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Chapter 11 Claim Construction and *Markman*

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Claim construction is the first step of the two-step process for proving patent infringement. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996). A patented invention is defined by its claims. Claim construction is the process of defining and interpreting the language of a patent claim. *Id*. Litigants invariably dispute the meaning of the words used in a patent claim, and in *Markman* both the Federal Circuit and the United States Supreme Court held that claim construction is an issue of law to be decided by the court instead ofa jury. *Id*. There is no blueprint for the claim construction process. *See Phillips v. AWH Corp*., 415 F.3d 1303, 1324 (Fed. Cir. 2005) (*en banc*). The majority of courts hold a separate claim construction hearing during the discovery phase of a case. A minority of courts, however, have addressed claim construction as part of dispositive motion practice. *See, e.g., Schoenhaus v. Jay*, 440 F.3d 1354, 1356 (Fed. Cir. 2006) (acknowledging that the district court did not hold a separate Markman hearing, but still affirming the district court's construction as done "in a carefully crafted summary judgment opinion").

Claim construction is often the most critical event of any patent litigation. "[To] decide what the claims mean is nearly always to decide the case." *Markman*, 52 F.3d at 989 (Mayer, J., concurring). The patent claims define the patented invention and, correspondingly, define and limit the patent holder's right to exclude (and recover damages from) an accused infringer. Patent holders battle for claim constructions that bring the claims as close to the accused products and as far from the prior art as possible. Accused infringers attempt the opposite. The resulting claim construction can decide a case's outcome without the need for additional litigation or trial. *See, e.g.*, *Edwards LifeSciences, LLC v. Cook, Inc.*, 582 F.3d 1322 (Fed. Cir. 2009) (affirming summary judgment of noninfringement after claim construction).

A. CLAIM CONSTRUCTION SOURCES—INTRINSIC AND EXTRINSIC EVIDENCE

Claim construction arguments often involve competing types of evidence—"intrinsic" and "extrinsic" evidence—and the question of what evidence should receive first priority in the interpretation of patent claims.

Intrinsic evidence consists of the entire patent—the claims and specification—and the patent's record of prosecution in the PTO, commonly called the "prosecution history," "file history," or "file wrapper." *Phillips*, 415 F.3d at 1317 (citations omitted); *see also Schindler Elevator Corp. v. Otis Elevator, Co.*, 593 F.3d 1275, 1282 (Fed. Cir. 2010) (relying on the claim language, the specification, and the prosecution

history to conclude that district court's claim construction was "too narrow"). Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317; *see also AIA Eng'g Ltd. v. Magotteaux Int'l*, 657 F.3d 1264, 1273 (Fed. Cir. 2011).

In *Phillips*, the Federal Circuit clarified the significance that should be afforded intrinsic and extrinsic evidence. A patent's intrinsic evidence—the claims, specification, and prosecution history—are the most reliable indicators of claim meaning and should receive first priority in interpreting patent claims. 415 F.3d at 1314-17. Extrinsic evidence, which "can shed useful light on the relevant art, ... is less significant than the intrinsic record in determining the legally operative meaning of the claim language." *Id.* at 1317 (citations and quotations omitted); *see also Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Co.*, 587 F.3d 1339 (Fed. Cir. 2009) (reversing a claim construction that "erroneously relied on expert testimony and a single dictionary definition to the exclusion of other dictionary definitions and, most importantly, the context in which the term was used within the claim and the specification."). When a claim construction is appealed, claim constructions based on intrinsic evidence are reviewed *de novo*, while constructions based on extrinsic evidence are reviewed under a clear error standard. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, No. 13-854, slip op. at 6, 11-12 (U.S. Jan. 20, 2015).

B. CLAIM CONSTRUCTION CONCEPTS AND PRECEPTS

1. Intrinsic Evidence—Claim Language

A patent claim's meaning begins with its language. *Interdigital Commc'ns, LLC v. Int'l Trade Comm'n.*, 690 F.3d 1318, 1324 (Fed. Cir. 2012). According to the Federal Circuit, it is a "'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled to the right to exclude.'" *Arlington Indus., Inc. v. Bridgeport Fittings*, 632 F.3d 1246, 1253 (Fed. Cir. 2011) (quoting *Phillips*, 415 F.3d at 1312)).

The Federal Circuit has emphasized that claim language receives its ordinary and customary meaning. *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1286 (Fed. Cir. 2010); *see also Pass & Seymour, Inc. v. Int'l Trade Comm'n*, 617 F.3d 1319, 1324 (Fed. Cir. 2010) (holding that the plain language of a patent claim controlled despite a "not perfectly logical" result that may have resulted from a claim-drafting error). This ordinary and customary

meaning is determined "as understood by a person of ordinary skill in the art in question at the time of the invention." *Kara Tech. Inc. v. Stamps.com.Inc.*, 582 F.3d 1341, 1345 (Fed. Cir. 2009) (citing *Phillips*, 415 F.3d at 1312-13). The generally understood meanings of particular claim terms may vary from art to art. *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1318 (Fed. Cir. 2005).

a. Claim Terms Should Be Construed in Context

Determining ordinary and customary meaning is not an exercise done in isolation. Rather, the context in which a term is used within the claim is relevant. *Digital-Vending Servs. Intern. v. Univ. of Phoenix*, 672 F.3d 1270, 1274 (Fed. Cir. 2012). "The customary meaning of a claim term is not determined in a vacuum and should be harmonized, to the extent possible, with the intrinsic record, as understood within the technological field of the invention." *Lexion Med., LLC v. Northgate Techs.*, 641 F.3d 1352, 1356 (Fed. Cir. 2011). For example, the meaning of a claim term might be narrowed based on the use of the same or similar terms elsewhere in the claim. *See, e.g.*, *Edwards LifeSciences*, 582 F.3d at 1330 (construing "graft bodies" to be limited to "intraluminal graft bodies" in claims where the "graft bodies" were attachable "while inside a vessel").

Courts may also construe claim terms in light of the overall invention. "[T]he interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. It is therefore entirely proper to consider the functions of an invention in seeking to determine the meaning of particular claim language." *Medrad, Inc.*, 401 F.3d at 1319 (citation and quotation omitted); *see also ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1375-76 (Fed. Cir 2009).

b. Claim Terms Should Be Construed Consistently

Courts should consistently construe the same claim terms appearing in multiple claims. *See Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) ("single 'claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent'") (citing *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001)); *Paragon Solutions, LLC v.*

Timex Corp., 566 F.3d 1075, 1087 (Fed. Cir. 2009) (applying "presumption that the same terms appearing in different portions of the claims should be given the same meaning unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims") (citations omitted). Conversely, when different words or phrases are used in separate claims, a difference in meaning is presumed. *Am. Piledriving Equip. v. Geoquip, Inc.*, 637 F.3d 1324, 1335-36 (Fed. Cir. 2011).

Consistently construing claim terms means that intrinsic evidence concerning a claim term will bear on the meaning of the same term as used in other claims. For example, when an inventor disavows claim scope related to a particular claim phrase during prosecution, that disavowal will apply "with uniform force to all the claims." *Hockerson-Halberstadt, Inc. v. Aria Group Int'l, Ltd.*, 222 F.3d 951, 957 (Fed. Cir. 2000). Claim terms should also be interpreted consistently across multiple patents with "common ancestry." *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (interpreting claims consistently across all patents); *Tip Sys., LLC v. Phillips & Brooks/Gladwin*, 529 F.3d 1364, 1371 (Fed. Cir. 2008) ("the prosecution history of a related patent application may inform construction of a claim term"). A prior interpretation of nearly identical language in a related patent will also inform claim interpretation. *Linear Tech. Corp. v. Int'l Trade Comm'n*, 566 F.3d 1049, 1057 (Fed. Cir. 2009).

c. Claim Differentiation

A corollary of the claim-consistency rule is the doctrine of claim differentiation, which counsels that courts ordinarily should not interpret one claim in a way that makes another claim (typically a claim dependent from the first claim) identical in scope. *Bancorp Servs. v. Sun Life Assur. Co. of Canada*, 687 F.3d 1266, 1275 (Fed. Cir. 2012); *accord Phillips*, 415 F.3d at 1315 ("Differences among claims can also be a useful guide in understanding the claim terms. For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.") (citations omitted).

Usually, this doctrine is used to forestall attempts to read narrow claim limitations from dependent claims into broader independent claims in order to avoid invalidity or to escape

infringement. *See generally Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1331-32 (Fed. Cir. 2008) (refusing to construe phrase from independent claim as covering same subject matter as related dependent claim because the additional limitation "requires something more"). Although the doctrine of claim differentiation "works best in the relationship between independent and dependent claims," *Curtiss-Wright Flow Control Corp. v. Velan Inc.*, 438 F.3d 1374, 1380-81 (Fed. Cir. 2006), the doctrine can also be applied to conclude that one independent claim has a different scope from another independent claim. *See Kara Tech.*, 582 F.3d at 1347; *Arlington Indus.*, 632 F.3d at 1254-55. Claim differentiation is a "presumption" that different claims have different scopes. *Bancorp Servs.*, 687 F.3d at 1275. This presumption "is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim." *Sunrace Roots v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003). However, "any presumption created by the doctrine of claim differentiation will be overcome by a contrary construction dictated by the written description or prosecution history." *Retractable Tech. v. Becton, Dickinson and Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) (quotation omitted). It is still possible that two claims with different terminology can define the exact same subject matter. *See Edwards LifeSciences*, 582 F.3d at 1330 (construing the terms "graft" and "intraluminal graft" as interchangeable in different claims).

d. Claims Should Be Construed to Preserve Validity

Patent owners favor broad claim constructions for purposes of covering the accused products. When the patent's validity is challenged, however, patent owners sometimes must argue for narrower claim constructions to avoid the prior art. A patent is presumed valid. 35 U.S.C. § 282. In close cases, courts typically try to construe patent claims narrowly, "so as to sustain their validity" or "to avoid ensnaring prior art if it is possible to do so." *See Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1255 (Fed. Cir. 2010) (citation omitted). But presumptions of validity can go only so far. Courts will not construe claims differently from their plain meaning "whether to make them operable or to sustain their validity." *Rembrandt Data Techs., LP*

v. AOL, LLC, 641 F.3d 1331, 1339 (Fed. Cir. 2011) (internal quotations omitted).

