

2017

Understanding *Nautilus's* Reasonable-Certainty Standard: Requirements for Linguistic and Physical Definiteness of Patent Claims

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Recommended Citation

Gary M. Fox, *Understanding Nautilus's Reasonable-Certainty Standard: Requirements for Linguistic and Physical Definiteness of Patent Claims*, 116 MICH. L. REV. 329 (2017).
Available at: <https://repository.law.umich.edu/mlr/vol116/iss2/4>

<https://doi.org/10.36644/mlr.116.2.understanding>

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NOTE

UNDERSTANDING NAUTILUS'S REASONABLE-CERTAINTY STANDARD: REQUIREMENTS FOR LINGUISTIC AND PHYSICAL DEFINITENESS OF PATENT CLAIMS

Gary M. Fox*

*Patent applicants must satisfy a variety of requirements to obtain a patent from the U.S. Patent and Trademark Office (USPTO). The definiteness requirement forces applicants to describe their inventions in unambiguous terms so that other inventors will understand the scope of granted patent rights. Although the statutory provision for the definiteness requirement has been stable for many years, the Supreme Court's decision in *Nautilus v. Biosig Instruments* altered the doctrine. The Court abrogated the Federal Circuit's insoluble-ambiguity standard and replaced it with a new reasonable-certainty standard. Various district courts have applied the new standard in different ways, indicating the need for further clarification. This Note argues that, following the establishment of the reasonable-certainty standard, courts may understand the definiteness requirement under a two-part framework of linguistic and physical definiteness, which are both required for claims to be definite. A claim fails the linguistic-definiteness requirement if it is open to multiple constructions and one construction is not clearly correct. Additionally, a claim fails the physical-definiteness requirement if it uses comparative terms or involves ambiguous spatial relationships not limited to a narrow range.*

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* J.D. Candidate, May 2018, University of Michigan Law School. I am indebted to Professor W. Nicholson Price II, Thomas Martecchini, Sally Gu, John He, Allison Hight, Z. Zheng, and the Volume 116 Notes Office, who all helped greatly with this Note's substance, structure, and style. I would also like to thank MNOP and the rest of the MLR crew—

INTRODUCTION

Imagine that you are trying to follow a recipe. The recipe directs you to separate three eggs. It tells you to “place one half of the separated eggs into a bowl” and “discard the remaining half.” After adding the other ingredients and transferring everything to a pan, the recipe instructs you to “place the pan some distance away from the center of the oven” for proper cooking. This recipe requires you to fill in some gaps. First, it requires you to decide whether to use the yolks and discard the whites or to use the whites and discard the yolks. Then, when the time comes to put the pan in the oven, you must judge how far from the center is an appropriate distance. You could place the pan only a couple of inches from the center, or you could place it very near the edge of the oven rack. Perhaps your experience with other recipes will provide you with clues for solving these problems. But, on its face, the recipe is ambiguous, and you might reject it as unhelpful.

A patent applicant must avoid some of the same problems with ambiguity as the author of this recipe. To obtain patent protection, an inventor must first submit an application to the U.S. Patent and Trademark Office (“USPTO”).¹ The application must conform to the provisions in the Patent Act:² It must include both a description of the invention³ and claims spelling out the inventor’s rights.⁴ The application must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention.”⁵ This definiteness requirement forces inventors to delineate the metes and bounds of patent claims so that the public has sufficient notice as to which parts of the field remain open to future inventors.⁶ If the applicant fails to specify sufficiently definite claims, then the USPTO will refuse to grant the patent, leaving the inventor without any protection for the ideas contained in the application.

Recently, the Supreme Court has shown a remarkable interest in patent law.⁷ From 1982 through 2000, the Court heard only eight patent cases.⁸ But

particularly AP, DJP, EHK, and my friends in the Volume 116 Articles Office—for their support.

1. See generally ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 51–54 (6th ed. 2013) (describing the process of patent prosecution).

2. See 35 U.S.C. § 101 (2012) (making the grant of patent rights “subject to the conditions and requirements” of 35 U.S.C.). Generally, the “Patent Act” refers to the provisions contained in Title 35 of the *United States Code*.

3. *Id.* § 112(a).

4. *Id.* § 112(b).

5. *Id.*

6. See discussion *infra* Section I.A.

7. Jason Rantanen, Teva, Nautilus, and *Change Without Change*, 18 STAN. TECH. L. REV. 430, 431 (2015).

8. See MERGES & DUFFY, *supra* note 1, at 11 & nn.34–35.

since 2000, it has heard more than two dozen patent cases.⁹ Plus, the Court has started hearing types of patent cases that it has not heard in a long time. For example, the Court's recent decision in *Samsung Electronics Co. v. Apple Inc.*¹⁰ was the first time in more than 100 years that the Court granted certiorari for a design-patent case.¹¹ Commentators have speculated about the driving force behind the Court's renewed interest in patent law.¹² Regardless of the underlying reasons, in 2014, the Court's interest led it to recalibrate the definiteness requirement in *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*.¹³

The implications of the Supreme Court's decision in *Nautilus II* are still not completely clear. On a fundamental level, the Court rejected the Federal Circuit's "insoluble ambiguity" standard for definiteness, holding that it is not enough for a court to be able to give a claim *any* meaning.¹⁴ Instead, the Court held that a person having ordinary skill in the art ("PHOSITA") must understand the invention's scope "with reasonable certainty."¹⁵ But the legal system is still working out how to apply the Court's holding. Some commentators have stated that the new standard is just the old standard in a different form.¹⁶ District courts have applied the new standard in different ways.¹⁷ And despite its patent expertise, even the Federal Circuit conceded that it did not completely understand how to move forward under the new standard.¹⁸ Courts, parties involved in patent litigation, and inventors would benefit from a more detailed framework for the definiteness requirement.

