sup>47</sup> remains perhaps the most controversial post-*Markman* Federal Circuit opinion specifically to address the use of extrinsic evidence for claim construction determinations. In *Vitronics*, the Federal Circuit articulated a seemingly simple rule: when the intrinsic evidence alone unambiguously describes the claim’s meaning, reliance on extrinsic evidence to construe the claim is improper.<sup>48</sup> The Court did not, however, explain how a judge, usually untrained in the pertinent art, could make such a determination unaided by extrinsic evidence such as testimony from a person skilled in the art. The Court did provide that, even when the claim meaning is clear from the intrinsic evidence, the court might use expert evidence “solely to help it to understand the underlying technology.”<sup>49</sup> Notably, *Vitronics* attempted to create a somewhat fictional distinction between the district court’s use of expert testimony to construe the claims and its use to assist the judge in understanding the technology.

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<sup>44</sup> *Cleanox Environmental Services, Inc. v. Hudson Environmental Services, Inc.*, 14 F. Supp. 2d 601, 604-605 (D.N.J. 1998); *Tridelta Indus. v. Frymaster Corp.*, 6 F. Supp. 2d 690 (N.D. Ohio 1998).

<sup>45</sup> *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996). See also *Thorn EMI North America, Inc. v. Intel Corp.*, 928 F. Supp. 449 (D. Del. 1996).

<sup>46</sup> *Vitronics Corp.*, 90 F.3d at 1584-85. See also *Neles-Jamesbury, Inc. v. Fisher Controls Int’l, Inc.*, 989 F. Supp. 393, 396 (D. Mass. 1998); *Johansson v. Rose Displays Ltd. Inc.*, 924 F. Supp. 328 (D. Mass. 1996), *vacated*, 121 F.3d 727 (Fed. Cir. 1997) (rejecting expert testimony that contradicted claim language); *Elf Atochem North America, Inc.*, 894 F. Supp. at 859.

<sup>47</sup> *Vitronics*, 90 F.3d at 1582.

<sup>48</sup> *Id.* at 1583 (“In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper.”).

<sup>49</sup> See *id.* at 1585 (“... testimony on the technology is far different from other expert testimony . . . on the proper construction of a disputed claim term. . .”). In *Vitronics*, the Court noted that, “[h]ad the district court relied on the expert testimony and other extrinsic evidence solely to help it understand the underlying technology, we could not say the district court was in error.” *Id.* at 1585.

*Vitronics* has also been interpreted and applied as casting a suspect light on expert testimony, in providing that prior art documents and dictionaries are more objective and reliable guides than expert testimony, which is inherently biased.<sup>50</sup> The Court found significant the fact that the “more objective” sources of evidence are accessible to the public in advance of litigation, obviously drawing an analogy to intrinsic evidence.<sup>51</sup> Ultimately, the Court concluded that these sources are to be preferred over opinion or expert testimony.<sup>52</sup> Because of the seeming curtailment *Vitronics* placed on the district court’s use of expert testimony, the scope and import of the decision became the subject of much debate.<sup>53</sup>

In *Pitney Bowes Inc. v. Hewlett-Packard Co.*,<sup>54</sup> the Federal Circuit provided a much-needed clarification of the *Vitronics* decision. The Court in *Pitney Bowes* explained:

*Vitronics* does not prohibit courts from examining extrinsic evidence when the patent document is itself clear. Moreover, *Vitronics* does not set forth any rules regarding the admissibility of expert testimony into evidence. Certainly, there are no prohibitions in *Vitronics* on courts hearing evidence from experts. Rather *Vitronics* merely warned courts not to rely on extrinsic evidence in claim construction to contradict the meaning of claims discernible from thoughtful examination of the claims, the written description, and the prosecution history—the intrinsic evidence.<sup>55</sup>

The Court thus held that expert evidence *may always* be used, *except to contradict* a claim construction that is unambiguously apparent from the intrinsic evidence. The Court provided that “under *Vitronics* it is entirely appropriate, perhaps even preferable, for a court to consult trustworthy extrinsic evidence [solely] 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.”<sup>56</sup>

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<sup>50</sup> *See id.*

<sup>51</sup> According to the canons of claim construction, a judge should use only intrinsic evidence if possible to construe the claims, because the content of the patent is available to the public and, therefore, should be interpreted to the extent possible in accordance with the public record. *Id.* at 1583.