In other cases, the courts will construe claims narrowly, not so much to preserve validity, but to construe ambiguous claims against the drafter. *See, e.g.*, *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1296 (Fed. Cir. 2009) ("Claims that include such ambiguous language should be viewed extremely narrowly."), *cert. denied*, 130 S. Ct. 1052 (U.S. 2010). This principle is to be narrowly applied only in situations where "the court concludes, after applying all the available tools of claim construction, that the claim is still ambiguous." *Phillips*, 415 F.3d at 1327 (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 911 (Fed. Cir. 2004)).

e. Steps in Method Claims

Courts ordinarily should not construe the steps in a method claim to require that they be performed in the exact order they are recited. *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1345 (Fed. Cir. 2008). But a particular order may be required in certain cases if "the claim explicitly or implicitly requires a specific order" or if the specification or prosecution history requires "a narrower, order-specific construction. . . ." *Id.* Key factors that courts consider are whether, as a matter of logic or grammar, the steps must be performed in a particular order and whether the specification directly or implicitly requires such a construction. *Xerox Corp. v. Google Inc.*, 801 F. Supp. 2d 293, 302 (D. Del. 2011) (citing *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003)).

f. The Claim Preamble

If a claim has a "preamble" (the introductory portion of a claim most often preceding the phrase "comprising" or "consisting of"), the preamble generally is not considered a claim limitation if it is merely a recitation of the intended purpose or field of the invention. *See Adv. Software Design Corp. v. Fiserv, Inc.*, 641 F.3d 1368, 1375 (Fed. Cir. 2011) (citing *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006)). On the other hand, claim preambles, like all other claim language, are construed according to established claim construction principles. *See, e.g.*, *Hearing Components, Inc. v. Shure, Inc.*, 600 F.3d 1357, 1366-68 (Fed. Cir. 2010) (construing a preamble term consistent with the

specification when that term was relied on during prosecution to distinguish prior art). Whether a claim preamble constitutes a limitation is determined on the facts of each case in light of the overall form of the claim and the invention as described in the specification and illuminated in the prosecution history. *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 781 (Fed. Cir. 2010) (finding that a clear definition unambiguously defined "centrifugal unit"). Generally, if the body of the claim sets out "a structurally complete invention," the preamble is not treated as limiting the scope of the claim when it merely states a purpose or intended use for the invention. *Am. Med. Sys., Inc. v. Biolitec*, 618 F.3d 1354, 1358-59 (Fed. Cir. 2010). Conversely, in general, "a preamble limits the invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim." *Id.* at 1358 (quotation omitted); *see also Uship Intellectual Props., LLC v. U.S.,* 714 F.3d 1311 (Fed. Cir. 2013) (upholding finding of noninfringement based on preamble's requirement of an automated shipping machine). Moreover, when the limitations in the body of the claim derive antecedent basis from the preamble, then the preamble may define the claimed invention. *Id.* at 1359. Lastly, if the preamble was clearly relied upon to distinguish the claim from prior art during prosecution, then the preamble is limiting. *Symantec Corp. v. Computer Assocs. Int'l, Inc..*, 522 F.3d 1279, 1288 (Fed. Cir. 2008).

2. Intrinsic Evidence—Specification (Written Description)

The specification "shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention." 35 U.S.C. § 112(a). The written description requirement of section 112 is separate from the enablement requirement, which requires that the specification teaches how to make and use the invention. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1340 (Fed. Cir. 2010) (*en banc*). Patent infringement defendants may rely on the written description requirement to force a narrow construction of claims that are broader than the disclosure in the specification; if not construed narrowly, the subject claims may not find written description support in the patent specification. *See id.* In a dissenting

opinion, Judge Rader acknowledged the tension between broad claim construction principles and the potentially narrower written description requirement. *Id.* at 1364-65 (Rader, J., dissenting).

The written description in the specification may define claim language either explicitly or implicitly. *See Edwards LifeSciences*, 582 F.3d at 1329 (noting that a specification can intrinsically define a term through its use or that a patentee may act as his own lexicographer). Because claims are technically part of the specification, *see* 35 U.S.C. § 112, it is logical that the specification be of particular help in informing claim meaning. As the Court of Claims explained decades ago, "the specification aids in ascertaining the scope and meaning of the language employed in the claims inasmuch as words must be used in the same way in both the claims and the specification. . . . The use of the specification as a concordance for the claim is accepted by almost every court, and is a basic concept of patent law." *Autogiro Co. of Am. v. U.S.*, 384 F.2d 391, 397-98 (Ct. Cl. 1967). The specification may also inform the court's overall understanding of the invention, and it is proper for courts to consider the functions of an invention when interpreting claim language. *ICU Med.*, 558 F.3d at 1375-76.

In *Phillips*, the Federal Circuit reinvigorated the maxim that "claims 'must be read in view of the specification, of which they are a part.'" *Phillips*, 415 F.3d at 1315 (quoting *Markman*, 52 F.3d at 978). "The best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history." *Id*. (citation omitted). Thus, even claim terms that are insolubly ambiguous on their face, and therefore indefinite, can be corrected where a review of the specification reveals "an obvious and correctable error" in the claim. *CBT Flint Partners, LLC v. Return Path, Inc.*, 654 F.3d 1353, 1358 (Fed. Cir. 2011).

The specification "is the single best guide to the meaning of the disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582-85 (Fed. Cir. 1996). As such, although "patent claims should not be limited to the preferred embodiment," *Metso Minerals v. Powerscreen Intern. Dist.*, 681 F. Supp. 2d 309, 317 (E.D.N.Y. 2010) (citing *Agfa Corp. v. Creo Prods. Inc.*, 451 F.3d 1366, 1376 (Fed. Cir. 2006)), the claims cannot "enlarge what is patented beyond what the inventor has described as the invention." *Abbott Labs.*, 566 F.3d at 1288. Indeed, the specification may explicitly disavow particular aspects of the invention that would otherwise fall within the plain meaning of the claims. *Thorner v. Sony Comp. Entm't. Am. LLC*, 669

F.3d 1362, 1365-66 (Fed. Cir. 2012). A specification can also implicitly limit claim scope by comparing the present invention with other art. *See, e.g., SkinMedica, Inc. v. Histogen Inc.,* No. 2012-1560, 2013 U.S. App. LEXIS 17627, *26 (Fed. Cir. Aug. 23, 2012) (finding implicit disclaimer of cells grown on beads where specification touted benefits of present invention over cells "grown on a monolayer or on beads.").

Despite the existing body of case law, there remains a continuing underlying tension in the Federal Circuit regarding the use of the specification in claim construction. As set forth in *Arlington Indus.*, 632 F.3d 1246 (Fed. Cir. 2011), the majority view emphasizes the importance of claim language, with the specification playing a role in understanding and interpreting the meaning of the claim. The scope of the claimed invention may be broader than what the inventor describes in the specification. *See id.* at 1255, n.2 ("The . . . dissent-in-part characterizes the specification as the 'heart of the patent' and, using 'colloquial terms,' states that 'you should get what you disclose.' This devalues the importance of claim language in delimiting the scope of legal protection. 'Claims define and circumscribe, the written description discloses and teaches.'" (citation omitted)). On the other hand, the minority view emphasizes that the specification should always play a role in determining what the inventor has invented and should help shape the scope of protection. In other words, an inventor cannot expand the scope of patent protection beyond what is specifically described in the specification. *See id.* at 1257 (Lourie, J., dissenting in part and concurring in part) ("[T]he basic mandate is for claims to be interpreted in light of the specification of which they are a part because the specification describes what the inventors invented. The specification is the heart of the patent. In colloquial terms, 'you should get what you disclose.'" (citation omitted))).

a. Patentee as Lexicographer

If patent applicants want to define a term differently from an "ordinary and accustomed meaning," they are free to do so in the specification or file history. *GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) ("[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal."); *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1380 (Fed. Cir. 2009). Accordingly, a patentee may be the lexicographer by relying on the specification as a sort of dictionary for claim terms.

See Laryngeal Mask Co. v. Ambu, A/S, 618 F.3d 1367, 1371 (Fed. Cir. 2010) ("A patentee may act as its own lexicographer and assign to a term a unique definition that is different from its ordinary and customary meaning; however, a patentee must clearly express that intent in the written description.").