This Note argues that courts might understand the Supreme Court's reasonable-certainty standard for the definiteness requirement under a framework with two necessary elements: linguistic definiteness and physical definiteness. Part I reviews the definiteness requirement by discussing its

9. See Timothy R. Holbrook, *Explaining the Supreme Court's Interest in Patent Law*, 3 IP THEORY 62, 63–64 (2013) (counting twenty-four patent cases at the Supreme Court between 2000 and 2012).

10. 137 S. Ct. 429 (2016).

11. Adam Liptak & Vinu Goel, *Supreme Court Offers No Clear Answer in Samsung-Apple Patent Case*, N.Y. TIMES, Dec. 7, 2016, at B2, <https://www.nytimes.com/2016/12/06/technology/samsung-apple-smartphone-patent-supreme-court.html?mcubz=0> (on file with the *Michigan Law Review*) ("The Supreme Court had not heard a design patent case in over a century."). Unlike a utility patent granted under 35 U.S.C. § 101, the USPTO may grant a design patent for a "new, original and ornamental design for an article of manufacture." 35 U.S.C. § 171(a) (Supp. I 2013). For simplicity, this Note uses the word "patent" to refer to utility patents.

12. See, e.g., Holbrook, *supra* note 9.

13. 134 S. Ct. 2120 (2014).

14. See *Nautilus II*, 134 S. Ct. at 2124.

15. *Id.*

16. See discussion *infra* Section II.A.

17. See discussion *infra* Section II.B.

18. See discussion *infra* Section II.C.

purpose, statutory grounding, and judicial standards before and after *Nautilus*. Part II examines how lower courts have applied the definiteness requirement in different ways since the Supreme Court's decision in *Nautilus II*. Part III suggests that courts analyzing definiteness under the reasonable-certainty standard might apply a two-part framework based on linguistic definiteness and physical definiteness.

I. DEVELOPMENT OF THE DEFINITENESS REQUIREMENT

Although patent law's definiteness requirement has existed for many years, the Supreme Court's recent articulation of a new standard altered the doctrine. This Part reviews the development of the definiteness requirement in its statutory and judicial contexts. Section I.A examines the textual basis for and goals of the definiteness requirement. Section I.B explains how the Supreme Court's decision in *Nautilus II* shifted the standard for definiteness in the lower courts.

A. Statutory Grounding and Purpose

The Patent Act outlines the requirements that patent applications must meet for USPTO approval. It includes four disclosure requirements whose names track their textual hooks: the enablement, written-description, best-mode, and definiteness requirements.¹⁹ To fulfill the definiteness requirement, an application must "conclude with one or more claims *particularly pointing out and distinctly claiming* the subject matter which the inventor . . . regards as the invention."²⁰

From its inception, the U.S. patent law system has included a definiteness requirement in some form.²¹ Historically, the Court's articulation of the definiteness requirement emphasized providing "the public" with sufficient notice of precisely what the applicant had patented.²² The modern articulation of this requirement survives in the Patent Act at 35 U.S.C. § 112(b).²³

19. To satisfy the enablement requirement, an application must "enable any person skilled in the art . . . to make and use" the invention. 35 U.S.C. § 112(a) (2012). To meet the written-description and best-mode requirements, an application must provide "a written description of the invention" and "set forth the best mode . . . of carrying out the invention," respectively. *Id.*

20. *Id.* § 112(b) (emphasis added).

21. See MERGES & DUFFY, *supra* note 1, at 316 ("This principle has deep roots.").

22. Nearly 200 years ago, the Supreme Court interpreted a section of the 1793 Patent Act regarding disclosure in *Evans v. Eaton*, 20 U.S. (7 Wheat.) 356, 433–34 (1822). In that case, the Court found that one "object of the specification is[] to put the public in possession of what the party claims as his own invention." *Id.* at 434. Over 100 years later, in *Permutit Co. v. Graver Corp.*, the Court stated that patent applicants are required "to inform the public during the life of the patent of the limits of the monopoly asserted." 284 U.S. 52, 60 (1931) (affirming the invalidation of claims for failing to meet this requirement).

23. The U.S. patent system recently shifted from a first-to-invent regime to a first-inventor-to-file regime, but this shift did not alter the definiteness requirement. Congress amended the definiteness requirement's statutory provision slightly when it passed the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified as amended in

From the early days of the U.S. patent system until now, the definiteness requirement has functioned to alert the public, in unambiguous terms, of the patentee's rights.

