

the Patent Office, called the "prosecution history" or "file history," can also help to determine what claim terms mean.

The goal of the claim construction process is, of course, to determine what the claim means to an artisan of ordinary skill in the relevant field. Although this presents an "objective" question, like the familiar "reasonable person" standard in tort law, one can readily see that a particular artisan's subjective opinion testimony about the meaning of the claim might be helpful to the judicial actor who must construe the claim. Not surprisingly, expert witness testimony has long been a regular feature in patent infringement trials. And this is the germ of the conflict that ultimately led to the *Markman* case.

As a practical matter, one can see that claim construction involves both legal interpretation and fact-finding. The patent itself is a legal document, like a statute or a contract, but it is grounded in facts about a particular technological domain. Both the patent and its interpretation are thus hybrids of law and fact, and, like all law/fact hybrids, are hard to accommodate. First, we allocate decisional authority at trial based on the law/fact distinction (juries find facts, judges declare law), and claim construction does not fit easily into either category. Second, under the U.S. Constitution's Seventh Amendment,¹⁰ the jury's fact-finding role has constitutional significance. As a result, the proper allocation of decisional authority over claim construction presents a constitutional question. Third, appellate judges apply very different standards of review to findings of fact and to conclusions of law. Findings of fact are reviewed quite deferentially on appeal and thus are rarely disturbed, whereas conclusions of law are given plenary, or "de novo," review and thus are often modified on appeal. Again, claim construction does not fit easily within either standard of

appellate review.

Every patent infringement case in which an expert witness plays an important role in the claim construction phase highlights the awkwardness of treating claim-construction as a matter of law exclusively for the court. So it comes as no surprise that, prior to the *Markman* case, a fairly line had developed in the Federal Circuit's case law on the status of claim-construction as fact or law. Although all cases treated the "ultimate question" of claim construction as a question of law, one line of cases treated the entirety of the claim construction process as a question of fact exclusively for the court, and a conflicting line of cases treated the interpretation of a disputed claim term as an underlying question of fact for the jury. In November 1995, the Federal Circuit ordered that the *Markman* case be reheard *in banc* in order to resolve the conflict between these two lines of authority.

Markman

Markman alleged that *Markview's* inventory system infringed his patent for an inventory control device capable of monitoring and reporting upon the location of articles of clothing in a dry cleaning or laundry establishment. The case turned on the interpretation of the terms "report" and "inventory" in the patent claims. At trial, *Markman* presented an expert witness who testified that "report" meant "inventor," and that "inventory" meant "cash or invoices."¹¹ The jury returned a verdict of infringement in *Markman's* favor. But the district court set the verdict aside on a directed motion for directed verdict. Concluding that claim construction was a matter of law for the court, the judge rejected the definitions of key claim terms advanced by *Markman's* expert witness.

These definitions are contrary to the ordinary and customary meaning of these terms, as well as to the obvious meaning intended by the patentee. Dependent from the specifications, the drawings and the limitations of the original patent and the patent in suit, Markman's witness expert

testimony is based on an artificial interpretation of key words and phrases.¹²

The fact of reargumentation followed readily from the claim construction adopted by the district court, and judgment was ordered in *Markview's* favor.¹³

By a vote of 8 to 3, the Federal Circuit affirmed the district court's decision. First, the court overruled prior Federal Circuit cases treating claim construction as a question of fact, holding that "the court has the power and obligation to construe as a matter of law the meaning of language used in the patent claim."¹⁴ Second, the court allowed that "intrinsic evidence" (i.e., report and inventor testimony, dictionaries, lexical treatises) "may be helpful to explain scientific principles, the meaning of technical terms, and terms of art that appear in the patent and prosecution history,"¹⁵ and left it within the trial court's discretion to receive these types of evidence. The court also warned, however, that such "extrinsic evidence is to be used for the court's understanding of the patent, not for the purpose of varying or contradicting the terms of the claims."¹⁶ Finally, the court suggested that the trial court should construe the claims early on in the case, and certainly before sending the question of infringement to the jury.¹⁷ Two concurring opinions and one dissent criticized the majority's decision in the strongest possible terms.