The caveat is that any special definition must appear "with reasonable clarity, deliberateness, and precision" before it can affect the claim. *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1383 (Fed. Cir. 2011) (quoting *Abbott Labs. v. Syntron Bioresearch, Inc.*, 334 F.3d 1343, 1354 (Fed. Cir. 2003)). The test is whether the patentee has "clearly expressed an intent to redefine the term." *Thorner*, 669 F.3d at 1365 (quotation omitted); *compare Genentech, Inc. v. Wellcome Found. Ltd.*, 29 F.3d 1555, 1564 (Fed. Cir. 1994) (noting specification contained four different definitions; court chose narrowest one). This does not mean that the patentee must expressly define the term in the specification for that definition to control. The specification may define claim terms "by implication." *AstraZeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1052 (Fed. Cir. 2010) (citation omitted); *see also Edwards LifeSciences*, 582 F.3d at 1329 ("In this case the specification consistently uses the words 'graft' and 'intraluminal graft' interchangeably."). *But see Schoenhaus v. Genesco, Inc.*, 440 F.3d 1354, 1358 (Fed. Cir. 2006) (finding patentee's use of the phrase "semi-rigid material" insufficient to overwhelm the limiting use of the term "rigid" within the claims).

b. Importing and Exporting Limitations

Although the specification can explicitly or implicitly define claim terms, courts generally should not "import" or "read in" claim limitations from the specification. *See Kara Tech.*, 582 F.3d at 1348 ("The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment or import a limitation from the specification into the claims."); *Phillips*, 415 F.3d at 1323. An example of the Federal Circuit's stance can be found in *Markem-Imaje Corp. v. Zipher Ltd.*, 657 F.3d 1293 (Fed. Cir. 2011). There, the Federal Circuit held that the lower court improperly read in an extraneous "tension measurement" limitation into the claim. *Id.* at 1300-01. Despite the limitation being disclosed in the specification and admittedly necessary for the invention to function, the Federal Circuit held that it was "not proper to incorporate [the limitation] into the claim construction." *Id.* at

1301. The court analogized: "A claim to an engine providing motive power to a car should not be construed to incorporate a limitation for an exhaust pipe, though an engine may not function without one." *Id.*

There is an unmistakable tension in suggesting that the specification can narrow the meaning of claim terms and simultaneously suggesting that courts should not import limitations from the specification. This tension manifested itself in the Federal Circuit's split opinion in *Retractable Tech.* The majority noted that "[t]here is a fine line between construing the claims in light of the specification and improperly importing a limitation from the specification into the claims." *Retractable Tech.*, 653 F.3d at 1305(Lourie, J.). Nevertheless, the court limited otherwise broad claim language to "a single structure" because the specification "expressly distinguish[es] the invention from the prior art based on this feature, and only disclose[s] embodiments that are expressly limited to having a body that is a single piece." *Id.* Such a limited construction was therefore "required to tether the claims to what the specification[] indicate[s] the inventor actually invented." *Id.* The dissent disagreed, concluding that "the language in the claims makes clear that 'body' is not limited to a one-piece structure" and that the majority had improperly "import[ed] limitations from the specification into the claims." *Id.* at 1312-13 (Rader, C.J., dissenting-in-part).

The point of debateis whether the claim language itself is self-sustaining. To properly resort to the specification to inform claim meaning, there must be something in the claim—some ambiguity or other reason—inviting one to search outside the claim itself. The reason in the claim language may be a single word, *see, e.g.*, *Kinetic Concepts, Inc. v. Blue Sky Med. Group, Inc.*, 554 F.3d 1010, 1018-19 (Fed. Cir. 2009), but the reason must exist. When the reason is present, the specification may be used to narrow claim interpretation. *Id.* (holding that the term "wound," in the context of the specification, did not "cover the fistulae described [in a prior art reference] and the 'pus pockets' described in [other prior art references]."). Otherwise, if resorting to the specification is unnecessary to interpret a particular claim term or claim phrase, the specification cannot properly constrain claim breadth. *See King Pharms., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1275 (Fed. Cir. 2010).

In practice, an advocate seeking to use the specification will rarely lack an argument, convincing or not, that resorting to the

specification is necessary to understand the claim language. Patent holders will insist that the claim language is self-standing and that the specification may not supply limitations that do not exist in the claims themselves. Accused infringers will argue that broad claim language is not properly understood without narrowing guidance from the specification. Or the parties may make the opposite arguments due to strategy considerations on invalidity.

Courts (and patent litigators) often grapple with the distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim. *See Phillips,* 415 F.3d at 1323 (Fed. Cir. 2005) (*en banc*) (noting that the distinction "can be a difficult one to apply in practice"). However, some patterns or trends are developing that may help practitioners understand how courts might apply these claim construction principles. Generally, courts are more likely to read a limitation into a claim in the following situations: (1) if the feature is relied on to distinguish the invention to avoid prior art or disclaim subject matter from the scope of the invention; (2) if a term is defined in quotes to include the feature; or (3) if the specification identifies a limitation as a key feature in the Summary of the Invention. *See, e.g.*, *Marine Polymer Techs., Inc. v. Hemcon, Inc.*, 672 F.3d 1350, 1358-59 (Fed. Cir. 2012) (noting specification's description of "the invention" properly limits claims); *Sinorgcham Co. v. Int'l Trade Comm'n*, 511 F.3d 1132, 1136-40 (Fed. Cir. 2007) (holding that the patentee's use of quotation marks around the term "controlled amount" plus the use of "is" limited the claimed invention to processes that utilize at most 4 percent water); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1348-51 (Fed. Cir. 2004) (affirming the district court's narrowed construction in part because the patentee described its invention in the "Summary of the Invention" portion of the patent as being limited to the transmission of data packets over a telephone line).

Courts appear split, based on the facts presented in particular cases, on whether a limitation should be read into or excluded from a claim in the following situations: when a patentee (1) spells out that a certain feature is "the" invention; or (2) explains that a particular feature is necessary to achieve the only objective of the invention. *Compare Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999) (construing the claims narrowly, stating the "unitary structure" between the cover and the ring as "important to the invention," and noting that "[N]o other, broader

concept was described as embodying the applicant's invention"), *and Ormco Corp. v. Align Techn., Inc.*, 498 F.3d 1307, 1313-14 (Fed. Cir. 2007) (affirming the district court's narrowed construction of the claims that required automatic determination of tooth position because the specification identified this limitation as a "primary objective"), *with Allen Eng'g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002) (rejecting the district court's claim construction and noting that "there is no legally recognizable or protected 'essential' element, 'gist' or 'heart' of the invention in a combination patent"), *and MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1330-31 (Fed. Cir. 2007) (noting that although the patentee has "clearly indicated via the specification and the prosecution history that the invention provides, as an essential feature, immediate needle safety upon removal from the patient," none of the disputed terms found in the asserted claims can be reasonably construed to impose the simultaneous-safety requirement upon those claims).

Finally, courts are more likely not to read a limitation into a claim in the following situations: when (1) the feature is included in the only embodiment of the invention in the patent; (2) the disputed feature is incorporated in many embodiments; (3) the specification explains that the proposed limitation is needed to achieve one of many objectives; and (4) the disputed feature is recited in some claims but not all. *See, e.g.*, *Liebel-Flarsheim*, 358 F.3d at 906 (declining to limit otherwise broad claim language even though the specification described only a single embodiment); *MSM Invs. Co., LLC v. Carolwood Corp.,* 259 F.3d 1335 (Fed. Cir. 2001) (explaining that working examples formed the basis for a broad construction); *Playtex Prods., Inc. v. Procter & Gamble Distrib. Co.*, 400 F.3d 901, 903 (Fed. Cir. 2005) (finding that "substantially flattened surfaces" served at least two of the many functions of the invention); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (explaining that the presumption of ordinary meaning cannot be rebutted "simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history"); *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1334 (Fed. Cir. 2004) (explaining that the proposed limitation is needed to achieve one of many objectives); *Intertrust Techs. Corp. v. Microsoft Corp.*, 275 F. Supp. 2d 1031, 1055 (N.D. Cal. 2003) (explaining that the Virtual Ddistribution Environment limitation that was

recited in some claims would not be read into all of the claims because it would render the recitation claims' express VDE limitation redundant and nonsensical).

The embargo on imports also extends to exports. Just as courts should not import limitations, it is also improper to "export" or "read out" claim limitations to cover subject matter described or disclosed in the specification but not actually claimed in the claim language. *Ventana Medical Sys. v. Biogenex Labs.*, 473 F.3d 1173, 1180 (Fed. Cir. 2006). In certain circumstances, "subject matter disclosed in the specification, but not claimed, is dedicated to the public." *Moore USA Inc. v. Standard Register Co.*, 229 F.3d 1091, 1107 (Fed. Cir. 2000).

c. Claims Are Not Limited to Preferred Embodiments

Most patents discuss "preferred embodiments," representing the inventor's ideal conception of the invention. In construing patent claims, courts should consult such preferred embodiments with caution. Generally, claims should not be limited to the preferred embodiments unless required by their own language. *Phillips*, 415 F.3d at 1323; *see also Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010) (refusing to limit the term "case" to the sole embodiment of an "enclosed" case in the specification); *Kara Tech.*, 582 F.3d at 1347 (refusing to limit the broader claims despite that in the only detailed embodiments the "preestablished data" was in the form of an encryption "key").

