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Recommended Citation: Robert Fram, Laurie Adams & Tanya Mazur, *Claim Construction and Implicit Definitions Based on the Specification Since Phillips*, 8 SEDONA CONF. J. 65 (2007).

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CLAIM CONSTRUCTION AND IMPLICIT DEFINITIONS BASED ON THE SPECIFICATION SINCE *PHILLIPS*

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I. INTRODUCTION

Since the Federal Circuit's decision in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), *cert. denied*, 126 S.Ct. 1332 (2006), the Court has continued to struggle with implementing a framework for claim construction. Although many had hoped that *Phillips* would bring clarity and consistency to the methodology of claim construction, that hope has not yet fully materialized. Nonetheless, certain trends have developed. In particular it appears that, since *Phillips*, the Federal Circuit is more likely than not to find that the specification supports an implicit definition of a claim limitation.¹

To be sure, this line of thought resonates with greater or lesser force with different panels. Despite this, it is worthwhile to note some of the circumstances in which an argument for including an implicit definition have been particularly successful. In particular:

- (1) when a patent makes consistent use of a term throughout the specification;
- (2) when the preferred embodiment is referred to as “the invention;”
- (3) when a structure is disclosed in the specification that, by its nature, excludes others;
- (4) when the specification distinguishes the invention from the prior art on the basis of a particular feature;
- (5) when the specification demeans a technology or solution, and;
- (6) reliance on industry standards, when incorporated in the specification, as highly probative of the meaning of a term.

Section I of this paper briefly reviews the manner in which the Federal Circuit had addressed the role of the specification before *Phillips*. Section II reviews the framework articulated in *Phillips*. Section III reviews the post-*Phillips* jurisprudence on the question of implicit definition based on the specification, reviewing the six arguments set forth above. It concludes with a discussion of the persisting question of the “single embodiment” specification in the wake of *Phillips*.

II. PRE-*PHILLIPS* CLAIM CONSTRUCTION JURISPRUDENCE

The use of the specification in construing the meaning of claims has always been bounded by two fundamental principles which are often in tension with each other: “(a) one may not read a

¹ To be sure, there are several other areas of inquiry that bear on claim construction (e.g., the appropriate role of extrinsic evidence) that continue to be the focus of the Federal Circuit's attention. That those subjects are beyond the scope of this paper does not diminish their importance.

limitation into a claim from the written description, but (b) one may look to the written description to define a term already in a claim limitation.” *Renishaw PLC v. Marposs Societa per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). In the years leading up to *Phillips*, two divergent approaches to claim construction arose, the dictionary-based methodology and the specification-based methodology.

The dictionary-centric approach was brought to the fore in *Texas Digital Systems, Inc. v. Telegenix, Inc.* 308 F.3d 1193 (Fed. Cir. 2002). The Court in *Texas Digital* stated that dictionaries and other related materials “may be the most meaningful sources of information to aid judges in better understanding both the technology and the terminology used by those skilled in the art to describe the technology.” *Id.* at 1203. The *Texas Digital* court recommended the use of the intrinsic record to determine which of multiple dictionary meanings “is most consistent with the use of the words by the inventor.” Indeed, the Court warned that “[c]onsulting the written description and prosecution history as a threshold step in the claim construction process, before any effort is made to discern the ordinary and customary meanings attributed to the words themselves, invites a violation of our precedent counseling against importing limitations into claims.” *Id.* at 1204. The presumption in favor of dictionary meanings would only be overcome “where the patentee, acting as his or her own lexicographer, has clearly set forth an explicit definition of the term different from its ordinary meaning.” *Id.*

The specification-centric approach instead focused on the specification and prosecution history to determine the proper meaning of disputed claim terms. Thus, in *Toro Co. v. White Consolidated Industries, Inc.*, the Federal Circuit took a very different approach:

[W]ords of ordinary usage must...be construed in the context of the patent documents. Thus the court must determine how a person of experience in the field of the invention would, upon reading the patent documents, understand the words used to define the invention.... As this case well illustrates, the dictionary definitions of common words are often less useful than the patent documents themselves in establishing the usage of ordinary words in connection with the claimed subject matter.

199 F.3d 1295, 1299 (Fed. Cir. 1999).

Torn between these divergent approaches, the Federal Circuit, lower courts, lawyers, and litigants struggled with how properly to construe disputed claim terms. It was against this background that the Federal Circuit agreed to consider *Phillips en banc*.

III. *PHILLIPS v. AWH CORP.*

The *Phillips en banc* decision was widely seen as promising the definitive word by the Federal Circuit regarding claim construction. The well known facts of the case can be briefly stated. *Phillips* owned a patent for vandalism-resistant wall panels, and sued AWH for infringement. The United States District Court for the District of Colorado granted summary judgment for noninfringement based in part on its construction of the claim term “baffles.” Finding that “every textual reference in the Specification and its diagrams show baffle deployment at an angle other than 90 to the wall faces,” the District Court concluded that “for purposes of the . . . patent [at issue], a baffle must ‘extend inward from the steel shell walls at an oblique or acute angle to the wall face’ and must form part of an interlocking barrier in the interior of the wall module.” *Id.* at 1309 (citation omitted).