<sup>52</sup> *Id.*

<sup>53</sup> According to Judge Rader, *Vitronics* “gave trial courts detailed guidance to avoid expert testimony in claim construction, ultimately condemning reliance on such testimony as ‘rarely, if ever,’ proper.” *Pitney Bowes Inc.*, 182 F.3d at 1314 (additional views of Rader, J., citing *Vitronics*, 90 F.3d at 1585).

<sup>54</sup> *Pitney Bowes, Inc.*, 182 F.3d 1298, 1308-09 (Fed. Cir. 1999).

<sup>55</sup> *Id.* at 1308.

<sup>56</sup> *Id.* at 1309.

A lesson learned from *Pitney Bowes* and *Vitronics* is the confusion that overbearing appellate court direction can cause as a result of a broad standard of appellate review. There is little doubt that *Vitronics*, rightly or wrongly interpreted, was applied prior to *Pitney Bowes* as the Federal Circuit's direction to the district courts that reliance on expert evidence in construing patent claims was "rarely, if ever" proper.<sup>57</sup> The additional view of one of the panel members in *Pitney Bowes* aptly puts *Vitronics* in proper perspective when it criticizes that case as having "discounted the relevance and helpfulness of testimony from experts skilled in the art to determine the meaning of claims."<sup>58</sup>

An extreme application of *Vitronics* contradicts the very statutory basis from which patents are to be understood from the perspective of one skilled in the art,<sup>59</sup> and it has resulted in misdirection in district court and Federal Circuit claim construction analyses. The *CVI/Beta* Federal Circuit decision is an example. There, the court adopted meanings of several technically laden terms of art used in the specification and file history, unaided by the extrinsic evidence of record, which would have assisted the court in reaching a more informed understanding of such terms.

Nonetheless, the Federal Circuit has been careful, even in light of *Pitney Bowes*, to avoid too much endorsement of expert evidence, since it is inherently factual in nature and in reality requires the court to make credibility determinations. Therefore, the fiction now exists that expert testimony is acceptable to educate the court, but is not "admissible" in the traditional sense as evidence subject to fact-based credibility determinations and standards of review.

#### D. Claim Construction and the Jury Trial

As stated in *Markman I*, "[I]n a case tried to a jury, the court has the power and obligation to construe as a matter of law the meaning of language used in the patent claim."<sup>60</sup> The Supreme Court in *Markman II* concluded that the court rather than the jury is more capable of determining claim construction.<sup>61</sup> *Markman* therefore created an obligation for the judge to instruct the jury on the meaning of the words in a claim before the jury deliberates on the factual issue of infringement.<sup>62</sup> This obligation requires the judge not merely to deter-

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<sup>57</sup> See *Vitronics*, 90 F.3d at 1585.

<sup>58</sup> *Pitney Bowes, Inc.*, 182 F.3d at 1314 (Rader, J., additional view).

<sup>59</sup> 35 U.S.C. § 112 (2000).

<sup>60</sup> *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995).

<sup>61</sup> *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 387.

<sup>62</sup> See *Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, 74 F.3d 1216, 1221 (Fed. Cir. 1996).

mine which party's respective claim interpretation is correct, but rather to determine independently the meaning of the claims and instruct the jury accordingly.<sup>63</sup>

In several pre-*Markman* cases, such as *CVI/Beta*, district courts submitted claim interpretation issues to the jury for its determination *en route* to the jury's ultimate infringement verdict.<sup>64</sup> In *CVI/Beta*, the district court made a preliminary interpretation of a key claim term in denying summary judgment of infringement, but allowed the parties to advance their respective claim interpretations at trial, ultimately submitting that issue for the jury to decide.<sup>65</sup> Under *Markman*, a district court judge is obligated to determine all claim construction issues and to instruct the jury accordingly before submitting the issue of infringement to the jury.<sup>66</sup>

In light of *Markman*, a litigant should consider the differences between a bench and a jury trial in terms of the effect on claim construction. In a bench trial, because the court decides both the legal and factual issues of infringement, the court may delay resolution of the claim construction issue until all of the evidence has been presented.<sup>67</sup> Thus, in a bench trial, the judge may choose to interpret the claims after developing a full picture of the invention and prior art, based on a complete factual record.<sup>68</sup> A claim interpretation made in light of the prior art and upon a complete understanding of the invention should be, in most cases, the preferred route to a more technically accurate claim construction.<sup>69</sup>

In jury trials, the preferred practice has been to construe the claims prior to the presentation of evidence.<sup>70</sup> Delaying claim construction until the close of the evidence may lead to jury confusion.<sup>71</sup> Further, early claim construction may place a case in a posture for early resolution before trial and avoid the possibility of dual jury trials.<sup>72</sup>

In a bench or a jury trial, early claim construction minimizes the amount of resources invested in a proceeding, should the Federal Cir-

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<sup>63</sup> *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1556 (Fed. Cir. 1995).