The Federal Circuit has "expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment." *Phillips*, 415 F.3d at 1323; *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1342 (Fed. Cir. 2010) (noting that lack of disclosure of "direct detection" was not dispositive for limiting claims to indirect detection, but affirming district court's narrowing construction based on the claim language); *see also Saunders Group, Inc. v. Comfortrac, Inc.*, 492 F.3d 1326 (Fed. Cir. 2007). Nonetheless, courts may still limit claims to the preferred embodiment where that construction is as broad as the claims permit. *See generally In re Abbott Diabetes Care Inc.*, 696 F.3d 1142, 1149-50 (Fed. Cir. 2012) (limiting claims to embodiments with an electrochemical sensor and no external cables or wires as discussed in specification).

d. Claim Interpretations That Exclude the Preferred Embodiment Are Disfavored

Conversely, courts will rarely accept claim interpretations that exclude the inventor's preferred embodiment as disclosed in the specification. *Accent Packaging, Inc. v. Leggett & Platt, Inc.*, 707 F.3d 1318 (Fed. Cir. 2013); *Funai Elec. Co. v. Daewoo Elecs. Corp.*, 616 F.3d 1357, 1371 (Fed. Cir. 2010). The guideline against excluding preferred embodiments is a matter of common sense. "[I]t is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way." *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1581 (Fed. Cir. 1996); *see also Adams Respiratory Therapeutics, Inc. v. Perrigo*, 616 F.3d 1283, 1290 (Fed. Cir. 2010). However, this does not foreclose the possibility that the intrinsic evidence simply will not support a claim construction including the preferred embodiment. For example, courts will exclude preferred embodiments disclaimed during the patent's prosecution. *North Am. Container Inc. v. Plastipak Packaging Inc.*, 415 F.3d 1335, 1346 (Fed. Cir. 2005); *see also C.R. Bard, Inc. v. U.S. Surgical Corp*., 388 F.3d 858, 865-66 (Fed. Cir. 2004); *Springs Window Fashions L.P. v. Novo Indus., L.P.*, 323 F.3d 989, 996 (Fed. Cir. 2003) (quoting *Rheox, Inc. v. Entact, Inc*., 276 F.3d 1319, 1327 (Fed. Cir. 2002)) ("[W]e have adopted claim constructions excluding an embodiment when the prosecution history requires the claim construction because of disclaimer.").

3. Intrinsic Evidence—Prosecution History

The prosecution history or "file wrapper" is the third major source of intrinsic evidence relevant to claim construction. *Phillips*, 415 F.3d at 1317. The prosecution history consists of "the complete record of the proceedings before the USPTO and includes the prior art cited during the examination of the patent." *Id*. The file wrapper is useful in construing claims because it "was created by the patentee in attempting to explain and obtain the patent." *Id.*

The prosecution history "is often of critical significance in determining the meaning of the claims." *Vitronics*, 90 F.3d at 1582; *see also Saffron v. Johnson & Johnson*, 712 F.3d 549 (Fed. Cir. 2013) (finding that Johnson & Johnson's drug stents did not infringe patent because patentee made statements during prosecution clearly

limiting its claims to devices with continuous sheets). Like the specification, it is well-settled law that a patentee can define a claim term in the prosecution history. *Adv. Fiber Techs. Trust v. J&L Fiber*, 674 F.3d 1365, 1372-73 (Fed. Cir. 2012); *Honeywell Inc. v. Victor Co. of Japan Ltd*., 298 F.3d 1317, 1323 (Fed. Cir. 2002). But, while the prosecution history helps interpret claims, it does not replace claims. *See Phillips*, 415 F.3d at 1317 (noting that although the file history is relevant intrinsic evidence, it represents an "ongoing negotiation" between the applicant and the PTO, rather than the final product). The prosecution history may not "enlarge, diminish, or vary" the claims themselves. *Markman*, 52 F.3d at 979. Just as self-standing, unambiguous claims are not properly saddled with limitations from the specification, such claims should not be unduly constrained by the prosecution history unless claim language invites reference to this source. *Telcordia Techs., Inc. v. Cisco Sys.*, 612 F.3d 1365, 1375 (Fed. Cir. 2010) (stating that ambiguous "prosecution history comments cannot trump the plain language of the claims").

Prosecution history is particularly important when the invention involves a crowded art field and where distinguishing the prior art is a critical component of the prosecution or the litigation. *See Arlington Indus*., 632 F.3d at 1255. By distinguishing the prior art to demonstrate the novelty of the claimed invention, an applicant explains what is not covered by the claims and, by implication, surrenders any infringement claim over the disclaimed subject matter. *See In re Katz Interactive Call Processing Patent*, 639 F.3d 1303, 1324-25 (Fed. Cir. 2011). There is no clear and unmistakable disavowal, however, when the applicant distinguishes prior art on alternative grounds that are unrelated to the way the feature is used in the prior art reference. *Market Biosciences Corp. v. Nutrinova Inc*., 579 F.3d 1368, 1377 (Fed. Cir. 2009).

In addition to the various legal grounds against claiming ownership of the same subject matter disclaimed to obtain the patent, the Federal Circuit has explained this principle in terms of public notice. "The public notice function of a patent and its prosecution history requires that a patentee be held to what he declares during the prosecution of his patent. A patentee may not state during prosecution that the claims do not cover a particular device and then change position and later sue a party who makes the same device for infringement." *Springs Window*, 323 F.3d at 995; *see also MBO Labs., Inc. v. Becton, Dickinson, & Co*., 602 F.3d 1306, 1313-14 (Fed. Cir. 2010) (noting that "principles of equity" prohibit a patentee from

recapturing subject matter surrendered during prosecution). However, "[a]n argument made to an examiner constitutes a disclaimer only if it is 'clear and unmistakable.' An 'ambiguous disavowal' will not suffice." *Schindler*, 593 F.3d at 1285 (internal citation omitted). In order to determine whether a statement comprises a clear and unmistakable disclaimer, it must be considered in the context of the prosecution history as a whole. *i4i P'ship v. Microsoft Corp.*, 589 F.3d 1246, 1259 (Fed. Cir. 2009) (holding that statements in the prosecution history must be read in context and explaining that the statements the accused infringer "pluck[ed] from the prosecution history" did not show a clear and unmistakable disavowal). In *Ecolab, Inc. v. FMC Corp.*, the Federal Circuit found no clear and unmistakable disclaimer where the statement was "hyperbolic or erroneous," was made only one time earlier in prosecution and "never again repeated or relied upon," and where it was clear that "the claims were allowed for reasons independent of the allegedly disclaiming statements." 569 F. 3d 1335, 1343 (Fed. Cir. 2009).

Virtually all contents of the "file wrapper" can be used for claim construction. This includes, for example, any affidavits or other statements submitted during prosecution, *see, e.g., Adams*, 616 F.3d at 1286-87, as well as reissue files, reexamination files, and interference proceedings. *See, e.g., Katz*, 639 F.3d at 1324-25. Prior art cited in the specification or prosecution history constitutes intrinsic evidence. *Powell v. Home Depot USA Inc*., 663 F.3d 1221, 1231 (Fed. Cir. 2011). "As compared to expert testimony," prior art references may be "more indicative of what all those skilled in the art generally believe a term means." *Vitronics*, 90 F.3d at 1584.

The prosecution history, while often invaluable in construing claims, is sometimes considered less reliable than other sources. Because the prosecution history "represents an ongoing negotiation between the USPTO and the applicant, rather than the final product of negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Digital-Vending Servs*., 672 F.3d at 1276 (quoting *Phillips*, 415 F.3d at 1317). The Federal Circuit has specifically cautioned against using statements made early in the prosecution before the claims are finalized. *See Serrano v. Telular Corp*., 111 F.3d 1578, 1584 (Fed. Cir. 1997); *see also Pitney Bowes, Inc. v. Hewlett-Packard Co*., 182 F.3d 1298, 1311-12 (Fed. Cir. 1999) (cautioning against giving too much weight to applicant's amending patent title).

4. Extrinsic Evidence

Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317. Even before *Phillips*, it was established that extrinsic evidence may never be relied upon to vary or contradict the clear meaning of terms in the claims. *See On-Line Techs., Inc. v. Bodenseewerk Perkin-Elmer GmbH*, 386 F.3d 1133, 1139 (Fed. Cir. 2004) (noting that extrinsic evidence "cannot be used to alter a claim construction dictated by a proper analysis of the intrinsic evidence.").

This is not to say that extrinsic evidence cannot be used in claim construction, in conjunction with the intrinsic evidence of the patent. *See Phillips*, 415 F.3d. at 1319 ("In sum, extrinsic evidence may be useful to the court, but it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.") Courts are often consider extrinsic evidence during claim construction. For example, the Federal Circuit has stated that courts may review extrinsic evidence so as to "educate the court concerning the invention and the knowledge of persons of skill in the field of the invention." *Inpro II Licensing, SARL v. T-Mobile USA, Inc.*, 450 F.3d 1350, 1357 (Fed. Cir. 2006); *see, e.g., Pitney Bowes*, 182 F.3d at 1309 (approving use of extrinsic evidence to ensure claim construction was consistent with "understandings in the pertinent technical field"); *Bayer CropScience AG v. Dow AgroScience LLC*, No. 2013-1002, 2013 U.S. App. LEXIS 18215 (Fed. Cir. Sept. 3, 2013) (finding that a patent for a monooxygenase enzyme herbicide did not cover a dioxygenase enzyme because the established scientific meaning of monooxygenase did not include dioxygenase). Thus, from an advocate's point of view, it can be vitally important to build an extrinsic-evidence case supporting one's proposed claim construction, whether or not the final decision will ultimately be based on intrinsic evidence. This is even more true in light of the Supreme Court's decision in *Teva Pharmecuticals v. Sandoz*, where it held that claim constructions based on extrinisic evidence (or "subsidiary facts") are reviewed for clear error on appeal. No. 13-854, slip op. at 6, 11-12 (U.S. Jan. 20, 2015).

a. Dictionaries and Treatises

Dictionaries and treatises can be useful in claim construction, provided that they are given the proper weight. *See Phillips*, 415

F.3d at 1318. In particular, technical dictionaries may help the court to "'better understand the underlying technology' and the way in which someone of skill in the art might use the claim terms." *Id.* (quoting *Vitronics*, 90 F.3d at 1584 n.6). Such resources can be used effectively in conjunction with the intrinsic evidence. *See, e.g.*, *Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010) (referring to dictionary definition of "case" when the "patent specification does not assign or suggest a particular definition to the term").