On appeal, a Federal Circuit panel affirmed, agreeing with the District Court that the patent used the term “baffles” in a restrictive manner. *Id.* at 1310. Based on the patent’s written description, the panel held that the claim term ‘baffles’ excludes structures that extend at a 90 degree angle from the walls. The panel also found that “the patent specification ‘is intended to support and inform the claims, and here it makes it unmistakably clear that the invention involves baffles angled at other than 90.’” *Id.* (quoting *Phillips v. AWH Corp.*, 363 F.3d 1207, 1213 (Fed. Cir. 2004)). Judge Dyk dissented, stating

that the panel “improperly limited the claims to the particular embodiment of the invention disclosed in the specification, rather than adopting the ‘plain meaning’ of the term ‘baffles.’” Instead, Judge Dyk wrote, the Court should have adopted a dictionary definition. *Id.*

Upon rehearing the case en banc, the Federal Circuit vacated the panel’s judgment and ruled, instead, that proper construction of the term “baffles did not preclude baffles disposed at a 90 degree angle.” Before providing its analysis of the proper construction of the term, the Federal Circuit said that it was “restating” and “reaffirming” the basic principles of claim construction outlined in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-81 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996); and *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.* 381 F.3d 1111 (Fed. Cir. 2004). The Court also reiterated the importance of reading the claim terms “not only in the context of a particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. The Court noted that in certain cases, “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges” *Id.* at 1314. It is only when the meaning of a term is not readily understood by persons of skill in the art or the patentee has used a particular term idiosyncratically that a court should look to (1) “the words of the claims themselves,” (2) “the remainder of the specification,” (3) “the prosecution history,” and (4) “extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

The Court stressed that “[t]he best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history.” *Id.* at 1315 (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998)). Further, the Court explained, “the construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” The Court criticized limiting the use of the specification and the requirement that “any definition of claim language in the specification be express” as “inconsistent with our rulings that the specification is ‘the single best guide to the meaning of a disputed term,’ and that the specification ‘acts as a dictionary when it expressly defines the terms used in the claims or when it defines terms by implication.’” *Id.* at 1320-21 (quoting *Vitronics*, 90 F.3d at 1582). The Federal Circuit was concerned that this line of reasoning would “extend patent protection beyond what should properly be afforded by the inventor’s patent” and would interfere with the public notice function.

Finally, the Court acknowledged that:

[t]he manner in which the patentee uses a term within the specification and claims usually will make the distinction” between whether “the patentee is setting out specific examples of the invention . . . or . . . the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive.

Id. at 1323.

Phillips presents a variety of analysis to support reliance on implicit definitions found in the specification. The most persuasive analysis found in *Phillips* to acknowledge the “revival” of implied definitions is found in the Court’s discussion of the *Texas Digital* case. While discussing that case, the Federal Circuit noted that “[a]ssigning such a limited role to the specification, and *in particular requiring that any definition of claim language in the specification be express*, is inconsistent with our ruling that the specification is ‘the single best guide to the meaning of a disputed term,’ and that the specification ‘acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.’” *Id.* at 1320-21 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)) (emphasis added).

Despite this rationale allowing for the use of implied definitions, the Federal Circuit recognized the problems inherent in relying on implied definitions. These problems include the potential of confining claims solely to the specific embodiments disclosed; importing limitations from

the specification into the claims; and difficulties in the interpretation of a term when the patentee acts as his own lexicographer. As a result, the *Phillips* Court acknowledged that there are no explicit rules governing whether the embodiments described in the specification merely provide examples or define the outer limits of the claim term.

Applying this approach to the construction of the claim term “baffles,” the en banc Court ruled that “baffles” can be mounted at any angle to the wall faces including right angles. 415 F.3d at 1327. To reach this conclusion, the majority stated that it based its decision on the claim language (using a claim differentiation theory) and on the specification. *Id.* Although the majority said that it found support in the specification for its interpretation, Judge Lourie disagreed. In his dissent, Judge Lourie noted that the specification refers to angled baffles “several times” and that the baffles are “disposed at such angles that bullets which might penetrate the outer steel panels are deflected.” *Id.* at 1329. Indeed, the dissent pointed out, the specification contains no disclosure of baffles at right angles. Thus, while stating that he would not “critique in detail” the majority’s statements made in “rationalizing” its claim construction holding, Judge Lourie concludes that it “could not be clearer” that baffles should be limited to those attached at an acute or obtuse angle. *Id.*

IV. POST-PHILLIPS JURISPRUDENCE AND THE REVIVAL OF IMPLICIT DEFINITIONS

Following *Phillips*, arguments have emerged regarding implicit definitions based on the specification based on the following factors: (1) when a patent makes consistent use of a term throughout the specification; (2) when the preferred embodiment is referred to as “the invention;” (3) when a structure is disclosed in the specification that, by its nature, exclude others; (4) when the specification distinguishes the prior art in a way that implies a claim limitation; (5) when the specification demans a technology or solution, and; (6) where the specification incorporates industry standards which in turn define a term. Each of these factors have guided decisions by various panels.