One can think about patent claim terms as functioning similarly to fences. Just as fences indicate physical boundaries in the realm of real property, claim terms demarcate the conceptual boundaries of a patented invention.²⁴ The definiteness requirement ensures that patent applicants clearly describe the metes and bounds of their claims.²⁵ What is *not* claimed is just as important as what *is* claimed because other inventors will want to know which areas of technology are still available to them for patenting.²⁶ Put another way, other inventors will want to know whether there is still space in the field for them to invent without infringing on the patentee's rights.²⁷

B. Standards Before and After Nautilus

Although the statutory provision for definiteness has been stable for many years, the Supreme Court's interest in the doctrine and recent articulation of the judicial standard have brought about changes in the law. The Court's changes have had a significant impact on the lower courts.

Before *Nautilus II*, district courts followed the Federal Circuit's insoluble-ambiguity standard as articulated in *Datamize, LLC v. Plumtree Software*,

scattered sections of 35 U.S.C.). Even so, the language has remained relatively constant for many years. See *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120, 2125 (2014) ("The 1870 Act's definiteness requirement survives today, largely unaltered."); see also Jason Rantanen & Lee Petherbridge, Commentary, *Toward a System of Invention Registration: The Leahy-Smith America Invents Act*, 110 MICH. L. REV. FIRST IMPRESSIONS 24, 24 (2011), http://repository.law.umich.edu/mlr_fi/vol110/iss1/2/ [<https://perma.cc/67V3-EPR2>] (noting that the AIA "represents the most significant legislative event affecting patent law and practice in more than half a century"). Before the AIA, the relevant statutory provision included a reference to what "the applicant regards as his invention." 35 U.S.C. § 112 (2006). After the AIA, the provision now refers to what "the inventor or a joint inventor regards as the invention." 35 U.S.C. § 112(b) (2012). Evidently, this change was only meant to use gender-neutral language and add the possibility of a joint inventor. In fact, the Supreme Court noted in *Nautilus II* that the definiteness requirement under the AIA is the same as the definiteness requirement under the previous version of the Patent Act. 134 S. Ct. at 2125 n.1 (acknowledging that the AIA "modified [35 U.S.C.] §§ 112 and 282 in minor respects not pertinent here").

24. See MERGES & DUFFY, *supra* note 1, at 316 ("[I]ndefinite claims do not give clear warning about the patentee's property rights. They fail to inform passersby whether they are trespassing or not."). But see Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1748 (2009) ("The idea behind peripheral claiming . . . was to establish the 'metes and bounds' of the invention in a manner analogous to real property deeds. But any analogy between patent boundaries and real property boundaries is no more than an analogy, and a flawed analogy at that.").

25. MPEP § 2173.02(I) (9th ed. Rev. 7, Nov. 2015).

26. See *Permutit*, 284 U.S. at 60 (reasoning that other inventors may want to know "which features may be safely used or manufactured without a license and which may not").

27. Those who tread on a patentee's rights are liable for infringement, regardless of whether they knew about the patent. See 35 U.S.C. § 271(a) (making no mention of a scienter requirement).

*Inc.*²⁸ The *Datamize* court considered whether a claim using the term “aesthetically pleasing” in a software patent was sufficiently definite.²⁹ Ultimately, the court held that the claim was indefinite because there was no “objective way to determine whether the look and feel of an interface screen is ‘aesthetically pleasing.’”³⁰ The *Datamize* court stated that “[o]nly claims ‘not amenable to construction’ or ‘insolubly ambiguous’ are indefinite.”³¹ In other words, the court found that claims are definite as long as they “can be given any reasonable meaning.”³² The court further noted that “[t]he definiteness requirement . . . does not compel absolute clarity.”³³

Generally, claim terms have easily surpassed this low bar. A recent, empirical study of disclosure requirement cases during the pre-*Nautilus* era demonstrates this trend.³⁴ Professors John R. Allison and Lisa Larrimore Ouellette found that, before 2014, courts rejected the majority of definiteness challenges as a matter of law.³⁵ In fact, courts invalidated claims in response to definiteness challenges in only 17% of cases.³⁶ In other words, courts easily held that claim terms had at least one “reasonable meaning.”³⁷

The Federal Circuit relied on the same insoluble-ambiguity standard when it decided *Nautilus I*.³⁸ In that case, the court considered a claim for a heart-rate monitor used in exercise equipment.³⁹ While exercising, users gripped an “elongate member” containing electrodes in a “spaced relationship with each other” that detected electromyogram (EMG) and electrocardiograph (ECG) signals.⁴⁰ The parties disputed whether the term “spaced

28. 417 F.3d 1342 (Fed. Cir. 2005), *abrogated by Nautilus II*, 134 S. Ct. 2120.

29. *Datamize*, 417 F.3d at 1344–45.

30. *Id.* at 1356.

31. *Id.* at 1347 (first citing *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1353 (Fed. Cir. 2003); then citing *Honeywell Int’l, Inc. v. Int’l Trade Comm’n*, 341 F.3d 1332, 1338 (Fed. Cir. 2003); and then citing *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001), *abrogated by Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120 (2014)).

32. *Id.*

33. *Id.*

34. John R. Allison & Lisa Larrimore Ouellette, *How Courts Adjudicate Patent Definiteness and Disclosure*, 65 DUKE L.J. 609, 645 fig.5 (2016).