The sharp disagreement among the Federal Circuit's judges on so fundamental a question of patent law virtually guaranteed that the U.S. Supreme Court would agree to review the case, and it did so in mid-1997. Turning solely *Markman's* claim to a Seventh Amendment right to have a jury, rather than a judge, determine the meaning of disputed terms in his patent claim, in April 1998 the Supreme Court affirmed the Federal Circuit's decision. According to the Supreme Court, "the construction of a patent,

¹⁰ "The Seventh Amendment provides that "[i]n suits at common law, where the value in controversy shall exceed \$5,000, shall be preserved to the parties as it was in the Case of the United States, the right of trial by jury of the common law." U.S. Const., amend. 7.

¹¹ *Markman*, 118 F.3d at 1362.

¹² 8 F.3d at 1362.
¹³ 8 F.3d at 1362, 1374 (Fed. Cir. 1995).
¹⁴ Id. at 1362.
¹⁵ Id. at 1362-63.
¹⁶ Id. at 1362-63.

not seem improper to deny the preliminary injunction on the ground that the patent has not shown a clear entitlement to this drastic form of relief.

• Motion Denied •

The Federal Circuit squarely addressed this question in its March 1987 decision in *International Communication Materials, Inc. v. Risch Company, Ltd.*¹⁷ The district court denied Risch's motion for a preliminary injunction, in part because, in its view, "there are substantial open issues and questions that must be litigated before a finding of infringement can be made, including claim interpretation."¹⁸ Risch appealed, contending that it was improper for the court to delay adjudicating at a definitive claim construction. The Federal Circuit disagreed.

It seems to us that when a district court judge, in the present case, acknowledges that "there are substantial open unresolved questions that must be litigated" pertaining to claim construction and has made a determination that the motion is unlikely to succeed on the merits (pursuing interrogatory voir dire to an appellate court, along with those of discovery, should be to provide the district judge and parties the opportunity to explore the issues that do not regard it to our motion under these circumstances to definitively construe Item 1 of the independent claim to define its claim language), the district court's tentative construction without the more complete record that the district court deemed necessary to its essential decision.¹⁹

In other words, district courts are permitted to arrive at and set aside a "tentative construction" of the claim.

The Federal Circuit's reasoning in the *Risch* case takes the interesting possibility of a claim construction that changes over the life of the patent suit. Consider the following scenario: A district court grants a patentee's motion for a preliminary injunction on the basis of a tentative claim construction. On appeal, the Federal Circuit sustains that preliminary injunction and, by inference, the tentative claim con-

struction. Later, as the litigation proceeds, the district court no longer adheres to that tentative claim construction, but instead definitively construes the claim in a way that precludes infringement and enters judgment in the defendant's favor. Will this judgment also be affirmed on appeal? It may or may not be, depending on whether the Federal Circuit agrees with the district court's definitive claim construction. In any event, under the logic of *Risch*, the fact that the Federal Circuit sustained the preliminary injunction against the accused infringer is not a "law of the case" that would preclude judgment in the defendant's favor on the basic question of infringement.

Ratifications of the *Blithman* doctrine, such as the one explored in the *Risch* case, will no doubt occupy the Federal Circuit for some time to come.

Causes of Claim Construction

As we noted above, in *Blithman* both the Federal Circuit and the Supreme Court emphasized the patentee's status as a legal drafter in deciding to leave its construction entirely to the trial judge. Indeed, the Federal Circuit went so far as to make an extended comparison between a patent and a statute:

Indeed, like patents, are private rights against the public, unlike private agreements between contracting parties. When interpreting statutes, a court looks to the language of the statute and assumes it according to the traditional rules of statutory construction. Including, certain well known causes of construction, a court may also find it necessary to review the legislative history of the statute, which is itself a matter of public record, just as the specification and prosecution history of a patent are public records. While a patent may seek from the public record to ascertain the collective intent of Congress when it enacts a statute, the interpretation of any particular statute involved in the legislative process is not determinative. . . . Similarly, the collective meaning that a patentee may ascribe to claim language is not determinative. But, if the public would that a court should look to a patent interpretation, one is first the drawing of claim language.²⁰

The court's analogy reinforces the principle established earlier in

its opinion, and echoed by the Supreme Court, that patent claims must be construed primarily by inference to the public patent record that is available to everyone, rather than by reference to the testimony of an expert who is unsworn before the trial, or the self-serving testimony of the inventor. Under this document-focused regime, general causes of claim construction are likely to play an increasingly important role.