A. Consistent use of a term in the specification

If a patent makes repeated and consistent use of a term throughout the specification, certain panels of the Court have shown a substantially increased likelihood of looking to the specification to narrow the claim by interpretation. A good example of this analysis can be found in *Nystrom v. Trex Co., Inc.*, (“Nystrom II”) (Linn, Gajarsa, Mayer). 424 F.3d 1136 (Fed. Cir. 2005) *cert. denied*, 126 S. Ct. 1654 (2006). Nystrom, who held a patent for shaped flooring boards, brought an infringement action against a manufacturer of composite decking materials. The District Court construed the term “board” as used in the patent as limited to a board made from wood. In its first, though later superseded, decision written less than two months before *Phillips*, the Federal Circuit reversed in part and found the term referred to boards of any material. *Nystrom v. Trex Co., Inc.*, (“Nystrom II”), 374 F.3d 1105 (Fed. Cir. 2004). In reaching this decision, the Federal Circuit observed that nothing in the claims, dictionaries, or the specification limited the ordinary and customary meaning of board as encompassing any material. *Id.* at 1110-13.

The Federal Circuit panel granted Nystrom’s petition for rehearing, withdrew its initial opinion, and issued a replacement decision affirming the limitation of “board” to wood boards. Nystrom II, 374 F.3d 1145-46. The Court first considered the claim language and noted that the patent included dependent claims with the further limitation of a wood board. Although acknowledging that claim differentiation theory would create a presumption that the different meaning was intended, the Court concluded that “[d]ifferent terms or phrases in separate claims may be construed to cover the same subject matter where the written description and prosecution history indicate that such a reading of the terms or phrases is proper.” *Id.* at 1143 (quoting *Tandon Corp. v. United States Int’l Trade Comm’n*, 831 F.2d 1017, 1023-24 (Fed. Cir. 1987)).

The Court reached its conclusion in large part on the basis of the consistent use of “wood” as limiting board throughout the specification.² The Court noted that the specification repeatedly (but not exclusively) referred to a board as made of wood. The background of the invention, for example, “frames the invention in the context of wood decking materials cut from logs, even though it acknowledges that other materials exist,” and that this context is “maintained throughout the written description.” *Id.* at 1143. In that circumstance, even though the written description began by noting that a variety of materials have been used, the unanimous Court concluded that boards should be limited to those made of wood.

Similarly, in *Ocean Innovations, Inc. v. Archer* (Schall, Michel, Linn), the Court concluded that the claim term “floatation units” as used in a patent for a floating drive-on dry dock included a requirement that the units be hollow. 145 Fed. Appx. 366 (Fed. Cir. 2005). Citing *Phillips*, the Federal Circuit noted that “the line between construing terms and importing limitations can be discerned with reasonable certainty and predictability if the court’s focus remains on understanding how a person of ordinary skill in the art would understand the claim terms.” *Id.* at 370. Using this guideline, the Federal Circuit noted that first sentence of the patent’s abstract characterized the invention as being “assembled from two kinds of hollow floatation units,” that other references to hollow units were contained in the specification, and that the preferred embodiment states that all of the units are hollow. *Id.* These repeated references, together with a description of the invention with reference to prior art that contain hollow units, was sufficient to convince this panel to construe floatation units as hollow.

Afga Corp. v. Creo Products, Inc. (Rader, Lourie, Newman dissenting) presents an interesting study of where the treatment of a term in the specification was not found to result in a limitation to a claim term. 451 F.3d 1366 (Fed. Cir. 2006). The majority in that case refused to limit the claim term “stack,” as it applied to a stack of printing plates, to a horizontal stack even though the preferred embodiment, and all descriptions of the invention, depicts stack as horizontal. *Id.* at 1376. In reaching its decision, the majority affirmed the District Court’s ruling and pre-*Phillips* reasoning.

The panel began by discussing with approval the trial court’s initial consultation of a dictionary for the meaning of “stack.” In doing so, the majority explained that stack has an “ordinary meaning” that “may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of widely accepted meaning of commonly understood words.” *Id.* at 1376 (citing *Phillips*, 415 F.3d at 1314). As a result, the majority concluded that the case fell “squarely within the guidelines from *Phillips*” of those situations in which general purpose dictionaries have been found to be helpful. *Id.* Next, the panel looked to the specification and noted that, while each and every depiction of a stack showed it in a horizontal arrangement, the specification otherwise provided no reference whatsoever to the orientation of the stack. Finally, the majority noted the existence of dependent claims that specify a horizontal arrangement to the stacks and, under a claim differentiation theory, concluded that “without any indication beyond the necessary depiction to suggest limiting the invention to this single embodiment, the broader language of the claims cannot carry the unexpressed and unintended (at the time of patent drafting) limitation.” *Id.* at 1377.