35. *Id.*

36. *Id.* Out of 673 total cases, 109 cases resulted in invalidity for indefiniteness as a matter of law, and only 6 cases resulted in invalidity for indefiniteness as a matter of fact. *Id.*

37. *Datamize*, 417 F.3d at 1347.

38. *Biosig Instruments, Inc. v. Nautilus, Inc. (Nautilus I)*, 715 F.3d 891 (Fed. Cir. 2013), *vacated*, 134 S. Ct. 2120 (2014).

39. *Id.* at 894–95. Biosig’s patent offered an improvement over the prior art because it subtracted EMG signals from ECG signals to calculate users’ heart rates more accurately. *Id.* at 894.

40. *Id.* at 895 (emphasis omitted) (quoting U.S. Patent No. 5,337,753 col. 5 ll. 20, 28–29).

relationship” was sufficiently definite.⁴¹ Identifying the relevant legal standard, the court stated that “[a] claim is indefinite *only* when it is ‘not amenable to construction’ or ‘insolubly ambiguous.’”⁴² The court held that the claim did “not suffer from indefiniteness” because a PHOSITA would believe that the claim was sufficiently bounded.⁴³

On certiorari in *Nautilus II*, the Supreme Court vacated the Federal Circuit’s decision and articulated a new standard for definiteness.⁴⁴ The Court replaced the Federal Circuit’s insoluble-ambiguity standard with a new reasonable-certainty standard.⁴⁵ Although Congress had not substantively changed the statutory provision,⁴⁶ the Court found that the insoluble-ambiguity standard was not “probative of the essential inquiry”⁴⁷ and permitted issuance of too many indefinite claims.⁴⁸ The Court established the new standard: “[W]e hold that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with *reasonable certainty*, those skilled in the art about the scope of the invention.”⁴⁹ Reasonable certainty of a claim’s scope is now the touchstone for courts evaluating whether claims are sufficiently definite.⁵⁰

To arrive at this standard, the Court balanced two competing interests. First, the Court acknowledged that “the definiteness requirement must take into account the inherent limitations of language.”⁵¹ In other words, innovation requires at least slight flexibility in the claims.⁵² Second, the Court recognized that claims should provide the public with “clear notice” of the

41. *Id.* at 897.

42. *Id.* at 898 (emphasis added) (quoting *Datamize*, 417 F.3d at 1347).

43. *Id.* at 888–89. Given its analysis under the insoluble-ambiguity standard, the Federal Circuit reversed the district court and remanded the case for further proceedings. *Id.* at 904–05.

44. *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120, 2131 (2014).

45. *Id.* at 2124.

46. See discussion *supra* Section I.A.

47. *Nautilus II*, 134 S. Ct. at 2130 (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 517 U.S. 17, 40 (1997)).

48. See *id.* at 2124 (“We conclude that the Federal Circuit’s formulation, which tolerates some ambiguous claims but not others, does not satisfy the statute’s definiteness requirement.”).

49. *Id.* (emphasis added).

50. In some cases, patent drafters may use “functional language” to write “means-plus-function” claims. MERGES & DUFFY, *supra* note 1, at 331–35. Courts analyze means-plus-function claims for definiteness using a different standard. See, e.g., *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1374 (Fed. Cir. 2015) (reviewing the patent to determine whether the patentee “disclose[d] [an] adequate corresponding structure to perform *all* of the claimed functions”). Such means-plus-function claims are beyond the scope of this Note.

51. *Nautilus II*, 134 S. Ct. at 2128.

52. *Id.* (“Some modicum of uncertainty . . . is the ‘price of ensuring the appropriate incentives for innovation.’” (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002))).

inventor's intellectual property rights.⁵³ The Court did not want to foster "[a] zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims."⁵⁴ The Court's reasonable-certainty standard is a compromise between these competing interests.

II. UNCERTAINTY REGARDING THE DEFINITENESS REQUIREMENT

Since the Supreme Court altered the definiteness requirement by introducing the reasonable-certainty standard in *Nautilus II*, the lower courts have attempted to work out the implications of that standard. This Part argues that the lower courts have not been consistent in applying the reasonable-certainty standard. Section II.A refutes the idea that the reasonable-certainty standard is merely the insoluble-ambiguity standard under a different guise. Section II.B examines how the district courts have applied the new standard in different ways. Lastly, Section II.C concludes with a brief assessment of how the Federal Circuit has grappled with the standard.

A. A New Standard

In *Nautilus II*, the Supreme Court sought to strengthen the definiteness requirement by providing lower courts with a purportedly clear decision.⁵⁵ The Court unquestionably abrogated the Federal Circuit's precedent of relying on the standard of insoluble ambiguity, or amenity to construction, and replaced it with a new standard.⁵⁶ The Court recognized that definiteness involves a tension between "the inherent limitations of language" and "clear notice" for inventors.⁵⁷ Yet the Court did not provide any further guidance about how the lower courts should strike this balance.⁵⁸ The Court left the lower courts to try their best to apply the new standard.

Some commentators have argued that the reasonable-certainty standard merely rephrases the insoluble-ambiguity standard. The idea that the standards function identically was appealing to academics and courts immediately after the decision came down, especially because the Federal Circuit's

53. *Id.* at 2129; *see also supra* note 22 and accompanying text.