But advocates should use technical dictionaries with caution. *See Phillips*, 415 F.3d at 1322 ("There is no guarantee that a term is used in the same way in a treatise as it would be by the patentee. In fact, discrepancies between the patent and treatises are apt to be common because the patent by its nature describes something novel."). The Federal Circuit has warned against consulting dictionaries without the perspective of someone skilled in the art and construing claims out of context. *See, e.g.*, *Ferguson Beauregard/ Logic Controls v. Mega Sys., LLC*, 350 F.3d 1327, 1338 (Fed. Cir. 2003) (stating, "[t]he words used in the claims must be considered in context and are examined through the viewing glass of a person skilled in the art."). Instead, the Federal Circuit has underscored the importance of using context to obtain a logical claim construction. *See Phillips*, 415 F.3d at 1322 (observing that using subject matter and context to define a term will often lead to the correct result, while indiscriminate reliance on a dictionary can lead to "absurd" results).

When given a choice, courts prefer a technical dictionary over a general usage dictionary. *See Phillips*, 415 F.3d at 1322 ("'[A] general usage dictionary cannot overcome art-specific evidence of the meaning' of a claim term." (quoting *Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n*, 366 F.3d 1311, 1321 (Fed. Cir. 2004))). *But see, e.g.*, *Joy MM Del., Inc. v. Cincinnati Mine Mach.,* 497 Fed. Appx. 970, 973 (Fed. Cir. 2012) (nonprecedential) (referring to Webster's Third International Dictionary and Oxford English Dictionary to construe meaning of "indentions"). Furthermore, before relying on any extrinsic resource, whether technical or general, the court construing claims should consult the specification. S*ee Phillips*, 415 F.3d at 1321 (observing that construing claim terms using "broad definition[s]" and failing to appreciate how a specification limits the definition will lead to "systematic overbreadth").

Nevertheless, the sequence of steps used by the court is not important, although giving appropriate weight to the various sources is important. *See, e.g.*, *Old Town Canoe Co. v. Confluence Holdings Corp.*, 448 F.3d 1309, 1316 (Fed. Cir. 2006) (finding that the district court's initial reference to dictionary definitions to construe claim terms "was not an improper attempt to find meaning in the abstract divorced from the context of the intrinsic record" because the court's analysis focused on intrinsic evidence, consistent with *Phillips*); *see also Pfizer Inc. v. Teva Pharm. USA, Inc.*, No. 2:10-cv-00128, ECF No. 113 (E.D. Va. Mar. 17, 2011) (stating that courts are not required to analyze sources in any particular sequence).

b. Inventor Testimony

Inventor testimony often has little probative value for the purposes of claim construction. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 n.3 (Fed. Cir. 2008) (stating that the "inventor's self-serving statements are rarely relevant to the proper construction of a claim term"). The Federal Circuit, in *Markman*, held that an inventor's testimony about the meaning of the claims in his or her patent was "entitled to no deference" and cautioned that "[t]he 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." 52 F.3d at 982, 985. *But see Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1162, 1166 (Fed. Cir. 2004) (accepting district court's reliance on inventor deposition testimony where claim construction was consistent with the intrinsic evidence, which provided "'only an amorphous interpretation of the disputed term'").

Inventor testimony is similarly non-probative when it is intended to exclude subject matter from the scope of the claim. *See Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1346-47 (Fed. Cir. 2008) (rejecting the use of the inventor's testimony in all circumstances, regardless of whether it broadens or narrows the claim scope). Nevertheless, courts often welcome inventor testimony when it is offered to explain the underlying technology or to provide background for the invention—rather than to support a particular claim interpretation. *See Voice Techs. Group, Inc. v. VMC Sys., Inc.*, 164 F.3d 605, 615 (Fed. Cir. 1999) ("[T]he inventor may also provide background information, including explanation of the problems that existed at the time the

invention was made and the inventor's solution to these problems."); *see also Verizon Servs. Corp. v. Cox Fibernet Va.*, 602 F.3d 1325, 1339-40 (Fed. Cir. 2010) (recognizing that inventors may explain the invention and its development but that inventors cannot change by later testimony the meaning of claims at the time the patent was drafted and granted).

c. Expert Testimony

The Federal Circuit's view toward extrinsic expert testimony varies with the particular case. *See Inpro II*, 450 F.3d at 1357 ("The decision as to the need for and use of experts is within the sound discretion of the district court."). But the Federal Circuit has also stated that reliance on expert testimony and on the testimony and prior writings of the patentee's employees was "legally incorrect." *Vitronics*, 90 F.3d at 1585. The *Phillips* court, meanwhile, feared the bias inherent in paid expert testimony but acknowledged the potential value of expert testimony in helping the court understand the background of the technology, how the invention works, the understanding of a person of skill in the art, and any applicable terms of art. 415 F.3d at 1318 (citing *Pitney Bowes*, 182 F.3d at 1308-09).

Expert testimony is likely to become particularly important in the claim construction process after the Supreme Court's recent decision in *Teva Pharmaceuticals, USA, Inc. v. Sandoz, Inc.* clarifying the standard of review for claim construction decisions.. In the underlying district court case that led to the Supreme Court's *Teva* decision, the two parties disputed what a person of ordinary skill in the art at the time of the invention would understand the term "molecular weight of about 5 to 9 kilodaltons" to mean. No. 13-854, slip op. at 14-15 (U.S. Jan. 20, 2015). Both parties supported their arguments with expert testimony; the district court credited the plaintiff's expert's testimony while disregarding the testimony of the defendant's expert. *Id.* at 15-16. The Supreme Court ultimately held that the district court's decision as to what an ordinarily skilled artisan would understand the disputed term to mean, based on expert testimony, constituted a "factual findng" which could only be overturned on appeal if it was "clearly erroneous." *Id* at 16.

Though it will take time to understand the full impact of the Supreme Court's *Teva* decision, that opinion will likely have a significant impact on the use of expert testimony in the claim

construction process. Parties that wish to insulate themselves from a harsh *de novo* review standard on appeal may find it advantageous to provide the district court with expert testimony as to how a person of ordinary skill would understand a term at the time of the invention. If successful, this strategy may bring the district court's decision into the realm of "factual findings," thus making it more difficult for the Federal Circuit to overturn on appeal a district court decision under the more lenient "clear error" standard of review. Similarly, district courts may find that premising their decisions on explicit factual findings based on expert testimony lessens the chance that those decisions will be overturned on appeal.

Nevertheless, if expert testimony is to persuade the court, it must be supported by evidence. *General Protecht Group v. Intern. Trade Comm'n*, 619 F.3d 1303, 1310 (Fed. Cir. 2010) ("[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court.") (quoting *Phillips*, 415 F.3d at 1318). Furthermore, this testimony is entitled to no weight if it clearly conflicts with the intrinsic record of the patent. *Phillips*, 415 F.3d at 1318 (discounting "'any expert testimony that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent'") (quoting *Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998)).

There are, however, strategy implications related to offering expert testimony for claim construction. Advocates should be aware that offering expert testimony that entails an opinion on claim construction may be viewed as intruding on the court's exclusive province to construe claims as a matter of law, and may trigger a court's reluctance to give the testimony any weight. Further, offering expert testimony may result in having to produce the expert for a deposition on the claim construction subjects. This deposition would be in addition to any deposition the expert may offer later on infringement or invalidity, and, thus, offers the opponent additional information about the expert.

d. Related Proceedings

Another important source of potential evidence for claim construction is related patent proceedings, including other pending or abandoned applications and their file histories. *See Ventana*,

473 F.3d at 1184; *see also Hakim v. Cannon Avent Group, PLC*, 479 F.3d 1313, 1317–18 (Fed. Cir. 2007) (holding patent claims in a continuation application were properly limited to same scope as claims in parent application because of disclaimer of patent scope made during prosecution of parent application). This includes foreign proceedings, including, for example, Japanese, European, and Canadian patent proceedings. *See Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1290 (Fed. Cir. 2009) (finding that Japanese priority document was "relevant objective evidence of the inventor's knowledge at the filing" of the U.S. application and effectively removed an embodiment from claim construction). *But see Pfizer, Inc. v. Ranbaxy Labs., Ltd.*, 457 F.3d 1284, 1290 (Fed. Cir. 2006) (holding that patentee's statements made during prosecution of foreign counterpart applications were "irrelevant" because statements were made in response to foreign patentability requirements and laws).

C. MEANS-PLUS-FUNCTION (OR STEP-PLUS-FUNCTION) CLAIMS

There are special claim construction rules for claims drafted in "means-plus-function" format. Section 112(f) of the Patent Act provides that:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112(f).[1] This section was originally added in 1952 to overturn the holding in *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946) that claims written in this format were invalid as indefinite. Congress decided to permit means-plus-function claims but added the limitation that they cover only the structure described in the specification.

Means-plus-function claims almost always use the term "means" or "means for." Absence of those words creates a rebuttable presumption that the drafter did not intend to exercise the option provided by section 112(f). *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d 1367,

1. The AIA amended 35 U.S.C. § 112 to delineate the paragraphs with letters. Before the amendment, discussion of means-plus-function claiming referenced "112, paragraph 6."

1373 (Fed. Cir. 2012) (noting that "use of the word 'means' creates a rebuttable presumption that the drafter intended to invoke § 112, ¶ 6, while failure to use the word 'means' creates a rebuttable presumption that the drafter did not intend the claims to be governed by § 112, ¶ 6."). The presumption that a limitation lacking the term "means" is not subject to section 112(f) can be overcome upon demonstration that the claim term (1) "fails to recite sufficiently definite structure," or (2) "recites function without reciting sufficient structure for performing that function." *Inventio AG v. Thyssenkrupp Elevator Ams.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011) (internal quotation marks omitted) (quoting *CCS Fitness*, 288 F.3d at 1369). In either situation, the presumption may be rebutted. *Inventio AG*, 649 F.3d at 1356.