In her dissent, Judge Newman viewed the extent of the references to horizontal stacks in the specification differently. As she explained:

The claims and the entire descriptive text make clear that the invention is directed to ‘substantially horizontal’ plates that are stacked one upon the other. When the plates are stacked vertically – as in the prior art, and apparently in the

² The *Nystrom* Court also concluded that the prosecution history supported the wood limitation and reaffirmed the limited role of dictionaries. While the Court did not remove from its reissued opinion the panel’s review of the dictionary meaning of “board,” it reduced the relevance of such definitions well below the specification and located other dictionary definitions of board as made of wood. The Court then concluded that:

Phillips now counsels ...that in the absence of something in the written description and/or prosecution history to provide explicit or implicit notice to the public - i.e., those of ordinary skill in the art - that the inventor intended a disputed term to convey more than the ordinary and customary meaning revealed by the context of the intrinsic record, it is improper to read the term to encompass a broader definition simply because it may be found in a dictionary, treatise, or other extrinsic source. *Id.* at 1145.

accused system, there is no top plate. I cannot agree with the panel majority that “stack” is correctly construed to include the vertical alignment of the prior art.

Id. at 1384-85.

The juxtaposition of the panel and dissenting opinions in *Agfa* is interesting for several reasons. First, while Judge Newman saw the multiple drawings of a horizontal stack (and use of terms such as the “top” of the stack) as critical, the majority seems to have given the drawings less weight. Moreover, the majority’s initial reliance on the dictionary definition of “stack” is a departure from other post-*Phillips* cases that turn to dictionaries, if at all, only after a thorough review of the specification.

Even more recently, two of the judges who had signed-on to the *Nystrom II* opinion proved unwilling to use the specification to narrow the meaning of a claim term under slightly different circumstances. *Acumed LLC v. Stryker Corp.*, 483 F.3d 800 (Fed. Cir. 2007) (Gajarsa, Linn, Moore dissenting). In *Acumed*, the plaintiff’s patent covered a curved orthopedic nail used to pin together a fractured humerus. One of the contested terms was the “transverse holes” in the butt end of the nail, which receive screws to attach the device to a patient’s bone. The accused infringer argued unsuccessfully—both in the trial court and on appeal—that “transverse holes” should be limited to holes that are “perpendicular to the nail shaft.” *Id.* at 807.

Affirming the lower court’s interpretation of “transverse hole” as any hole “across the butt portion of the nail,” whether perpendicular to the shaft or not, Judge Gajarsa’s opinion began by acknowledging the infringer’s argument that “[e]very description of the transverse holes in the...patent contemplates a perpendicular hole.” *Id.* And, somewhat remarkably, the majority admitted that “[t]his is a correct characterization of the patent.” But citing the *Phillips* prohibition against confining patent claims to the preferred embodiment, the majority refused to limit “transverse holes” to perpendicular ones. *Id.* Then, for good measure, the majority opinion went on to parse the specification, insisting that the description of the preferred embodiment itself showed that there was a difference between transverse and perpendicular:

The written description states that Figure 2 ‘illustrates a plurality of transverse holes, each of which is...perpendicular to the portion of the nail axis at the butt portion...of the nail.’...This implies that a ‘transverse’ hole need not be ‘perpendicular’—if it were, the patentee would not have needed to clarify that these holes, in addition to being transverse, were perpendicular to the nail axis.

Id. at 807.

Relying in part on *Nystrom II*, Judge Moore’s dissent pointed out that “[t]here is not a single non-perpendicular, ‘transverse’ hole shown or described in the patent,” and argued that “[c]onstruing ‘transverse’ to include something other than perpendicular—in spite of the repeated, narrow usage of that term in the specification—would provide patent coverage that is broader than what the inventor actually invented and disclosed in his specification....” *Id.* at 814. In response to this dissent, the majority distinguished the result in *Nystrom II* by arguing that, in both cases, the court merely relied on the “ordinary” meaning of the disputed claim term. According to the majority, both parties in *Nystrom II* had agreed that the ordinary meaning of “board” was a piece of sawed lumber; all the court had done there was to refuse to *expand* the meaning of the term to cover other materials that were not contemplated by the specification. *Id.* at 808-809. And in *Acumed*, the majority indicated that it was simply applying the ordinary meaning of a “transverse hole” as a hole through some object, regardless of angle, and refusing to *narrow* the term based on the fact that all of the transverse holes described in the specification happened to be transverse.

B. Specification language identifying preferred embodiment as “the invention”

Another circumstance in which some panels of the Federal Circuit have recently appeared more likely to imply a limitation from the specification is when the preferred embodiment is referred

to as “the invention.” Thus, post-*Phillips* cases looked back to *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc.*, for the proposition that “the characterization of [a limitation] as part of the ‘present invention’ is strong evidence that the claims should not be read to encompass the opposite structure.” 242 F.3d 1337, 1343 (Fed. Cir. 2001).