54. *Nautilus II*, 134 S. Ct. at 2129 (alteration in original) (quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942)).

55. *See id.* at 2130 (attempting to avoid standards that might "breed lower court confusion" and to provide courts with "a reliable compass").

56. *Id.* at 2124 ("[T]he Federal Circuit's formulation . . . does not satisfy the statute's definiteness requirement.").

57. *Id.* at 2128–29; *see also supra* text accompanying notes 51–54.

58. The Court remanded the case to the Federal Circuit for application of the new standard without expressing any opinion on the merits. *Nautilus II*, 134 S. Ct. at 2131 ("[W]e decline to apply the standard we have announced to the controversy between *Nautilus* and *Biosig*.").

ruling on remand in *Nautilus III* matched its ruling in *Nautilus I*.⁵⁹ In *Nautilus III*, the court once again held that the term “spaced relationship” was sufficiently definite—this time under the new reasonable-certainty standard.⁶⁰ Professor Jason Rantanen, a patent law scholar, posited that the Supreme Court’s intervening ruling effected little change in the Federal Circuit’s analysis of claim definiteness.⁶¹ He noted that, between 2014 (when *Nautilus II* came down) and 2015, the Federal Circuit held only one claim indefinite under the reasonable-certainty standard.⁶² Some courts, which had become accustomed to applying the old standard, also suggested that the reasonable-certainty standard may function essentially like the insoluble-ambiguity standard.⁶³

But the Federal Circuit has ruled conclusively against this view. After the Supreme Court’s decision in *Nautilus II*, the Federal Circuit had an opportunity to reconsider its ruling in *Dow Chemical Co. v. Nova Chemicals Corp. (Canada)*.⁶⁴ Although the court had initially found the claims definite, the court admitted that its “original decision would have been different under the new *Nautilus* standard.”⁶⁵ The court remarked that “there can be no serious question that *Nautilus* changed the law of indefiniteness.”⁶⁶ After reconsidering the claims in light of the new standard, the court held that they were indefinite.⁶⁷ This case is a clear indication that the reasonable-certainty standard sets a higher bar for definiteness than the insoluble-ambiguity standard did.

Lower courts and practitioners still do not know, however, exactly how high the Supreme Court raised the bar. In *Nautilus II*, the Supreme Court emphasized that its decision focused on articulating the correct standard—not reviewing the circuit court’s substantive analysis for the definiteness challenge.⁶⁸ After the decision, one district court noted that, “[p]roperly

59. *Compare* *Biosig Instruments, Inc. v. Nautilus, Inc. (Nautilus I)*, 715 F.3d 891, 898 (Fed. Cir. 2013) (“The disputed term ‘spaced relationship’ does not suffer from indefiniteness.”), *vacated*, 134 S. Ct. 2120 (2014), *with* *Biosig Instruments, Inc. v. Nautilus, Inc. (Nautilus III)*, 783 F.3d 1374, 1376 (Fed. Cir.) (“[W]e maintain our reversal of the district court’s determination that Biosig’s patent claims are indefinite.”), *cert. denied*, 136 S. Ct. 569 (2015).

60. *Nautilus III*, 783 F.3d at 1384.

61. Rantanen, *supra* note 7, at 432 (“It seems to be business as usual at the Federal Circuit.”).

62. *Id.* at 439–40. Professor Rantanen went so far as to say that the Federal Circuit’s “application of *Nautilus* suggests a lowered bar for claim definiteness.” *Id.* at 439.

63. *See infra* notes 75–76 and accompanying text.

64. 803 F.3d 620, 626–31 (Fed. Cir. 2015) (finding that the doctrines of claim and issue preclusion did not prevent the court from reconsidering the definiteness challenge). The case involved claims for particular kinds of plastics. *Dow Chem.*, 803 F.3d at 624. For further discussion of this case, *see infra* note 118.

65. *Dow Chem.*, 803 F.3d at 631.

66. *Id.* at 630.

67. *Id.* at 635.

68. *See* *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120, 2130–31 (2014).

read, *Nautilus* was about the Federal Circuit's *phrasing* of the test for indefiniteness.⁶⁹ The phrases "insoluble ambiguity" and "reasonable certainty" set different thresholds for definiteness, but neither seems to be imbued with any meaningful content. The reasonable-certainty standard is higher than the insoluble-ambiguity standard, but the extent of the difference will only become apparent as courts continue to apply the new standard.

B. *The District Courts' Applications*

The new standard in *Nautilus II* changed the law for district courts, which have not completely adjusted to the change. In recent cases, district courts' approaches have ranged from relying on definiteness instead of other disclosure requirements, applying the old standard for definiteness, and applying the new standard in a variety of ways. Ideally, district courts would apply the new standard consistently to avoid unpredictable results.