Conversely, a claim is not necessarily a means-plus-function claim just because the claim uses "means" or "means for" language. The essence of a means-plus-function claim is the claim's recitation of function without disclosing specific structure for achieving that function. If the claim itself recites definite structure, the claim is not a means-plus-function claim. *Rembrandt Data Techs.,* 641 F.3d at 1340-41 (acknowledging that the means-plus-function presumption "can be rebutted if the claim limitation itself recites sufficient structure to perform the claimed function in its entirety" and finding that claim terms "fractional rate encoding means" and "trellis rate encoding" were "self-descriptive to one of ordinary skill in the art" and "defined algorithms known to skilled artisans in the early 1990s" and therefore did not require means-plus-function treatment). The question of whether sufficient structure has been disclosed to support a means-plus-function limitation is to be decided by what one skilled in the art would understand. *See Id.*, 641 F.3d at 1341 ("When determining whether a claim term recites sufficient structure, we examine whether it has an understood meaning in the art.").

A patentee may also claim a method by reference to "steps" rather than "acts." If claimed in steps, the patentee is limited to the acts recited in the specification and its equivalents. 35 U.S.C. § 112(f). The use of the term "step for" creates a rebuttable presumption that the drafter intended to invoke section 112(f). *See Masco Corp. v. U.S.*, 303 F.3d 1316, 1326-27 (Fed. Cir. 2002). If an act is present in the claims, "then the limitation is not a step plus function limitation." *Id.* at 1327.

1. Construction of Means-Plus-Function Claims

Construction of means-plus-function claims involves two steps that a court must complete in order. First, a court must identify the claimed function. *In re Aoyama*, 656 F.3d 1293, 1296 (Fed. Cir.

2011). The function follows the "means" or "means for" language. In determining the function, "a court may not construe a means-plus-function limitation 'by adopting a function different from that expressly recited in the claim.'" *JVW Enters., Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1331 (Fed. Cir. 2005). Also, "a court errs 'by importing the functions of a working device into the [ ] specific claims, rather than reading the claims for their meaning independent of any working embodiment.'" *Id.*

Second, a court must identify the "corresponding structure" in the specification that is designated to perform the claimed function. *In re Aoyama*, 656 F.3d at 1297. The purpose of this step is to avoid pure functional claiming. *Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) (explaining otherwise "the patentee has not paid the price but is attempting to claim in functional terms unbounded by any reference to structure in the specification"). The construction of means-plus-function claims according to the structure recited in the specification means that the rule that claim limitations may not be imported from the specification is not applicable to means-plus-function claims. Quite the opposite, the recited structure will dictate claim scope:

> The literal scope of a properly construed means-plus-function limitation does not extend to all means for performing a certain function. Rather, the scope of such claim language is sharply limited to the structure disclosed in the specification and its equivalents. *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1304 (Fed. Cir. 2011) (internal quotations omitted). Moreover, because the "structure disclosed in the specification" often describes little more than the preferred embodiment, the rule that claims should not be limited to their preferred embodiment is also not applicable to means-plus-function claims. At the same time, disclosures of additional embodiments and structure can broaden the claim. When multiple embodiments in the specification correspond to the claimed function, proper application of section 112(f) generally reads the claim element to embrace each of those embodiments. *See TI Group Auto. Sys., Inc. v. VDO N. Am. LLC*, 375 F.3d 1126, 1137 (Fed. Cir. 2004).

The Federal Circuit has acknowledged that a specification's reference to a published journal article can be a sufficient disclosure of structure to support a valid means-plus-function claim, but only if the referenced title itself denotes structure to one of skill in the art. *Biomedino LLC v. Waters Techs. Corp.*, 490 F.3d 946 (Fed. Cir. 2007). But mere reference in the specification to a "known" structure is not sufficient disclosure; the written description must itself disclose the structure. *See id.* at 951-53. Furthermore, a court cannot look to the prior art that is merely listed in a patent specification to provide

corresponding structure for a means-plus-function limitation. *Pressure Prods. Med. Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308, 1317 (Fed Cir. 2010). Similarly, a challenger seeking to invalidate a patent by showing that a means-plus-function limitation existed in the prior art must prove that the corresponding structure (or an equivalent) was present in the prior art. *See In Re Baxter Int'l, Inc.*, 678 F.3d 1357, 1360 (Fed. Cir. 2012).

Identifying the "corresponding" structure can be problematic when the patent specification describes a number of alternative structures, some in greater detail than others. The rule is that structure disclosed in the specification is deemed to be "corresponding" structure only if the specification "'clearly links or associates that structure to the function recited in the claim.'" *In re Aoyama*, 656 F.3d at 1297 (quoting *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003)). "Claim interpretation under § 112, ¶ 6 does not 'permit incorporation of structure from the written description beyond that necessary to perform the claimed function.'" *John Mezzalingua Assoc., Inc. v. Int'l. Trade Comm'n.*, No. 2010-1373 (Fed. Cir. April 28, 2011) (nonprecedential) (quoting *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999)). "Features that do not perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations." *Northrup Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003).

Validity questions may arise during attempts to construe means-plus-function claims. The "corresponding structure" must be specific enough to meet section 112's general definiteness requirement. The duty to link or associate structure in the specification with the function is the *quid pro quo* for the convenience of employing section 112(f).If no corresponding structure is disclosed, then the claim may be invalid for indefiniteness. *See Med. Instrumentation*, 344 F.3d at 1210. As stated by the Federal Circuit:

> [I]f one employs means-plus-function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112.

Biomedino, 490 F.3d at 952-53 (internal quotation marks omitted) (quoting *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (*en banc*)); *see also Golight*, 355 F.3d at 1334. Whether the written description adequately sets forth the structure corresponding to the

claimed function must be considered based on the understanding of a person skilled in the art. *Telcordia Techs., Inc. v. Cisco Sys., Inc.*, 612 F.3d 1365, 1376 (Fed. Cir. 2010). "The question is not whether one of skill in the art would be capable of implementing a structure to perform the function, but whether that person would understand the written description itself to disclose such a structure." *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008).

The link or association between the structure and the claimed function requires that the identified structure be more than a "black box." *See Blackboard, Inc. v. Desire2Learn Inc.*, 574 F.3d 1371, 1382-83 (Fed. Cir. 2009). Indeed, "the specification must contain sufficient descriptive text by which a person of skill in the field of the invention would know and understand what structure corresponds to the means limitation." *Function Media, LLC v. Google, Inc.*, 708 F.3d 1310 (Fed. Cir. 2013) (internal quotations omitted). Rather, the structure needs to be described in detail and not abstraction. *See id.* For example, when a general-purpose computer is identified as the structure, the algorithm for performing the claimed function must be disclosed. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008). An algorithm must be disclosed with enough specificity to allow for calculation. S*ee Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 732 F.3d 1376, 1382 (Fed. Cir. 2013) (upholding a finding of indefiniteness where "algorithm" merely listed inputs without specifying a formula or function used to analyze the inputs). But where the specification discloses different alternative embodiments, the claim is valid even if only one embodiment discloses corresponding structure. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113-14 (Fed. Cir. 2002).

Validity questions during attempts to construe means-plus-function claims may also arise in the context of the patentable subject matter under 35 U.S.C. § 101. There are only three exceptions to the patent-eligibility of claims under one of the section 101 categories of subject matter—processes that are (1) laws of nature, (2) physical phenomena, and (3) abstract ideas. *See Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010). Further discussion regarding these validity challenges is in Chapter 13.

2. Claim Differentiation as Applied to Means-Plus-Function Claims

In many patents, basically the same subject matter is covered, first, by means-plus-function claims with corresponding structure described in the specification, and then by more-specific claims that expressly describe the same structural limitations. The Federal Circuit has cautioned that the courts should not let the doctrine of claim differentiation inappropriately broaden the scope of the claims. *ERBE Elektromedizin GmbH v. Canady Tech., LLC*, 629 F.3d 1278, 1286 (Fed. Cir. 2010) ("Claim differentiation may be helpful in some cases, but it is just one of many tools used by courts in the analysis of claim terms.") *Interdigital Commc'ns., LLC v. Int'l Trade Comm'n*, 690 F.3d 1318 (Fed. Cir. 2012) (noting that the doctrine of claim differentiation only creates a presumption that each claim in a patent has a different scope). Courts can still apply claim differentiation to means-plus-function claims but cannot use the doctrine to impermissibly broaden the patent's coverage contrary to other claim construction precepts. *See NOMOS Corp. v. BrainLAB USA Inc.*, 357 F.3d 1364, 1368 (Fed. Cir. 2004); *Medtronic, Inc. v. Adv. Cardio-vascular Sys., Inc.*, 248 F.3d 1303, 1313 (Fed. Cir. 2001); *cf. Clearstream Wastewater Sys., Inc. v. Hydro-Action, Inc.*, 206 F.3d 1440, 1446 (Fed. Cir. 2000) (stating that claim differentiation doctrine "cannot be used to make a claim broader than what is contained in the written description, but it prevents the narrowing of broad claims by reading into them the limitations of narrower claims" (citation omitted)). In *Creo Products, Inc. v. Presstek, Inc*., 305 F.3d 1337, 1345 (Fed. Cir. 2002), the Federal Circuit accepted a claim differentiation argument where the infringer's claim construction would have made a dependent claim redundant. *But see Globetrotter Software, Inc. v. Elan Computer Group, Inc.*, 236 F.3d 1363, 1369 (Fed. Cir. 2001) (finding that claim differentiation doctrine did not apply).