This result can be found in cases such as *IP Innovation L.L.C. v. Ecollege.com* (Rader, Newman, Dyk), 156 Fed. Appx. 317 (Fed. Cir. 2005), and *Honeywell International, Inc. v. ITT Industries, Inc.* (Lourie, Mayer, Dyk), 452 F.3d 1313 (Fed. Cir. 2006). In *IP Innovation*, for example, the claim at issue covered an interactive computer software system including pictures and graphics. The specification identified “the invention” as having certain attributes – for example control commands embedded in a single file in pictures. The panel concluded that, in that circumstance, it was appropriate to infer the definition of single file command into the claim.³

Similarly, the Court concluded in *Honeywell* that, where the specification referred to a fuel filter as “this invention” or “the present invention,” and where no components other than the fuel filter were described in the specification as composed of the required material, it was appropriate to limit the term “fuel injection system component” to a fuel filter. 452 F.3d at 1315.

The same reasoning was used by the court to limit claims covering “composite compositions” of wood and plastic in a group of four patents sharing substantially identical specifications in *Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361 (Fed. Cir. 2007) (Bryson, Prost, Saris). The Federal Circuit affirmed the lower court’s ruling that “composite compositions” would be limited to admixtures in the form of pellets or extrudates even though the at-issue claims did not carry that limitation on their face. *Id.* at 1365-66. Numerous statements in the specifications describing these forms as integral to ‘the invention’ led the court to conclude that “those statements are not descriptions of particular embodiments, but are characterizations directed to the invention as a whole,” meaning that they are indeed appropriately construed as limitations on the claims. *Id.* at 1367.

To be sure, there are cases reaching the opposite view. In *nCube Corp. v. Seachange International, Inc.* (Rader, Friedman, Dyk dissenting), for example, the plaintiff held a patent for a method of providing multimedia data in a networked system. 436 F.3d 1317 (Fed. Cir. 2006). The panel in that case declined to imply a limitation that logical (as opposed to physical) addresses be used to route messages even though the specification referred to the use of logical addresses as the scheme for “the present invention.” *Id.* at 1328. In reaching its conclusion, the majority made no reference to the use of the phrase “this invention” in the specification, focusing instead on the specification’s description of the invention as including divergence from the claimed embodiment. Judge Dyk dissented and took exception to the panel’s failure to give adequate weight to the specifications use of the phrase “the present invention”, explaining that he would limit the claims to the use of logical addresses.⁴

C. Disclosure of structures that, by their nature, exclude alternatives

Some panels have implied a claim limitation based on the specification disclosing a structure which, by its very nature, excludes alternative structures and therefore bars a broader definition of the claim term.

The panel in *On Demand* (Newman, Mayer, Bryson), for example, limited “paper pages” to pages that have been pre-cut based on a structure disclosed in the specification. 442 F.3d 1331 (Fed. Cir. 2006). In that case, the patent was directed to a system and method for manufacturing a single book copy. The patentee sued a company that would create single copies of books at its factory, and Amazon, the company for whom the single book was created. The manufacturer printed the book on

³ 156 Fed. Appx. at 322 (“Rather, the ‘404 patent’s narrow characterization of what ‘the invention’ covers in references to the embedded limitation supports a construction requiring location of all the command codes for a given picture or screen within a single file.”).

⁴ *Id.* at 1328. See also *Paymaster Techs, Inc. v. United States*, 2006 WL 1228851, at *7-8 (Fed. Cir. May 4, 2006) (Michel, Friedman, Dyk, J., dissenting).

rolls of paper that were subsequently cut and bound. The Federal Circuit reversed the District Court's interpretation of pages as encompassing rolls of paper thusly:

The specification states that the patented invention is the printing of individual copies of books at the customer site rather than in a "factory setting." . . . and illustrates a "page printer 26," which prints a "stack of paper text pages," showing page-size paper. The specification describes the Ross invention only as printing on individual pages, as distinguished from a "factory setting" and the production of multiple copies. *The Ross invention, and the claims, are directed to the on-site printing, and a binding of a single copy, for which printing on large webs and the requirement of cutting to page size would require equipment and procedures inimical to the substance of the Ross invention.*

Id. at 1342-43 (emphasis added).

Judge Dyk's dissent in *nCUBE Corp. v. SeaChange International, Inc.*, presents another example of finding a limitation based on an implicit definition arising from the very nature of the invention. 436 F.3d 1317 (Fed. Cir. 2006). As noted above, this case turned on whether a networked system routed various messages using only logical addresses, or could also use physical addresses. *Id.* at 1321. The majority of the panel concluded that either logical or physical addresses were permitted under a claim differentiation theory and because the specification "encompasses divergence from that embodiment." *Id.* Judge Dyk disagreed. After noting his view that the specification fails to provide a description of any invention beyond one using logical addresses, Judge Dyk stated "[i]ndeed, if the upstream manager could not route messages from the client using logical addresses, then the purpose of the invention—to substitute logical for physical addresses—would be defeated." *Id.* at 1328 (Dyk, J., dissenting).