The definiteness requirement can be difficult to apply, and some district courts have inappropriately used it to invalidate claims that fail other provisions of the Patent Act. For instance, in *Invensys Systems, Inc. v. Emerson Electric Co.*, a district court held that a claim was indefinite, but the court should have invalidated the claim on other grounds for lack of enablement and lack of operable utility.⁷⁰ The case involved "devices that measure the properties . . . of fluids flowing through a conduit," called Coriolis flowmeters.⁷¹ Among other issues, the court considered whether a claim using the phrase "calculating dot products" was indefinite because the calculation could not always be performed.⁷² The court identified the applicable reasonable-certainty standard but noted that *Nautilus* was not factually analogous.⁷³ The problem with the claim, however, was not related to definiteness; the patentee had in fact specified the metes and bounds of the claim. In fact, the court acknowledged that the claim was "unambiguous."⁷⁴ Instead, the

69. *R-Boc Repls., Inc. v. Minemyer*, 66 F. Supp. 3d 1124, 1127 (N.D. Ill. 2014) (emphasis added). The court also said, "How 'new and powerful' the standard announced in *Nautilus* [is] remains to be seen. Commentators are not united on it being as drastic a change as [the plaintiff] suggests . . ." *Id.* at 1126.

70. *See* No. 6:12-cv-799, 2014 WL 3976371, at *5 (E.D. Tex. Aug. 6, 2014). For the definition of the enablement requirement, see *supra* note 19. Under the operability requirement, an invention must "actually accomplish the utility alleged by the inventor." MERGES & DUFFY, *supra* note 1, at 210. When an invention does not meet the operability requirement, the USPTO's "current practice is to rely on both § 101 (no utility) and § 112 ¶ 1 [AIA § 112(a)] (failure to enable) in rejecting the application." *Id.*

71. *Invensys Sys.*, 2014 WL 3976371, at *1.

72. *Id.* at *4. The full term that the court construed was "calculating dot products of said normalized pulsation and said signals from said first pick-off sensor and said second pick-off sensor to translate said signals to said center frequency." *Id.* It was impossible to calculate a dot product for the normalized pulsation and signals because dot products require two sequences of numbers, but the normalized pulsation was only a single value. *Id.*

73. *See id.* at *5 ("This is not a situation where, as in *Nautilus, Inc. v. Biosig Instruments, Inc.*, there is a term potentially open to multiple interpretations." (citation omitted)).

74. *Id.*

court should have found that the impossible calculation caused the claim to fail the Patent Act's operability and enablement requirements. Courts could benefit from a framework for definiteness in the post-*Nautilus* era so that they do not use the definiteness doctrine to invalidate claims suffering from other deficiencies.

Where cases appropriately involve definiteness analysis, some courts still question whether the reasonable-certainty standard differs from the insoluble-ambiguity standard. For example, one district court expressed its doubts in *Boston Scientific Corp. v. Cook Inc.*⁷⁵ Although the court conceded that the reasonable-certainty standard might be dispositive in some cases, it still found that "the relevant inquiry remains the same."⁷⁶ For courts trained to rely on precedent, conflation of the two standards may be enticing. When confronted with the new standard, courts may revert to their current understandings rather than rethinking them in light of the new standard.

Even district courts that have recognized the novelty of the reasonable-certainty standard may struggle to apply it. For example, in *Crane Security Technologies, Inc. v. Rolling Optics AB*, a district court considered whether the term "optical effect" was sufficiently definite.⁷⁷ The court identified the reasonable-certainty standard at the beginning of its definiteness analysis.⁷⁸ Later in its opinion, however, the court found that the term was definite but made no mention of the articulated standard.⁷⁹ The court ultimately held that "optical effect" was definite because it was "amenable to construction according to its plain terms."⁸⁰ The court's use of the "amenable to construction" language is a reversion to the abrogated insoluble-ambiguity standard.⁸¹ Although the result might have remained the same under the new standard, the court should have explicitly considered whether a PHOSITA would understand the term "optical effect" with reasonable certainty.⁸² Courts need to apply the reasonable-certainty standard to ensure that they reach results that are consistent with *Nautilus II*.

Additionally, district courts may have a difficult time deciding cases using the reasoning that the Supreme Court presented in *Nautilus II*. In *Velocity Patent LLC v. Mercedes-Benz USA, LLC*, a district court held that the claim term "insufficient engine speed" was definite.⁸³ The court noted that, although there was no threshold for the engine speed, "[s]ome modicum of

75. 187 F. Supp. 3d 249 (D. Mass. 2016).

76. *Bos. Sci.*, 187 F. Supp. 3d at 271.

77. 166 F. Supp. 3d 76, 91–92 (D. Mass. 2016).

78. *Crane Sec.*, 166 F. Supp. 3d at 90 (quoting the holding from *Nautilus, Inc. v. Biosig Instruments, Inc.* (*Nautilus II*), 134 S. Ct. 2120, 2124 (2014)).

79. *Id.* at 92.

80. *Id.*

81. See *Nautilus, Inc. v. Biosig Instruments, Inc.* (*Nautilus II*), 134 S. Ct. 2120, 2130 (2014) ("It cannot be sufficient that a court can ascribe *some* meaning to a patent's claims . . .").