D. CONDUCTING CLAIM CONSTRUCTION PROCEEDINGS

1. Timing

Courts have broad latitude in determining when to construe claims. *See Conoco, Inc. v. Energy & Envtl. Int'l, L.C.*, 460 F.3d 1349, 1359 (Fed. Cir. 2006) (stating "a district court may engage in claim construction during various phases of litigation, not just in a

Markman order"). Several district courts have adopted local rules that provide for the timing of the briefing and hearing of claim construction issues. *See* section D.1.e, *infra*. Although the local rules must be followed unless superseded by a court's ruling, courts generally have considerable discretion to determine when claim construction will occur.

Procedurally, claim construction can occur at different points in the case—early in discovery, near the close of discovery, during dispositive motions, or even at trial. *But see Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1331 (Fed. Cir. 2009) *cert. denied*, 130 S. Ct. 749 (U.S. 2009) (denying plaintiff's request to reopen claim construction based on defendants' construction in another case because "litigants waive their right to present new claim construction disputes if they are raised for the first time after trial"). Alternatively, a district court may have a "rolling claim construction" in which the court revisits and modifies its interpretations of the claims as the court becomes more familiar with the technology. *Pressure Prods. Med. Supplies v. Greatbatch*, 599 F.3d 1308, 1316 (Fed. Cir. 2010). Determining when to conduct claim construction can be of utmost importance, and the fortunes of litigants can rise or fall based on little more than the time at which the court opts to construe the claims.

a. Early in Case Before Significant Fact Discovery

Courts have conducted claim construction proceedings as early as a preliminary injunction proceeding, and before or shortly after the commencement of discovery. In theory, an early claim construction hearing promotes various efficiencies, such as early settlement or focused discovery. However, several courts have questioned whether that is true as a practical matter. *See TM Patents, L.P. v. Int'l Bus. Mach. Corp.*, 121 F. Supp. 2d 349, 378 (S.D.N.Y. 2000) (after court rendered *Markman* decision, parties began disputing claim term not previously in dispute during summary judgment proceeding); *Centillion Data Sys., Inc. v. Am. Mgmt. Sys., Inc.*, 138 F. Supp. 2d 1117, 1120 (S.D. Ind. 2001) (stating that "before a *Markman* issue is ripe, discovery or case management should have progressed to the point where the parties and the court can be reasonably certain which claim terms are at issue, in other words, which claims and elements the plaintiff alleges were infringed").

Generally, it may be preferable to limit early claim constructions (*i.e.*, before substantive fact discovery) to special

circumstances: for example where it is known with reasonable certainty which claim terms are at issue with respect to infringement and discovery is not needed for that purpose; or those rare circumstances where there are admissions or agreements on claim scope. *See Aspex Eyeware, Inc. v. E'lite Optik, Inc.*, No. 98-2996, 2001 U.S. Dist. LEXIS 2088, at *4-5 (N.D. Tex. Feb. 27, 2001) (construing claims despite fact that discovery was not complete because defendant had admitted previously that scope of claim was clear).

b. Near End of Discovery

Perhaps the most common practice today is to schedule a *Markman* hearing near the end of discovery during the time for filing dispositive motions. The timing offers certain advantages. For example, substantially completing discovery allows discovery concerning the level of one skilled in the art—the standard by which the claims must ultimately be construed. This schedule also provides courts and litigants plenty of time to understand how claim construction fits into the various issues involved in the litigation, including validity and infringement. *See Every Penny Counts, Inc. v. Am. Express Co.*, 563 F.3d 1378, 1383-84 (Fed. Cir. 2009) (citing *Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326-27 (Fed. Cir. 2006)) ("While a trial court should certainly not prejudge the ultimate infringement analysis by construing claims with an aim to include or exclude an accused product or process, knowledge of that product or process provides meaningful context for the first step of the infringement analysis, claim construction."); *see also Reckitt Benckiser, Inc. v. Tris Pharma, Inc.*, No. 09-3125, 2010 U.S. Dist. LEXIS 121226, at *7 (D.N.J. Nov. 16, 2010) ("[T]he knowledge of the accused device before or during claim construction is not only permissible, but also necessary to claim construction because it 'supplies the parameters and scope of the infringement analysis.'"); *Lava Trading, Inc. v. Sonic Trading Mgmt., LLC*, 445 F.3d 1348, 1350 (Fed. Cir. 2006).

c. In Conjunction With Summary Judgment

Courts may construe claims in conjunction with summary judgment motions on infringement and validity. Claim construction, itself an issue of law, fits well into summary judgment. *See, e.g.*,

Schoenhaus, 440 F.3d at 1356. Dispositive motions on infringement or validity will often depend primarily or solely upon claim construction issues. A growing minority of courts consider claim construction only as part of dispositive motions. *See, e.g.*, *MacNeil Eng'g Co. v. Trisport, Ltd.*, 126 F. Supp. 2d 51, 54 (D. Mass. 2001) (stating that "[i]t has now become generally accepted that . . . the best time to hold the *Markman* hearing is at the summary judgment stage of the litigation"); *Mannington Mills, Inc. v. Armstrong World Indus., Inc.*, 218 F. Supp. 2d 594, 596 (D. Del. 2002) (consolidating arguments on claim construction and pretrial case-dispositive motions into a single *Markman* hearing "[a]s is customary in this jurisdiction");*V-Formation, Inc. v. Benetton Group SpA*, 401 F. 3d 1307, 1313 (Fed. Cir. 2005) (affirming district court's grant of summary judgment following joint *Markman* hearing and oral argument on summary judgment motion);. For example, in the District of Delaware, Chief Judge Robinson's Proposed Scheduling Order contemplates that the hearing on claim construction will occur simultaneously in conjunction with the hearing on summary judgment motions. *See* Scheduling Order (patent) (D. Del. Revised Jan. 7, 2014), *available at* http://www.ded.uscourts.gov/sites/default/files/Chambers/SLR/Forms/Sched-Order-Patent-01-07-14.pdf. Other courts have taken a similar approach. *See, e.g.*, *Dashwire, Inc. v. Synchronoss Techs., Inc.*, No. 3-11-cv00257, ECF No. 9 (W.D. Wis. July 29, 2011) (noting that Judge Crabb will construe claim terms only as a part of summary judgment and will not have separate claim construction briefing or hearings).

In addition to the legal compatibility between summary judgment and claim construction, combining claim construction with summary judgment may promote judicial efficiency by minimizing the number of times the court must relearn the technology at issue. *See Cybor Corp. v. FAS Techs., Inc*., 138 F.3d 1448, 1456 (Fed. Cir. 1998); *see id.* at 1473 (Rader, C.J., dissenting) (acknowledging that "a trial court must often resort to experts to learn complex new technologies"). Further, judges are likely more comfortable making legal rulings on claim construction at a point when the ultimate consequences of infringement or invalidity are squarely presented.

Consolidating claim construction with summary judgment may especially appeal to accused infringers who may escape liability with the construction of a single claim element in their

favor. Alternatively, however, combining claim construction with summary judgment will limit or eliminate litigants' ability to modify legal positions or adapt litigation strategies in response to adverse or unexpected claim constructions.

d. Late in the Case, Almost at Trial or at Trial

Some courts will not construe the claims until after all discovery is completed, or even until the conclusion of trial when preparing final jury instructions. *See Vitronics*, 90 F.3d at 1580 (delaying claim construction until close of trial testimony); *Medtronic*, 248 F.3d at 1305 (affirming construction of claims and entry of directed verdict before closing argument at trial). A late claim construction ruling can present enormous difficulties to the parties, since it may trigger the need for more discovery after discovery has closed or require the revision of written expert reports. *See generally Cybor Corp.*, 138 F.3d at 1474 n.14 (Rader, J., dissenting). If the claim construction is after or during trial, it may also require the parties to present their case for two possible claim constructions instead of just one. If the claim construction process is conducted during or after trial (*e.g.*, during jury instructions), the jury may be kept waiting for some time, a situation that neither courts nor litigants want.

Claim construction issues are also a typical subject of post-trial motions for new trial and JMOL (judgment as a matter of law). *See, e.g.*, *Markman*, 52 F.3d at 973. By definition, claim construction rulings are interlocutory, and courts are free to change them at any time before entry of final judgment. In addition, parties must raise any potential claim construction arguments before the district court in order to preserve these arguments on appeal. *See Lazare Kaplan Int'l, Inc. v. Photo-Scribe Techs., Inc.*, 628 F.3d 1359 (Fed. Cir. 2010).

e. Local Rules for Patent Cases

Many district courts have adopted local rules that cover the timing and procedures for claim construction. Local rules for patent cases generally require various early, specialized pleadings intended to refine claim construction issues and provide for *Markman* hearings in every patent case, typically well before discovery closes and trial begins.

In jurisdictions that do not have local patent rules, the initial Rule 16 conference presents an opportunity to shape the course of the litigation and help define issues in the case. Some patent-specific provisions in a scheduling order may be desirable to litigants and the court. For example, the court might appreciate an early identification of claim construction issues and an understanding of the potential dispositive nature of the court's claim construction. A court may consider adopting some variation of another district's local patent rules for a scheduling order—*e.g.*, litigants could invite the court to require the exchange of claim charts and invalidity explanations. Advocates who appreciate how such provisions affect each side's ability to present a case will have a distinct advantage at an early point in the litigation.