Another case finding a limitation based on a specification's exclusion of alternative structures is *DSU Med. Corp. v. JMS Co., LTD.*, 471 F.3d 1293 (Fed. Cir. 2006). In a case dealing with patents for winged needle assemblies designed to reduce the risk of accidental needle pricks, the court in DSU construed the term "slidably enclosing" to require "that the guard substantially contain the needle-assembly at all times." *Id.* at 1300. The trial court then determined that because the allegedly infringing product was a stand-alone guard without a needle, there was no infringement. *Id.* The court of appeals found that the language and context of the claims supported the trial court's construction. The claim used the term "enclosing" in the context of an invention "for locking a needle in a shielded position as the needle is removed from a patient." *Id.* Additionally, the court of appeals found that the specification and the figures contained in the specification reinforced this construction and conveyed the concept of a permanent cover for the needle. *Id.*

In *Akeva L.L.C. v. Addidas-Saloman*, 208 Fed. Appx. 861 (Fed. Cir. 2006), Akeva sued Addidas for infringement of certain claims of two of its patents for improving athletic shoe heels with "detachable, or rotatable, or permanently secured" rear heels. *Id.* at 862. The district court construed the patents as covering shoes with rotatable or detachable rear soles only, and because Addidas shoes had fixed, non-rotating heels, the court granted Addidas' motion of summary judgment for non-infringement. The court of appeals affirmed. The court noted that "[w]here the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." *Id.* at 865 (quoting *SciMed Life Sys. Inc. v. Advanced Cardiovascular Sys. Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001)).

For the '300 patent at issue, the district court construed the term "secured" to mean "selectively or permanently fastened, but not permanently-fixed into position." *Id.* at 864. The court found that the "permanently attached" language in the specification contemplated shoes with heels that are permanently fixed, but rotatable. *Id.* at 865. Additionally, the specification mentioned that a problem with prior art was that a shoe owner would be "stuck" with their original heels. *Id.* The court

found that nothing in the specification contemplated a rear sole that would be permanently locked into position. *Id.* As such, the term “secured” had to be limited to shoes with rear soles that are secured to the shoe, but not permanently fixed. *Id.*

D. Denigration of technologies or solutions in the specification

Implicit definitions have also been applied where the court finds an implicit exclusion, for example where the specification demeans an alternative solution, or where the specification provides limiting implicit context.

This approach can be seen most clearly in *Honeywell International, Inc. v. ITT Industries, Inc.*, (Lourie, Mayer, Dyk), 452 F.3d 1312 (Fed. Cir. 2006). In addition to the claim construction issues discussed above, that case involved the construction of “electrically conductive fibers.” Although the patent holder argued, and the District Court agreed, that the term should be broadly interpreted to include fibers made of both metal and carbon, the Federal Circuit reversed, and excluded carbon fibers from the claim. The Federal Circuit reached this conclusion because the specification touted the advantages of stainless steel fibers and, indeed, demeaned carbon filters.⁵ Finding that “the written description has gone beyond expressing the patentee’s preference for one material over another” the Court concluded that patent holder’s “repeated derogatory statements concerning one type of material are the equivalent of disavowal of the subject matter from the scope of the patent’s claims.” *Id.* at 1320.

Similarly, the Court in *Wireless Agents LLC v. Sony Ericsson Mobile Communications AB* (Dyk, Gajarsa, Rader) found persuasive the denigration of an alternative solution in the specification when imposing a limitation from the specification. That case involved interpretation of the term “alphanumeric keyboard” in the context of a patent covering a handheld electronic communication device. 2006 WL 2091197 (Fed. Cir. July 26, 2006). The Federal Circuit construed an “alphanumeric keyboard” as requiring a substantially full set of alphabetic and numeric keys, and excluded from its construction a twelve-digit telephone keypad. *Id.* at *2. In reaching that conclusion, the Court noted that, while the meaning of the disputed term was not apparent from the face of the claim, the specification explicitly described the disadvantages of keypads that have only twelve keys as “extremely slow, awkward, error prone, and not appropriate for a device intended to transfer textual data on a regular basis . . .” *Id.* The specification further distinguished the “alphanumeric keyboard” as “easier and faster to use and learn” than common mobile phone keypads. *Id.*

This was not the case in *Ventana Med. Sys. Inc. v. BioGenex Lab. Inc.*, 473 F.3d 1173 (Fed. Cir. 2007), *rehearing en banc denied* (Feb. 7, 2007). In *Ventana*, the district court construed the term “dispensing” to require direct dispensing, meaning that “the regent is dispensed directly from the regent container onto the slide rather than utilizing an intermediate transport mechanism to transfer the regent from the regent container to the slide.” *Id.* at 1178. *Ventana* appealed the district court’s finding of non-infringement and the sole issue on appeal was the proper construction of the term “dispensing.” The court of appeals declined to limit the term “dispensing” to “direct dispensing.” The court found that *Ventana*’s general statements about previously known devices in the BACKGROUND ART section of its patent did not constitute a disavowal of coverage by *Ventana* over features in the prior art. *Id.* at 1180-1181. Unlike the case in *Honeywell*, *BioGenex* was only able to point to general statements indicating that the invention was intended to improve upon prior art automated staining methods and such general statements, without more, cannot be “interpreted to disclaim every feature of every prior art device discussed in the BACKGROUND ART section of the patent.” *Id.* at 1181.