82. See *id.* at 2124 (establishing the correct standard).

83. No. 13-cv-8413, 2016 WL 5234110, at *5 (N.D. Ill. Sept. 21, 2016).

uncertainty . . . is the ‘price of ensuring the appropriate incentives for innovation.’”⁸⁴ The court engaged with the Supreme Court’s reasoning behind the standard from *Nautilus II*, but its analysis was brief.⁸⁵ The court just as easily could have seized on the other competing interest from the Supreme Court’s reasoning in *Nautilus II* and held that such a phrase does not “afford clear notice of what is claimed.”⁸⁶ Indeed, failing to specify a speed range could leave a PHOSITA within the “zone of uncertainty” that the Supreme Court sought to avoid.⁸⁷ Ultimately, the court still might have reached an appropriate result, but this example shows why courts need more guidance on how to analyze claims for definiteness. Otherwise, courts might be tempted to rely on cursory recitations of the Supreme Court’s reasoning in *Nautilus II* to justify whether they find claims to be sufficiently definite.

Lastly, district courts could also benefit from a definiteness framework because the decision in *Nautilus II* abrogated the Federal Circuit’s insoluble-ambiguity standard without explaining the implications for earlier precedents. Because the Supreme Court raised the bar in *Nautilus II*, previous cases finding claims insolubly ambiguous are still persuasive because the same claims would still be indefinite under the reasonable-certainty standard. Nevertheless, it is not clear which prior cases still apply and to what extent they remain good law. One district court has held that *Nautilus II* “does not render all of the prior Federal Circuit and district court cases inapplicable.”⁸⁸ And the Supreme Court hinted that, although the Federal Circuit’s standard was incorrect, its inquiries were not wildly off track.⁸⁹ Yet the Court was not clear about whether the Federal Circuit should revisit issues of definiteness that arose under the insoluble-ambiguity standard.⁹⁰

In a variety of cases, district courts have used definiteness in lieu of other statutory requirements, declined to apply the new standard for definiteness, and cursorily applied the new standard. One would expect the Federal Circuit to provide lower courts with more clarity.

C. *The Federal Circuit’s Response*

Although the district courts have not consistently applied the reasonable-certainty standard, one might expect that the Federal Circuit would fare better. Despite its patent law expertise, however, the Federal Circuit has not yet provided meaningful guidance to the lower courts for applying the reasonable-certainty standard.

84. *Velocity Patent*, 2016 WL 5234110, at *5 (quoting *Nautilus II*, 134 S. Ct. at 2128).

85. *See id.*

86. *Nautilus II*, 134 S. Ct. at 2129.

87. *Id.* at 2130 (quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942)).

88. *Freeny v. Apple Inc.*, No. 2:13–CV–00361–WCB, 2014 WL 4294505, at *5 (E.D. Tex. Aug. 28, 2014).

89. *See Nautilus II*, 134 S. Ct. at 2130 (noting that application of the insoluble ambiguity standard may have “track[ed] the statutory prescription”).

90. *See id.* (remaining silent on revisitation of previous cases).

Immediately following *Nautilus II*, the Federal Circuit did not expound on the Supreme Court's reasonable-certainty standard. On remand in *Nautilus III*, the Federal Circuit reanalyzed the disputed patent claim with the term "spaced relationship" under the new standard.⁹¹ The Federal Circuit wryly remarked that it could "now steer by the bright star of 'reasonable certainty,' rather than the unreliable compass of 'insoluble ambiguity.'"⁹² The court followed up this comment with a discussion of how "'reasonable certainty' has been defined in broad spectra of the law," including a lengthy footnote with a list of cases referencing reasonable certainty.⁹³ This reaction shows that the Federal Circuit finds the reasonable-certainty standard just as amorphous as the insoluble-ambiguity standard. This reaction is understandable, especially considering that the Supreme Court's decision in *Nautilus II* noted that the insoluble-ambiguity standard may have been "a shorthand label for a more probing inquiry that the Federal Circuit applie[d] in practice."⁹⁴ The Court's comment only adds to confusion about how much the reasonable-certainty standard really differs from the insoluble-ambiguity standard.⁹⁵

Despite confusion in the lower courts since *Nautilus III*, the Federal Circuit still has not offered much to clarify the reasonable-certainty standard during the past few years. Because the Federal Circuit consists of judges who hear many patent cases,⁹⁶ one might expect that the court would explain its view of the Supreme Court's standard and flesh out details to make the doctrine more workable. Yet the court has declined to do so, even though it has explicitly acknowledged these ambiguities.⁹⁷ Although the court's decisions are binding precedent on the district courts, its decisions have not articulated a framework for definiteness that might serve as a general starting point for definiteness analysis. District courts would benefit from a more detailed view of the reasonable-certainty standard so that they do not feel lost at sea with only the "bright star" of *Nautilus* to guide them.

III. TWO REQUIREMENTS FOR DEFINITENESS

One way to develop a framework for understanding the definiteness requirement is to review the Federal Circuit's decisions during the post-*Nautilus* era for helpful patterns. This Part contends that, following the Supreme

91. *Biosig Instruments, Inc. v. Nautilus, Inc.* (*Nautilus III*), 783 F.3d 1374, 1379–84 (Fed. Cir.), *cert. denied*, 136 S. Ct. 569 (2015).

92. *Id.* at 1379.

93. *Id.* at 1379–80, 1380 n.2 (citing *Palsgraf v. Long Island R.R. Co.*, 162 N.E. 99 (N.Y. 1928)).

94. *Nautilus II*, 134 S. Ct. at 2130.

95. *See supra* notes 68–69 and accompanying text.