<sup>64</sup> *See CVI/Beta Ventures, Inc. v. Tura LP*, 905 F. Supp. 1171, 1177 (E.D.N.Y. 1995).

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

<sup>66</sup> *See Exxon*, 64 F.3d at 1556.

<sup>67</sup> *Phillips Electronics North America Corp. v. Universal Electronics Inc.*, 930 F. Supp. 986 (D. Del. 1996); *Elf Atochem North America, Inc.*, 894 F. Supp. at 857.

<sup>68</sup> *See Sofamor Danek Group, Inc.*, 74 F.3d at 1221.

<sup>69</sup> According to Austrian and Mohler, this rationale is inconsistent with *Markman's* theory that claim construction is independent of infringement and validity. Austrian & Mohler, *supra* note 27, at 235.

<sup>70</sup> *See Elf Atochem North America, Inc.*, 894 F. Supp. at 857.

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

<sup>72</sup> *Id.*

cuit reverse. Further, delaying claim construction until the close of evidence leads to multiple presentations of evidence for alternative claim constructions, which can render an already complex trial even more complex. In light of how pivotal claim construction is to the entire case and the Federal Circuit's plenary review of the issue, in most cases it is in the interest of the litigants and the judicial system to interpret claims as early in the litigation process as possible.<sup>73</sup>

### E. De Novo Review and the Factual Underpinnings of Claim Construction

The purported goal of *Markman I* was to advance the certainty of the meaning of a patent claim and to achieve this certainty early in the litigation process.<sup>74</sup> However, the Federal Circuit's plenary review under a *de novo* standard may, and in some cases has, undercut the promised benefits of *Markman I*. In *Markman II*, the Supreme Court did concede that there are factual underpinnings to claim construction determinations,<sup>75</sup> raising the logical question of whether *de novo* review is the appropriate standard.

In light of this apparent difference between the *Markman* decisions in terms of whether claim construction is a pure question of law, several Federal Circuit cases subsequent to *Markman* applied a clearly erroneous standard to purported fact-based questions relating to claim construction.<sup>76</sup> Thus, in *Cybor Corporation v. FAS Technology, Inc.*, the Federal Circuit again selected a factually and procedurally unremarkable case for *en banc* review, as an opportunity to emphasize that *Markman II* fully supports *Markman I*'s holding of claim construction as a purely legal issue, subject to *de novo* review on appeal.<sup>77</sup>

In *Cybor*, a notably critical dissent asserted that *Markman's* goal of certainty has been undermined by the *de novo* standard.<sup>78</sup> The dis-

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<sup>73</sup> Binney and Myricks, *supra* note 31, at 161-62.

<sup>74</sup> *Markman*, 52 F.3d at 979.

<sup>75</sup> *Markman*, 517 U.S. at 377-79 (the construction of a term of art following receipt of evidence as "a mongrel practice"), at 388 (claim construction "falls somewhere between a pristine legal standard and a simple historical fact"), at 390 (claim construction has "evidentiary underpinnings").

<sup>76</sup> See *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1558-59 (Fed. Cir. 1997); *Serrano v. Telular Corp.*, 111 F.3d 1578, 1586 (Fed. Cir. 1997); *Wiener v. NEC Elecs. Inc.*, 102 F.3d 534, 539 (Fed. Cir. 1996); *Metaullics Sys. Co., L.P. v. Cooper*, 100 F.3d 938, 939 (Fed. Cir. 1996).

<sup>77</sup> See *Cybor Corp.*, 138 F.3d at 1451.

<sup>78</sup> *Id.* at 1476 (Rader, J., dissenting) ("In implementation, a *de novo* review of claim interpretations has postponed the point of certainty to the end of the litigation process, at which point, of course, every outcome is certain anyway."), at 1476 (citing the Federal Circuit's own 1997 statistics that 53% of the cases from district courts have been reversed in whole or in part, and citing an independent study that since *Markman I*, 40% of all claim

sent provided that the Federal Circuit's "categorical response that claim interpretation involves no factual assessments" belies the reality that claim construction involves an assessment of custom and usage in the relevant art, events during prosecution, and the level of ordinary skill in the art, all of which have factual components.<sup>79</sup>

An extreme example of how *de novo* review can create uncertainty and defeat the purpose of *Markman* is illustrated by the *CVI/Beta Ventures* cases, in which the Federal Circuit reversed its own prior claim interpretation of the same patent claim language.<sup>80</sup> In *CVI/Beta Ventures, Inc. v. Custom Optical Frames, Inc.*,<sup>81</sup> the Federal Circuit affirmed a Maryland district court's claim interpretation rendered in the context of preliminary injunction proceedings.