Also of interest in this regard is *Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.* (Rader, Lourie, Bryson), which reversed the District Court’s interpretation of a softball bat’s “insert” by adding the implied definition that the insert be “rigid.” 442 F.3d 1322 (Fed. Cir. 2006). The trial court construed “insert” to mean “a rigid, circular, hollow tube having an outer diameter less than the

in part).

5 *Id.* at 1319-20 (“Unlike the non-metallic fibers, stainless steel fibers also do not increase mechanical strength or stiffness of the base resin significantly.

inner diameter of the tubular frame impact portion.” *Id.* at 1325. The Federal Circuit disagreed, stating that “[n]othing in the claims or specification indicates, explicitly or implicitly, that the inventor intended to impart a novel meaning to ‘insert.’” *Id.* at 1330. What seemed to be missing from the specification in *Wilson* (in the eyes of the Federal Circuit but not the District Court), that was present in the specifications in other cases, is a suggestion that a non-rigid insert would be inferior (or that a rigid insert would be an advance in the technology). 442 F.3d at 1330.

E. Method of distinguishing prior art that favor the imposition of implied definitions

Implied definitions have also been found where the patentee distinguishes the patent over prior art in a way that evidences a limiting claim definition. This approach can be seen in *Honeywell v. ITT*, 452 F.3d 1312. As noted above, the Federal Circuit affirmed the District Court’s limitation of “fuel system component” to a fuel filter in connection with a patent covering an electrostatically dissipative fuel system. In support of its ruling, the Federal Circuit reviewed the specification’s discussion of the technological problem that the invention was trying to solve in an advance over the prior art. The prior art covered fuel filters made of a polymer material. With the advent of electronic fuel injection systems, microscopic holes were created in a polymer fuel filter when electrostatic charges built up and then discharged by arcing through the fuel filter to the metal frame of a car. The patent covered the incorporation of electrostatically conductive material into the polymer housing of the device. *Id.* at 1321.

The *On Demand v. Ingram* case discussed above provides another example. 442 F.3d 1331. In that case, the Court focused on the manner in which the invention distinguishes the prior art when it ordered a limitation (that a “customer” must be an individual consumer) based on an implied definition found in the specification. In reaching its conclusion, the Court reasoned that the prior art covered the method of electronically taking orders for books, and the printing of a single copy of a book. Noting that in both the specification and during reexamination the patent holder distinguished the prior art from the invention, the Court concluded that the combination of the references, when considered in connection with the language of the specification, established that the “direct customer role contemplated in the Ross patent...is central to the claim construction.” *Id.* at 1345.

The ruling in *Old Town Canoe Co. v. Congluence Holdings Corp.* (Linn, Schall, Mayer) is interesting in that it implies a limitation based not on the way that the invention is distinguished from the prior art, but on how it is similar. 448 F.3d 1309 (Fed. Cir. 2006). *Old Town Canoe* involved a patent covering a method to make plastic laminate boat hulls. The panel agreed with the defendant that the claim term “coalescence,” as used in connection with a multistep process for creating a boat hull, includes a limitation that the process be continued until it reaches its optimal state. In reaching this conclusion, the Court noted that the written description described the invention as an improvement over a patented coalescence process that operated in a different way but also reaches an optimal state. *Id.* at 1317. The *Old Town Canoe* panel concluded that the prior art cited in the specification supported the conclusion that one of ordinary skill in the art would understand “coalescence” to refer to a process that proceeded to an optimal state. *Id.*

On the other hand, *Ventana* is a good example of the Court’s declining to narrow the claim definition based on the fact that the specification distinguished prior art. As discussed above, *Ventana* dealt with whether the term “dispensing” was limited to “direct dispensing.” 473 F.3d at 1180. The Appellee, Biogenex, contended that the specification had expressly distinguished prior art including the “sip and split” method and therefore the invention at issue could not practice that method of dispensing. *Id.* The Court, however, found that the specification also listed prior art that employed a “direct dispensing” method, and therefore, Biogenex’s argument would lead to a nonsensical result where the patent’s preferred method would also be excluded from the definition. *Id.* As such, the Court declined to narrow the term. *Id.* Industry standards as implied definitions.

An intriguing scenario in which claims have been interpreted in light of a specification and a narrowing implied definition found is that described in *LG Electronics, Inc. v. Bizcom Electronics, Inc.* (Mayer, Michel, Newman). 453 F.3d 1364 (Fed. Cir. 2006). That case involved a patent disclosing a digital computer system which interconnects devices using a system bus. In interpreting the term

“requesting agent,” the patent holder argued that an industry standard, which was incorporated by reference into the specification, supplied the correct definition of “requesting agent” as “an agent that has entered into the arbitration function for bus access.” *Id.* at 1375. The Federal Circuit agreed, overturning the decision of the District Court.