New causes of claim construction have already begun to appear in the Federal Circuit decisions. For example, two cases from 1986 follow a rule akin to *Blithman* precisely, according to which an ambiguous contract provision is construed against the drafter. In *Athletic Alternatives, Inc. v. Price Mfg., Inc.*, the first such decision, the court exhaustively analyzed the claim language, the writer's description of the invention, and the patent's prosecution history. It concluded that "[i]n view of the claim, the specification, nor the prosecution history establish[ed] the meaning of the disputed phrase."²¹ To break the tie between the equally plausible claim interpretations, with which it was confronted, the court turned to the statutory requirement served by the statutory requirement that the patentee "particularly point out and distinctly claim" the invention.²² According to the Federal Circuit, "[w]here there is an equal choice between a broader and a narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having the narrower meaning, we consider the better function of the claim to be best served by adopting the narrower meaning."²³

The *Athletic Alternatives* rule has been applied again in at least one subsequent Federal Circuit case, *United Data-Design, Inc. v. United States Surgical Corp.*²⁴ In *Blithman*, the court construed the disputed claim narrowly on the ground that "a patent claim may be interpreted only as broadly as its unambiguous

¹⁷ 808 F.2d 106 (Fed. Cir. 1987).

¹⁸ 751 F.2d 1083 (quoting district court's decision).

¹⁹ 808 F.2d at 108-9.

²⁰ 808 F.2d at 107 (internal citation omitted).

²¹ 785 F.2d 1011, 1016 (Fed. Cir. 1986).

²² 35 U.S.C. § 112, 2.

²³ 785 F.2d at 1016.

²⁴ 785 F.2d 1011 (Fed. Cir. 1986).

scope," citing *Ashles's Alternative*.¹⁷ Other cases of claim-construction are cited to follow.

The Changing Role of the Expert Witness — In *Markman*, the Supreme Court acknowledged that claim construction has been and will remain, "a mixed practice."¹⁸ "It involves both law and fact. Giving all aspects of claim-construction to the courts probably has increased the predictability of patent infringement determinations, at least as to literal infringements, because judges are at least marginally if not significantly more likely than juries to accord primary importance to the publicly available patent record. But, of course, no amount of judicial control over claim construction, and no amount of aspiration for a process that resolves claim construction disputes entirely on the basis of the paper record, can remove the expert witness from the courtroom. Why not? Because, at a minimum, generalist judges will continue to require rationale on the dizzying array of technologies that patent cases bring before them. Indeed, the Supreme Court and the Federal Circuit agreed, in their respective decisions in *Markman*, that a district court enjoys broad discretion to receive evidence extrinsic to the patent documents — such as the testimony of experts (including the inventor), treatises, and technical and regular dictionaries — if doing so will help it better construe the disputed claim terms.

And so the last few decades of the heart of claim construction that predated *Markman*, and that helped to cause the split in authority that brought about the need for *Markman*, has remained. On the one hand, the patent record is the primary and determinative source of a claim term's meaning. On the other hand, the final arbiter of the claim term's meaning — a district court judge, or a panel of Federal Circuit judges — can rely on expert testimony and other extrinsic evidence as much as is necessary, so long as the busy boundary be-

tween "understanding the patent" technology and "varying or constraining claim terms" is not crossed.

Not surprisingly, the Federal Circuit continues to grapple with the proper use of expert testimony at the claim construction phase, and to police the boundary between "understanding the patent" and "varying or constraining claim terms." In *Markman* itself, the Federal Circuit affirmed as the district court's rejection of the expert testimony that the patentee offered in its behalf. The district court found the expert testimony "antediluted" and it holds with the documentary record, and the Federal Circuit agreed. The Supreme Court endorsed this approach by emphasizing the substance of expert testimony to the primary goal of preserving "the patent's intended coverage."¹⁹

The Federal Circuit has further elaborated on the proper and improper uses of expert testimony in its decisions. For example, in *Vicor Corp. v. Conspectiv, Inc.*,²⁰ a case involving a method for soldering devices to a printed circuit board, infringement turned on the proper meaning of the phrase "solder reflow temperature." Specifically, the patentee contended that "solder reflow temperature" should be construed as "peak reflow temperature" (i.e. the temperature at which the solder is completely melted and moves freely), whereas the accused infringer contended that the "solder reflow temperature" should be construed as the "liquidus temperature" (i.e. the temperature at which the solder begins to melt).²¹ The patentee relied on the specification, which carefully distinguished reflow from liquidus temperature, while the accused infringer contended with extrinsic evidence, including the testimony of an expert witness, tending to show that in some contexts reflow and liquidus temperatures were used interchangeably. Reversing the district court's decision in favor of the accused infringer, the Federal Circuit commented on

the proper use of such extrinsic evidence:

In this case, although the public would understandably describe the expert of the patented invention, reliance on any extrinsic evidence is improper. The claims, specifications, and file history, rather than extrinsic evidence, contain the public notice of the patentee's claim, a notice on which the public is entitled to rely in other words, competitors are entitled to ensure the public notice apply the established rules of claim construction, not, according to the scope of the patentee's claimed invention and, thus, change around the claimed invention. Following the public notice, the public should be allowed to "dig for" extrinsic evidence (including at least, such as expert testimony, would make this right meaningless. . . . Since the claim, read in light of the patent specification, clearly says the term "solder reflow temperature" to mean the peak reflow temperature, rather than the liquidus temperature, that construction is correct and should not be overturned. Undoubtedly, there is that edge where the extrinsic evidence is very or completely material to the meaning of the claim. . . . The court's reliance on testimony to show that those details in the art would, in certain circumstances, "antedilute" "solder reflow temperature" to mean the liquidus temperature is entitled to no weight in light of the specification meaning shown in the specification. Because the specification clearly and unambiguously defined the disputed term in the claim, reliance on the extrinsic evidence was unnecessary and, hence, legally incorrect.²²

Throughout its analysis, the court emphasized the importance of using the public patent documents as the touchstone of claim construction. Some subsequent Federal Circuit²³ and district court²⁴ decisions have remained true to this approach.

When combined with the scope of claim construction established in *Ashles's Alternative* and *Edison*, according to which ambiguities in claim scope are construed against the patentee (i.e. against a finding of infringement), the *Markman*-*Winnick* approach establishes a

¹⁷ 517 F.2d 1363, 1367 (CA-10, 1975) (affirming the claim construction made by the district court, but stating that the district court's decision was "not necessarily correct").
¹⁸ 517 U.S. 379, 394 (2006).
¹⁹ 517 U.S. 379, 394 (2006).
²⁰ 417 F.3d 1347, 1352 (CA-10, 2009).
²¹ 417 F.3d 1347, 1352 (CA-10, 2009).
²² 417 F.3d 1347, 1352 (CA-10, 2009).
²³ See, e.g., *Edison Co. v. Edison Co.*, 15 F.3d 1034, 1037 (CA-10, 1994).
²⁴ See, e.g., *Edison Co. v. Edison Co.*, 15 F.3d 1034, 1037 (CA-10, 1994).

²⁵ 517 U.S. 379, 394 (2006) ("Understand that the claim is ambiguous, a narrowing construction which excludes the allegedly covered subject matter must be adopted.")
²⁶ 517 U.S. 379, 394 (2006).

²⁷ *Markman*, 517 U.S. 379, 394 (2006).
²⁸ 517 U.S. 379, 394 (2006).
²⁹ 517 U.S. 379, 394 (2006).

powerful framework for reliably analyzing any infringement question: (a) review the claim, the writer's description of the invention proceeding to, and the prosecution history to determine whether the disputed term is clearly defined; (b) if the term is clearly defined, apply that definition; (c) if the term is not clearly defined, adopt the narrower of the two competing alternatives. Under this regime the only way that a trial court can properly take de expert testimony and other extrinsic evidence is to improve its general/background understanding of the technology at issue. In addition, because the proper use of extrinsic evidence is carefully constrained, the trial court's discretion to admit such evidence should not undermine the predictability of outcomes that both the Federal Circuit and the Supreme Court sought to enhance in the *Markman* decisions.

Sadly, some post-*Markman* decisions stray from this predictability-enhancing methodology. For example, in *Merck Controls Corp. v. BP Chemicals Ltd.*,¹⁷ a case authored by the *Markman* dissenter in March 2004 (prior to both the Supreme Court's affirmation of *Markman* and the Federal Circuit's decision in *Virtuous*), the court affirmed a jury verdict in the patentee's favor on the basis of the named inventor's testimony. The patent documents did not clearly favor one of the parties' competing definitions over the other, and both parties presented dictionary definitions that supported their respective interpretations of the claim, as well as testimony from technical experts. To break the tie between the competing definitions, the court relied on the testimony of the named inventor of the patent, noting that the district court had found him "highly credible" and indicating that his testimony enhanced the panel's understanding of "the scope of the disputed terms."¹⁸ The court's approach in *Merck* sharply

contrasts both with *Virtuous* and *Markman*, which treat self-serving inventor testimony with the utmost suspicion, and with *Atlantic Alternative and Fitness*, which require the court to construe ambiguous in-claim usage against, not in favor of, the patentee. Those who advocate for a more predictable method of infringement analysis can only hope that *Merck*, authored during the transition before the Supreme Court affirmed *Markman*, remains an anomaly.