2. Form of Hearing

The claim construction hearing can take as many forms as there are district court judges. Probably the most common technique for conducting a claim construction hearing is strictly on the basis of attorney argument during a short (half-day) hearing. *But see Revlon Consumer Prods. Corp. v. Estee Lauder Cos.*, No. 00-5960, 2003 U.S. Dist. LEXIS 13004, at *47 (S.D.N.Y. July 30, 2003) ("A '*Markman* hearing' to interpret claim language is unnecessary in this case, because the sole disputed claim term—'completely coated'—is neither ambiguous nor highly technical"). The use of demonstrative exhibits in such hearings is generally limited to those that emphasize the particular intrinsic evidence most helpful to the attorney's position, such as large exhibit boards, Trial Director software, or PowerPoint presentations.

As expert testimony can be relevant to the claim construction process, especially by informing the court's understanding of the technology, it is not uncommon for some claim construction hearings to resemble mini-trials where testimony or affidavits from technical experts describe the underlying technology. *See Altiris*, 318 F.3d at 1371 (stating that "[i]n this regard, the expert testimony serves the permissible purposes of aiding our understanding of the technology and in helping us view the patent through the eyes of the skilled artisan"); *Callaway Golf Co. v. Acushnet*, 576 F.3d 1331, 1338 (Fed. Cir. 2009) ("[E]vidence of accepted practice within the art, when not at variance with the intrinsic evidence, is relevant to the question of how a person of skill in the pertinent field would understand a term."). Accordingly, litigants should always be prepared for the

possibility of presenting expert testimony at the claim construction hearing. Should expert testimony be requested by the court, litigants should consider what type of pre-hearing discovery they may want to conduct, *e.g.,* a limited expert deposition, a short expert witness statement, or alternatively, no discovery at all.

Some courts have appointed neutral experts or technical advisors to assist with claim construction. *See TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1377 (Fed. Cir. 2002) (stating that courts have the authority to appoint a technical advisor "to inform and support the judicial process to settle disputes"). A court should consider a technical expert's testimony in *Markman* proceedings, particularly "to ensure that his or her understanding of the technical aspects of the patent is not entirely at variance with the understanding of one skilled in the art." *Pitney Bowes*, 182 F.3d at 1309; *see, e.g.*, *Koninklijke Philips Elecs. N.V. v. Cinram Int'l, Inc.*, 709 F. Supp. 2d 259, 268 (S.D.N.Y. 2010) (considering testimony of expert regarding technology at time of invention in order to construe claim term).

Some courts have appointed special masters to make initial rulings on claim construction, subject to plenary review by the court. Fed. R. Civ. P. 53; *see, e.g.*, *Sitrick v. DreamWorks, LLC*, 516 F.3d 993, 996 (Fed. Cir. 2008) (claim construction by special master); *Planet Bingo, LLC v. GameTech Int'l, Inc.*, 472 F.3d 1338, 1340-41 (Fed. Cir. 2006) (claim construction by magistrate judge).

3. Limitations on the Number of Asserted Claims

In addition to controlling the form of claim construction, district courts sometimes control the claim construction process by limiting the number of claims the patentee can assert. For example, Magistrate Judge Mazzant for the U.S. District Court for the Eastern District of Texas ordered the plaintiff to limit the number of asserted claims to 31 in a case involving four patents to "aid in efficiency and narrowing the claims prior to claim construction." *Oasis Research, LLC v. Adrive, LLC, et al.*, No. 4-10-cv-00435, ECF No. 298 (E.D. Tex. Sept. 13, 2011). The court noted that "courts in the Eastern District of Texas have required plaintiffs to 'limit the number of asserted claims in cases for patent infringement when the number of claims is so large as to make the case inefficient and unmanageable.'" *Id*. (quoting *Realtime Data, LLC v. Packeteer*, No. 6:08-cv-144 (E.D. Tex. Mar. 16, 2009).

In July 2013, the Federal Circuit Advisory Council issued a Model Order Limiting Excess Patent Claims and Prior Art. *See*

Model Order, *available at* https://www. docketnavigator.com/images/FinalModelOrderLimitingExcessPatentClaimsAndPriorArt.pdf. The Model Order limits the patentee to asserting no more than 10 claims per patent and no more than 32 claims in total. Similarly, the Model Order limits the defendant to no more than 12 prior art references per patent or a total of 40 prior art references. If the patentee asserts only one patent, each of these per-patent limits is increased by 50 percent. The Federal Circuit has not endorsed the Model Order. But it is clear that there is an effort in patent law to limit the scope of patent cases to make them more manageable.

4. Appeal of Claim Constructions

Ever since the Federal Circuit's seminal decision in *Markman v. Westview Instruments, Inc.*, both the Federal Circuit and the Supreme Court have acknowledged that while the ultimate question of what a claim means is a legal one, the process of claim construction is messier than any pure question of law. As the Supreme Court put it in its decision affirming the Federal Circuit's opinion in *Markman*, claim construction is a "mongrel practice" with "evidentiary underpinnings," a practice that "falls somewhere between a pristine legal standard and a simple historical fact." 517 U.S. 370, 388, 390 (1996) But despite the presence of these "evidentiary underpinnings," the Federal Circuit has always reviewed claim construction *de novo* as a question of law, including any factual determinations related to the question. *Cybor Corp.*, 138 F.3d at 1454-56; *see also Trading Techs., Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1351 (Fed. Cir. 2010) (affirming that Federal Circuit reviews the district courts' claim construction "without the slightest iota of deference"). As recently as February 2014, an *en banc* panel of the Federal Circuit held that the standard of review for all of a district court's claim construction findings is *de novo. Lighting Ballast Control LLC v. Philips Elecs. NA Corp.*, 744 F.3d 1272, 1286 (Fed. Cir. 2014) (*en banc*).

In January 2015, however, the Supreme Court changed the nature of claim construction when it issued its opinion in *Teva Pharmaceuticals, Inc. v. Sanxoz ,Inc.* In that case, the Supreme Court accepted the general principle that claim construction was a question of law that should be reviewed *de novo*. No. 13-854, slip op. at 5 (U.S. Jan. 20, 2015). However, the Court also specifically considered the question of whether a judge's underlying factual determinations—such as the meaning of a term to a person of ordinary skill in the art at the time of the invention—are entitled to greater deference than a *de novo* review

from higher courts on appeal. *Id.* at 5-6. Drawing from Federal Rule of Civil Procedure 52(a)(6), the Supreme Court ultimately concluded that a district court's factual determinations during the claim construction process are entitled to substantial deference, and can only be overturned by an appellate court if those factual determinations are "clearly erroneous." *Id.* at 6, 11-12.

As a practical matter, the Supreme Court's *Teva* decision results in two different standards of reviews, applied to two different claim construction postures. Where the district court only relies upon evidence intrinsic to the patent—the patent's claims, specification, and prosecution history—then it is making a purely legal decision, and all of the district court's findings will be reviewed on appeal using a *de novo* standard. *Id.* at 11-12. Where the district court looks beyond the intrinsic evidence, however, and relies upon extrinsic evidence—such as dictionaries, treatises, inventor testimony, or expert testimony—to resolve a factual dispute, then this "evidentiary underpinning" must be reviewed by the Federal Circuit under a "clear error" standard. *Id.* at 12-13. However, it is important to note that in extrinsic evidence cases, how the district court applies its factual findings to the language of the claim and what the district court ultimately construes the claim to mean remain questions of law that will be reviewed on appeal using the same *de novo* standard that has always been used. *Id.*

Advocates of a more lenient standard of review have often cited the massive percentage of district court decisions reversed by the Federal Circuit Court of Appeals as evidence that a more deferential approach is needed. According to academic literature, the reversal rate of district court claim construction is between 33 percent and 50 percent. Donna M. Gitter, *Should the United States Designate Specialist Patent Trial Judges? An Empirical Analysis of H.R. 628 in Light of the English Experience and the Work of Professor Moore*, 10 COLUM. SCI. & TECH. L. REV. 169, 169 & 171-72 n.5 (2009); Kimberly A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable*?, 9 LEWIS & CLARK L. REV. 231, 234 (2004) (indicating reversal rate between 25 percent and 50 percent).

It remains to be seen, however, whether the Supreme Court's clarification of the appropriate standard of review for claim construction will actually have any effect on the number of district court decisions reversed by the Federal Circuit. After all, *Teva* only mandates a "clear error" standard in cases where extrinsic evidence is considered by the district court. No. 13-854, slip op. at 12 (U.S.

Jan. 20, 2015). In cases where the district court looks only to the intrinsic record, all of its findings will still be reviewed by the Federal Circuit *de novo*. And even in cases where the district court makes a factual determination as to the meaning of a term to an ordinarily-skilled artisan at the time of the invention based on extrinsic evidence, the Supreme Court still held in *Teva* that the question of "whether a skilled artisan would ascribe that same meaning to that term *in the context of the specific patent claim under review*" is a legal one which will be reviewed *de novo*. *Id.* (emphasis added). Given this language, the Federal Circuit may simply shift the focus of its analysis from the "evidentiary underpinning" of what an ordinarily-skilled artisan would understand a term to mean at the time of the invention to the "legal question" of whether the ordinarily-skilled artisan would apply its understanding to the term in the context of the patent claim.

What does seem clear is that for the foreseeable future, the Supreme Court's *Teva* decision provides clear incentives for both the parties to a litigation and the judge construing the patent to introduce and rely upon extrinsic evidence during the claim construction process. Both litigants and judges should expect to see much more reliance on extrinsic evidence—and particularly expert testimony—by parties seeking to obtain a more favorable standard of review on appeal.