In so ruling, however, the Federal Circuit explained that incorporation of an industry standard does not automatically supply the correct definition. *Id.* at 1374. Rather, the Court reasoned that an industry standard is highly relevant—and is indeed intrinsic evidence—in determining the meaning of the claim term to one of ordinary skill in the art. Giving the industry standard its due weight in determining claim construction, the Court ruled that the industry standard should imply the proper definition of the disputed term in the claim. *Id.* at 1375.

F. The Persistent Factor of the “Sole Embodiment”

The *Phillips* decision was clear: the fact that a specification discloses a single embodiment does not provide the basis for reading a limitation into the claim. 415 F.3d at 1323. Subsequent panels have reaffirmed this principle. In *JVW Enterprises, Inc. v. Interact Accessories, Inc.*, for example, the panel found improper the defendant’s request to limit claim language to the sole embodiment. 424 F.3d 1324 (Fed. Cir. 2005) (Prost, Michel, Schall). In reaching its decision, the panel reiterated the *Phillips* rule that “even when a specification describes very specific embodiments of the invention or even describes a single embodiment” the court should not “import limitations into the claims from examples or embodiments appearing only in a patent’s written description.” *Id.* at 1335. The only exception to this, the *JVW* panel noticed is if “the specification makes clear that the patentee . . . intends for the claims and the embodiments in the specification to be strictly coextensive.” *Id.*

Nonetheless, the impact of the fact that a specification has a single embodiment persists. Thus, some panels seem eager to limit the reach of the claim terms by focusing on the written description requirement. In *LizardTech, Inc. v. Earth Resources Mapping, Inc.*, (Bryson, Lourie, Schall), for example, the Court limited a claim to the only disclosed embodiment by finding that anything beyond that embodiment would fail to meet the requirements of section 112. 424 F.3d 1336 (Fed. Cir. 2006). The *LizardTech* panel reviewed the requirements that a patent must describe the invention such that one skilled in the art can make and use it and that it must describe the invention sufficiently to give notice that the patentee had invented what is claimed. Considering these together, the Court concluded that construing a claim as broader than its description would result in a patent with a claim scope “far greater than what a person of skill in the art would understand the inventor to possess or what a person of skill in the art would be enabled to make and use.” *Id.* at 1346.

In his dissent to the denial of a petition for rehearing of the *LizardTech* case en banc, Judge Rader also explained his disinclination to limit claims to the embodiment contained in the specification. Judge Rader’s dissent provides a detailed review of the sole embodiment doctrine and noted the tension between *JVW*, in which a panel of the Federal Circuit concluded that the claims should not be narrowed to the preferred embodiment “unless the specification suggest the inventor intended such narrow coverage,” and the panel’s ruling in *LizardTech* that claims should not be broader than the disclosed embodiments “unless the specification suggests the invention is broader than those embodiments.” *LizardTech*, 433 F.3d 1373, 1376-77 (Fed. Cir. 2005). Ultimately reiterating the binding nature of the en banc ruling on sole embodiment in *Phillips*, Judge Rader opined that “the written description analysis of *LizardTech* is troubling, if not inexplicable.” *Id.* at 1377-78.

Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc. (Newman, Dyk, Prost) suggested more direct resistance to the established rule. The patent in *Inpro* covered modules for a personal digital assistant (PDA) that controlled the transfer of data between a PDA and a host computer. The Court construed “host interface” as a “direct bus interface” in large part because that was the only interface described in the specification. 450 F.3d 1350, 1355 (Fed. Cir. 2006). Recognizing that “claims need not be limited to the preferred embodiment, when the invention is more broadly described,” the Court concluded that “neither do the claims enlarge what is patented beyond what the inventor has described as the invention.” *Id.* (quoting *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001)).

This point was similarly addressed by the Court in *On Demand v. Ingram*, 442 F.3d 1331. As noted above, the *On Demand* panel inferred into the definition of “customer” the requirement found in the specification that the customer be one that orders and receives a single-copy printing at the customer’s site. In reaching this conclusion, the panel explained “[i]n *Phillips*, 415 F.3d at 1321, the *en banc* court explained that the role of the specification is to describe and enable the invention. In turn, the claims cannot be of a broader scope than the invention that is set forth in the specification.” *Id.* at 1340.

V. CONCLUSION

A review of the Federal Circuit’s post-*Phillips* claim construction reveals that certain principles may be emerging to help determine when an implicit definition will be found based on the specification. Many of these approaches were in use pre-*Phillips*. Others seem to have gained momentum since the *en banc* decision. In any event, a close reading of the Federal Circuit’s recent jurisprudence reveals themes that a litigant could invoke (if the facts of the individual case warrant) to support an implied definition of a claim term.