The Future of Claim Construction — The professed goal of both *Markman* decisions is to make infringement analysis more predictable and reliable. To help realize this goal, both the Federal Circuit and the Supreme Court drew a distinction between using extrinsic evidence to learn more about the technology at issue and using it to resolve the choice between competing constructions of a disputed claim term. In decisions like *Virtuous*, the Federal Circuit continues to clarify and to police this key boundary between "understanding the patent" technology and "varying or contradicting claim terms."¹⁹ Without such continued elaboration and vigorous policing, the unconstrained discretion that *Markman* gives to trial judges to receive as much or as little extrinsic evidence as they like, and to give any piece of that testimony as much or as little weight as they like, may well undermine the predictability that *Markman* sought to achieve. In other words, to allow the trial court the unfettered discretion to receive and rely on evidence outside the patent documents without strictly policing the substantive use to which the court puts it would destabilize infringement analysis, reverting the patentee who arbitrarily drafts his claims with an opportunity to renege his claims with the help of a persuasive "hired-gun" expert after his patent has issued and he has the benefit of access to his competitor's product.

Although decisions such as *Virtuous* and *Altius* suggest that the Federal Circuit is serious about requiring district courts to construe claims by exhausting the guidance that the patent documents them-

selves provide, rather than simply pushing the issue proactively of two competing experts, conflicting decisions such as *Merck Controls* are already in the reports. Unless the judges of the Federal Circuit continue to enforce the mandate and the goal of *Markman* consistently and vigorously in the years to come, any gains in predictability will be fleeting and the elimination of juries from the claim-construction process will have been in vain.

THE DOCTRINE OF EQUIVALENTS

Claims and Equivalents: A General Alliance?

Courts have applied the doctrine of equivalents since the dawn of the first U.S. patent statute. Justice Story, riding circuit, observed that "[j]ust subtle differences, or slight improvements, cannot shake the right of the original inventor."²⁰ The Supreme Court first endorsed the doctrine in 1854, in *Whitson v. Dewanet*,²¹ and reaffirmed its viability a century later, in *Grain Processing v. AGG, Co. v. Line Air Products*.²²

But the doctrine of equivalents, despite its excellent pedigree, has never been free from controversy. *Whitson* and *Grain* took very broad splits, with sharp dissents complaining that the doctrine of equivalents would imperil uncertainties into infringement analysis that would harm the long-term health of the market for technological innovation. The underlying problem has always been the same, namely, how does one adequately protect the patentee from an infringer who trespasses on the "spirit" (if not the letter) of the claimed invention, while at the same time giving the public adequate notice of the scope of the claimed invention so that it can reliably design around the claimed invention and/or avoid infringement liability? Rather than sacrifice one of these two goals (full protection for the patentee, adequate public notice of the scope of patent protection) to the other, the

¹⁷ 351 F.3d 1312 (CA-11, 2004).

¹⁸ 351 F.3d at 1317, 1321 (citing, *in part*, 349

F.3d 1388, 1392 (CA-11, 2004)).

¹⁹ 351 F.3d 1385 (Fed. Cir. 2004), *cert. denied*, 117

S. Ct. 2004-1098.

²⁰ 10 U.S. 102 (1804).

²¹ 10 U.S. 102 (1804).

²² 10 U.S. 102 (1804).

²³ 10 U.S. 102 (1804).

ments have struck a precarious balance between them: the patentee can recover against those whose activities are "beyond any permitted interpretation of the claim language,"³⁰ but only if the defendant is beyond the scope of the claim language as "insubstantial."³¹

Implementing the doctrine of equivalents has caused its share of trouble in the Federal Circuit over the years. In the mid-1980s, the issue became divided over whether infringement under the doctrine of equivalents should be assessed by comparing the claimed invention as a whole to the accused product or process as a whole, or rather by determining whether every claim limitation is met literally or by an equivalent.³² In 1987, the Federal Circuit, sitting en banc in the *Formal case*,³³ resolved this controversy in favor of the "limitation-by-limitation" approach, now known as the "all limitations rule."³⁴