In *Custom Optical*, the district court construed an important claim limitation, "3% elasticity" (in patents covering highly flexible shape-memory eyeglass frames), in favor of the patentees, and granted a preliminary injunction.<sup>82</sup> This decision was rendered by the Maryland district court after the jury verdict in *CVI/Beta Ventures v. Tura*, but before the New York district court's decision in that case on post-trial motions for judgment as a matter of law. In its decision, the New York district court construed the same claim language in patentee's favor, consistent with the Maryland district court in *Custom Optical*.<sup>83</sup>

On the ensuing appeal from the preliminary injunction in *Custom Optical*, the Federal Circuit in a unanimous nonprecedential opinion affirmed, and in doing so agreed with the Maryland district court's claim construction. In its opinion, the Court found that "[n]owhere in the specification, claims or prosecution history" (the intrinsic evidence) was there any indication "limiting the claim" to defendants' proffered (and narrower) claim interpretation.<sup>84</sup>

In the subsequent appeal in *CVI/Beta v. Tura*, however, the Federal Circuit completely changed its tack. Based on its review of the same intrinsic evidence, a different panel held that the claims meant completely the opposite of the prior district court and Federal Circuit

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constructions have been reversed in whole or in part), and at 1476 (discussing other "perverse effects" of the *de novo* standard, for instance, that the focus shifts from litigating the correct claim construction to preserving ways to compel reversal on appeal).

<sup>79</sup> *Id.* at 1478.

<sup>80</sup> *CVI/Beta Ventures, Inc. v. Tura, LP*, 112 F.3d 1146 (Fed. Cir. 1997).

<sup>81</sup> 1996 WL 338388 (Fed. Cir. 1996) (nonprecedential).

<sup>82</sup> *CVI/Beta Ventures, Inc. v. Custom Optical Frames Inc.*, 893 F. Supp. 508, 521-23 (D. Md. 1995).

<sup>83</sup> *CVI/Beta Ventures, Inc. v. Tura LP*, 905 F. Supp. 1171, 1175-83 (E.D.N.Y. 1995).

<sup>84</sup> *CVI/Beta Ventures, Inc. v. Custom Optical Frames, Inc.*, Nos. 96-1070, 95-1486, 1996 WL 338388, at \*\*2 (Fed. Cir. 1996).

claim construction, and reversed.<sup>85</sup> The Federal Circuit did so unaided by extrinsic evidence, concluding that “reliance on extrinsic evidence (e.g., expert testimony) is not necessary.”<sup>86</sup> In essence, based on review of the same intrinsic evidence as the prior *Custom Optical* panel, the Federal Circuit reversed itself.<sup>87</sup> It has been suggested that the outcome of the *CVI/Beta* cases is contrary to the purported goals of certainty and uniformity of claim construction outlined by the Federal Circuit and the Supreme Court in the *Markman* decisions.<sup>88</sup>

#### F. The District Court's Role on Remand

The decisions in *Exxon Chemical Patents, Inc. v. Lubrizol Corp.* are another example of potential uncertainty resulting from *de novo* appellate review.<sup>89</sup> Although *Exxon* is an extraordinary case, it shows how uncertainty in matter-of-law claim construction and ultimate infringement liability can remain even after full review by the Federal Circuit. A summary of the several twists and turns of the case best illustrates this point.

At trial the district court allowed the parties to argue and present evidence before the jury relevant to their conflicting claim interpretations and construed the claims after the close of evidence, but before instructing the jury.<sup>90</sup> The district court construed the disputed claim language consistent with the patentee's (Exxon's) preferred interpretation and instructed the jury accordingly, leaving the jury to determine literal infringement based on that construction.<sup>91</sup>

On appeal, however, the Federal Circuit disagreed with the district court's claim construction, adopted a claim construction based on (but broader than) that urged by the defendant (Lubrizol), and re-

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<sup>85</sup> *CVI/Beta Ventures, Inc. v. Tura LP*, 112 F.3d 1146, 1157-60 (Fed. Cir. 1997).