Similarly, in the early and mid-1990s, the issue became divided over whether the doctrine of equivalents is a truly equitable doctrine, available only after a showing of some bad faith conduct on the accused infringer's part, or instead was available to every patentee who could show that the accused product or process differed only insubstantially from the claimed product or process. The doctrine had, of course, long been acknowledged as a way to provide patentees the full measure of protection for their inventions, and was thus a matter of fairness to all patentees. But the Federal Circuit began to suggest that the doctrine was truly equitable, like injunctive relief, and warned that its application should be "the exception [and] not the rule."³⁵ Indeed, some lower

courts took the bait, imposing an equitable threshold test before permitting a patentee to assert infringement by equivalents.³⁶ As the controversy regarding "invention as a whole" versus the "all limitations rule" test receded into the past, the controversy regarding the "equitable threshold" versus "every case" standards took its place, and this later controversy stood at the center of the *Warner-Jenkinson* case.

Warner-Jenkinson

Hilton Davis alleged that Warner-Jenkinson infringed its '746 patent, directed to a process for purifying dye solutions by "ultrafiltration" through porous membranes at specified pressures, pore diameters, and pH levels. Claim 1 of the '746 patent, the only independent claim asserted in the case, was limited to a process conducted at "a pH level approximately 8.0 to 9.8."³⁷ Warner-Jenkinson's process, unlike the claimed process, operated at a pH of 5.8, pH in total. Hilton Davis thus conceded that there was no literal infringement, and proceeded solely on a doctrine of equivalents theory.³⁸

The jury found in Hilton Davis' favor. The district court denied Warner-Jenkinson a motion for a post-verdict judgment of noninfringement as a matter of law, and a sharply divided Federal Circuit affirmed the judgment of infringement.³⁹ By a 7-5 vote, the Federal Circuit held that (a) the doctrine of equivalents is a legal (not an equitable) doctrine available to every patentee who can show that the accused product or process meets every limitation of the claim either literally or by an equivalent, (b) the question of equivalency is one of fact for the jury if properly

presented, and (c) the proper test for equivalency is "insubstantial differences," one index of which is the familiar bipartite "functional way/result" test from *Grain Test*.⁴⁰ In doing so, the court expressly rejected Warner-Jenkinson's contention that the Patent Act of 1952, and particularly its provision for non-patent families claims in section 112, paragraph 6, abrogated the doctrine.⁴¹ Finally, on the particular facts of the case, the court concluded that Hilton Davis had successfully proved infringement under the doctrine of equivalents according to the proper standards.

One of the defenses the court rejected in affirming the judgment in Hilton Davis' favor was prevention. Hilton Davis' theory was prevention because it sought the doctrine to prevent the patentee from using the doctrine of equivalents to recapture coverage that was relinquished during prosecution of the patent.⁴² It was undisputed that Hilton Davis had added the "pH level approximately 8.0 to 9.0" limitation to claim 1 during prosecution in order to overcome a prior art rejection based on a patented process operating at pH levels above 9.0.⁴³ Warner-Jenkinson contended that this claim amendment should strip Hilton Davis from asserting equivalent infringement, but the Federal Circuit disagreed. Because the prior art involved pH levels above 9 only, and did not address pH levels below 8, the court concluded that the "amendment surrendered pHs above 8, but does not bar Hilton Davis from asserting equivalency to processes such as Warner-Jenkinson's operating sometimes at a pH below 8."⁴⁴

On March 3, 1993, in a unanimous opinion, the Supreme Court reversed part of the Federal Circuit's decision in *Warner-Jenkinson* and remanded the case for further proceedings.⁴⁵ Indeed, the Supreme Court reversed only one aspect of the Federal Circuit's deci-

³⁰ *Hilton Davis v. Warner-Jenkinson Corp.*, 793 F.2d 1261, 1265 (9th Cir. 1986), *aff'd*, 804 F.2d 1261, 1265 (9th Cir.), *cert. denied*, 484 U.S. 961 (1987).

³¹ *Grain Test*, 338 U.S. 17, 18 (1950).

³² *Grain Test*, 338 U.S. 17, 20 (1950); *Formal*, 804 F.2d 1261, 1265 (9th Cir. 1986), *aff'd*, 804 F.2d 1261, 1265 (9th Cir.), *cert. denied*, 484 U.S. 961 (1987).

³³ *Formal*, 804 F.2d 1261, 1265 (9th Cir.), *cert. denied*, 484 U.S. 961 (1987).

³⁴ *Formal*, 804 F.2d 1261, 1265 (9th Cir.), *cert. denied*, 484 U.S. 961 (1987).

³⁵ *Warner-Jenkinson v. Hilton Davis*, 793 F.2d 1261, 1265 (9th Cir. 1986), *aff'd*, 804 F.2d 1261, 1265 (9th Cir.), *cert. denied*, 484 U.S. 961 (1987).

³⁶ *See, e.g., Matter of*, 715 F.2d 1261, 1265 (9th Cir. 1983), *aff'd*, 804 F.2d 1261, 1265 (9th Cir.), *cert. denied*, 484 U.S. 961 (1987).

³⁷ 746 Patent, claim 1.

³⁸ 746 Patent, claim 1.

³⁹ 746 Patent, claim 1.

⁴⁰ 746 Patent, claim 1.

⁴¹ 746 Patent, claim 1.

⁴² 746 Patent, claim 1.

⁴³ 746 Patent, claim 1.

⁴⁴ 746 Patent, claim 1.

⁴⁵ 746 Patent, claim 1.

sion, using the case to create a new presumption of prosecution history estoppel that applies whenever the patentee cannot explain the reason for a claim amendment made during prosecution. According to the Court, in its prior decisions on the question, "prosecution history estoppel was tied to amendments made to avoid the prior art, or otherwise to address a specific concern—such as obsolescence—that arguably would have rendered the claimed subject matter unpatentable."¹⁷ In the case at bar, however, the prior art questions explained only the upper bound of S.O. included in the amendment, and not the lower bound of S.O. The Court said this contrasted with the choice between two default rules regarding unexplained amendments: (a) unexplained amendments run in favor of the patentee, i.e. do not create an estoppel, or (b) unexplained amendments run in favor of the accused infringer, i.e. do create an estoppel. Out of "deference to the role of claims in defining an inventor's and providing public notice," the Court chose the latter rule.

Instead, the claim included new both additional and revised features, so that the better rule is to (a) look to the reason for the amendment to establish the reason for an amendment-related presumption, (b) find that the patentee's explanation that reason is sufficient to overcome prosecution history estoppel or else to overcome the presumption of estoppel to the claims added to the amendment. Where an explanation is established, however, (b) does indeed presume that the PVE has a substantial reason related to patentability for including the leading claims added to all amendments in those circumstances, prosecution history estoppel would bar the application of the doctrine of equivalents, or to that extent.¹⁸

Because the Federal Circuit had effectively followed the opposite rule, leaving the *Wilson Davis* "unexplained addition of the lower bound of S.O. to the claim recs in the patentee's favor, the Supreme Court reversed this aspect of the decision and remanded the case for further proceedings on this point.

The Supreme Court shared the Federal Circuit's views on the re-

marking-questions presented. First, the Court rejected the contention that the doctrine of equivalents was abrogated by the 1952 Patent Act.¹⁹

Second, the Court endorsed the strict inference to the "all limitations rule," holding that "the doctrine of equivalents must be applied to individual elements of the claim, and not to the invention as a whole," and that "the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety."²⁰

Third, the Court concluded that the doctrine of equivalents is a legal, not an equitable, doctrine available to every patentee.²¹

Fourth, the Court endorsed the Federal Circuit's conclusion that the proper time for assessing "equivalency" is at the time of infringement, not at the time the patent was issued.²²

Fifth, the Court left it to the Federal Circuit to craft the proper test of the test of equivalency, indicating that "differences in intrinsic features (i.e., 'substantial differences' versus 'transient/equivocal') may be more suitable to different cases, depending on their particular facts."²³ In short, nearly all aspects of the Federal Circuit's decision in the case remain intact.

One point regarding the Supreme Court's decision remains. Because the Court reversed the Federal Circuit's decision insofar as it held in the patentee's favor on the legal limitation of prosecution history estoppel, the case no longer properly presented the question whether estopping equivalency is a

task for the judge or the jury. As a result, the Supreme Court's decision does not speak conclusively to that issue. The Court did, however, make two important observations on the matter first. The Court noted that "[i]f there was ample support in [the] prior cases for" the Federal Circuit's holding that the question of equivalents is one of technological fact for the jury, second, the Court expressly stated that "[i]nvolving in [the] recent Supreme Court decision necessitates a different result than that reached by the Federal Circuit."²⁴ As with the proper test for equivalency, the Court effectively left the question to the Federal Circuit's hands.