<sup>86</sup> *Id.* at 1157 n.6. The court reached this conclusion in apparent reliance on the *Vitronics* case, discussed *supra*. See 112 F.3d at 1152-53.

<sup>87</sup> See *Cybor*, 138 F.3d, 1476-77 (Rader, J. concurring.) The Federal Circuit in *CVI/Beta* was able to sidestep the *Custom Optical* decision on the basis that the claim construction was performed in the context of preliminary injunction proceedings and was issued as a nonprecedential decision. See *CVI/Beta* 112 F.3d at 1160 n.7.

<sup>88</sup> See *Cybor*, 138 F.3d at 1477 (Rader, J. concurring).

<sup>89</sup> *Exxon I*, 64 F.3d 1553 (Fed. Cir. 1995), *cert. denied*, 518 U.S. 1020 (1996); *Exxon II*, 137 F.3d 1475 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 877 (1998).

<sup>90</sup> See *Exxon I*, 64 F.3d at 1556.

<sup>91</sup> *Id.* at 1556-57. The issue of infringement under the doctrine of equivalents was not submitted to the jury because literal infringement was clear under the court's construction. A product or process not found to infringe literally may still be found to infringe under the doctrine of equivalents if substituted elements are insubstantial and/or where persons skilled in the art would have known of the interchangeability of an element at the time of the accused infringement. See *Warner-Jenkinson Co. v. Hilton Davis Chemical*, 520 U.S. 17, 24-25, 37 (1997).



versed.<sup>92</sup> Notwithstanding its pronouncement of a claim construction urged by neither party and broader than the defendant's, the Court refused to remand the case to the district court for a new trial on the issue of literal infringement.<sup>93</sup> The Court, however, provided that its judgment was "limited to literal infringement" and "express[ed] no view" on the question of infringement under the doctrine of equivalents, which was not briefed or argued to the panel.<sup>94</sup>

After the Federal Circuit's reversal, Exxon moved before the district court for a new trial on infringement under the doctrine of equivalents. The district court denied that motion on the basis that it had no authority to consider the merits of a new trial motion, in view of the Federal Circuit mandate.<sup>95</sup> Exxon appealed, and the Federal Circuit in *Exxon II* held that the district court did have authority on remand to consider the merits of a new trial motion for equivalent infringement because its mandate was limited to reversal only of literal infringement.<sup>96</sup>

The *Exxon* decisions clarify the respective roles of the appellate court and the district court on appeal and remand in determining the fact-based issues of literal and equivalent infringement when a district court's claim construction is modified on appeal. In this case, however, ultimate infringement liability remained in doubt even after reversal by the Federal Circuit and remand to the district court. The *Exxon* decisions further illustrate that matter-of-law claim construction and *de novo* review in a close case can operate to extend the ultimate resolution of an action beyond an appeal to the Federal Circuit, contrary to the benefits promised by *Markman*.

### CONCLUSION

The strict application of *Markman* claim construction principles, in cases like *Vitronics*, caused a severe swing of the pendulum in district court treatment and appellate review of patent actions. More recent cases, such as *Exxon II* and *Pitney Bowes*, suggest that the Federal Circuit is attempting to temper the application of *Markman* claim construction in certain respects. As all of these cases and the legal commentary since *Markman* show, however, the intended advantages and the legal basis for pure matter-of-law claim construction and *de novo* review are still open to debate. Serious questions remain

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<sup>92</sup> See *Exxon I*, 64 F.3d at 1558, 1561-62.

<sup>93</sup> *Id.* at 1560-61.

<sup>94</sup> *Id.* at 1555 n1.

<sup>95</sup> See *Exxon II*, 137 F.3d at 1477.

<sup>96</sup> *Id.* at 1477-78. The parties reached a settlement, and the action was dismissed before the district court ruled on Exxon's motion for a new trial.

as to whether *Markman* has promoted a more efficient and certain resolution of patent cases, particularly at the district court level. Further, as several cases tend to suggest, *de novo* review has promoted more appeals to the Federal Circuit and has resulted in the unintended lengthening of patent actions. The role of the expert as someone skilled in the art, who can provide context and greater understanding to assist the court with its considerable burden of interpreting claim language, also requires better legal definition and refinement. *Markman* and its progeny apparently sought to streamline patent actions by focusing issues at an early stage, narrowing discovery, and promoting greater certainty of patent claim meaning and coverage. But before these objectives are realized, important questions must be clarified and resolved.