Post-Wilson/Davis Developments

The Supreme Court decided *Wilson/Davis* only four months ago, and it is thus far too early to obtain a reliable or detailed sense of how the lower courts, including the Federal Circuit, will implement the new presumption of prosecution history estoppel announced by the Supreme Court. We can, however, report a number of developments.

First, in the wake of *Wilson/Davis*, the Supreme Court vacated three other Federal Circuit decisions and remanded them to that court for further consideration in light of *Wilson/Davis*. Two of the decisions involve "all limitations rule" problems, and the third, like *Wilson/Davis* itself, involves an unexplained claim amendment.²⁵ The Federal Circuit has invited supplemental briefing in all three cases and will have multiple opportunities to elaborate on and apply critical aspects of the Supreme Court's decision in the near future.

Second, the Federal Circuit has already acted on the remanded *Wilson/Davis* decision itself. On June 11, 2003, the Federal Circuit acting in *Wilson/Davis* issued remanding the case to the district

¹⁷ 512 U.S. at 1014 n.10 (citing *Grain Processing*, concluding that the doctrine requires unexplained amendments to be patentability-related, the proper focus of the doctrine of equivalents is the patentee's subjective purpose in amending, not the patent law's objective purpose in amending).

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quest for further development of the record. Specifically, the court "remanded" the case to the district court to conduct an inquiry to ascertain whether Milton Davis can admit the presumption by showing the reason for¹ its adoption of the lower bound of a pH of 4 to the claim, leaving it to the district court's discretion "to decide whether hearings are necessary or whether the issue can be adequately be determined on a written record."²⁴ In addition, the court reconsidered its decision in light of the Supreme Court's insistence that the "all limitations rule" be applied rigorously, concluding that the judgment in *Hilco Davis* does not "violate" the "pH claim approximately 8.0 to 9.0" claim limitation.²⁵

Third, on March 7, 1995, four days after the Supreme Court's *Warner-Jenkinson* decision, the Federal Circuit announced its decision in *Tanaka Seiyaku Co. v. United States International Trade Commission*.²⁶ In that decision, the Federal Circuit adhered to its view that equivalency is determined according to the

"substantial difference" standard²⁷ and that the question of equivalency infringement is one of fact for the factfinder, not the court,²⁸ acknowledging, in both instances that the Supreme Court had left these questions to the Federal Circuit.

What more does the future hold for the doctrine of equivalents? Again, it is far too soon to tell. Many issues have been resolved. The doctrine is alive and well, if a little narrower in scope. The courts have been cautioned not to let the doctrine run roughshod over claim limitations, and the new presumption of prosecution history estoppel, however it is implemented, shifts the balance in favor of accused infringers. We know, however, that the more remains to be said by the courts on the proper way to implement the Federal Circuit's "substantial difference" standard for assessing the technological fact of equivalency. We also know that the full force of the "all limitations rule" is uncertain, but that it could well emerge as an increasingly significant constraint on the ability of patentees to proceed under the doctrine of equivalents. In

short, we have no choice but to watch closely for these developments, as well as remaining alert to many others that we cannot now predict.

CONCLUSION

Individual property lawyers know that it is a difficult task, whether negotiating a license or assessing the merits of an infringement suit, to determine with a high confidence level whether a given patent claim reads on a particular product or process. In the *Hilco* and *Warner-Jenkinson* cases, the courts have wrestled with fundamental questions about core components of the framework for analyzing claim scope. They have done so in an effort to reconcile conflicting lines of authority and resolve tensions between different parts of the framework. By clarifying some aspects of the law, the Federal Circuit and the Supreme Court have probably made it marginally easier to confidently predict the outcome of a patent infringement trial. But only the passage of time, and the resolution of many more cases applying *Hilco* and *Warner-Jenkinson*, will reveal the full measure of their success.

²⁴ 10 F.3d at 1307. ²⁵ *Id.* at 1308. ²⁶ 43 F.3d 1328, 1330 (Fed. Cir. 1995). ²⁷ 43 F.3d at 1330 (quoting *In re* *Pharm. Pat. & Mfg. Ass'n*, 377 F.2d 871, 875 (Ct. Cl. 1967)).

²⁸ 43 F.3d at 1330.
²⁹ 43 F.3d at 1330 (quoting *In re* *Pharm. Pat. & Mfg. Ass'n*, 377 F.2d 871, 875 (Ct. Cl. 1967)).

³⁰ 43 F.3d at 1330.
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