96. *See* 28 U.S.C. § 1295(a) (2012).

97. *See Koninklijke Philips N.V. v. Zoll Med. Corp.*, 656 F. App'x 504, 527 (Fed. Cir. 2016) (noting that the court has "not clarified the relationship between 'insolubly ambiguous' and 'reasonably certain'").

Court's decision in *Nautilus II*, courts may understand the definiteness requirement as two separate, necessary requirements: linguistic definiteness and physical definiteness. Section III.A asserts that claims open to only one construction are linguistically definite, but claims open to more than one construction are generally invalid because they are linguistically indefinite. Under this approach, claims with multiple constructions are linguistically definite only if a PHOSITA would believe that one construction is clearly correct. Section III.B posits that claims with comparative terms or ambiguous spatial relationships between claim elements fail to meet the physical-definiteness requirement unless a PHOSITA would be practically limited to a narrow range of options. Under the proposed two-part framework, courts would hold invalid a claim that fails to meet *either* the linguistic-definiteness requirement *or* the physical-definiteness requirement.

A. Linguistic Definiteness

When evaluating whether a claim meets the reasonable-certainty standard after *Nautilus*, courts may first consider whether the claim is linguistically definite. Generally, a claim meets the requirement of linguistic definiteness when it is open to only one construction. The case of only one possible construction is easy because a PHOSITA will be reasonably certain of the claimed invention's metes and bounds. But when patent claims may be construed in more than one way, linguistic definiteness concerns arise.

A claim that can be construed in only one way is linguistically definite. Shortly after the Supreme Court's decision in *Nautilus II*, the Federal Circuit held that a claim was definite because a PHOSITA would understand the claim terms. In *DDR Holdings, LLC v. Hotels.com, L.P.*, the court considered claims on "systems and methods of generating a composite web page that combines certain visual elements of a 'host' website with content of a third-party merchant."⁹⁸ The appellant sought to invalidate the claims because they used the term "look and feel," which the appellant thought was indefinite.⁹⁹ The court held that the claims withstood the definiteness challenge under the reasonable-certainty standard.¹⁰⁰ It noted that, although the appellant "attempt[ed] to characterize 'look and feel' as purely subjective, the evidence demonstrates that 'look and feel' had an established, sufficiently objective meaning in the art."¹⁰¹ Because the claim used terms that could be

98. 773 F.3d 1245, 1248 (Fed. Cir. 2014).

99. *DDR Holdings*, 773 F.3d at 1259. The court held that it need not reach the issue of whether "look and feel" is sufficiently definite in one of the disputed patents because it had already invalidated that patent on other grounds. *Id.* But the court construed the term "visually perceptible elements" to mean "'look and feel' elements that can be seen" and therefore considered the meaning of "look and feel" anyway. *Id.* at 1259–60.

100. *Id.* at 1261.

101. *Id.* at 1260. In fact, the meaning was so well established that the appellant admitted during trial that both the company and its customers knew the meaning of that term. *Id.* at 1261. If the company and laypeople understood what the term meant, then surely a PHOSITA would also comprehend it.

interpreted in only one way, the inventor satisfied the statutory obligation of “particularly pointing out and distinctly claiming the subject matter” of the invention.¹⁰² In short, the Federal Circuit’s decision in *DDR Holdings* demonstrates that claims with only one possible construction withstand review under the reasonable-certainty standard because they are linguistically definite.¹⁰³

In contrast, a claim is not linguistically definite when it is open to more than one possible construction. Multiple constructions are problematic because they indicate that the patent is not “precise enough to afford clear notice of what is claimed.”¹⁰⁴ Unlike claims open to only one possible construction, claims open to multiple interpretations demonstrate that the patent drafter has not met the statutory obligation of “particularly pointing out and distinctly claiming the subject matter” warranting protection.¹⁰⁵ The exception is where a claim is open to more than one construction but one construction must be the right choice.

Claims open to multiple constructions are generally invalid for linguistic indefiniteness. But the Federal Circuit has held that this ambiguity may be overcome if a PHOSITA would find that one of the possible constructions is clearly correct. For example, in *Eidos Display, LLC v. AU Optronics Corp.*, the court held that the claim was definite despite two possible constructions.¹⁰⁶ In a patent for liquid crystal display (LCD) manufacturing processes, the contested claim included the phrase “a contact hole for source wiring and gate wiring connection terminals.”¹⁰⁷ The parties disagreed over whether this phrase meant two contact holes (one for a source-wiring connection terminal and one for a gate-wiring connection terminal) or a single contact hole (shared between the source-wiring and gate-wiring connection terminals).¹⁰⁸ The court held that the claim was sufficiently definite because a PHOSITA would know that the former construction must be correct.¹⁰⁹ The court reasoned that there was no indication that the patentee was attempting to diverge from standard industry practice for this claim element; in fact, development of a shared contact hole would have been a new development

102. 35 U.S.C. § 112(b) (2012).

103. Of course, a court’s finding that a claim meets the linguistic-definiteness requirement does not mean that the claim is valid. The court might still find that the claim is invalid for physical indefiniteness, *see* discussion *infra* Section III.B, or for any other grounds in 35 U.S.C. §§ 101, 102, 103, and 112. Linguistic definiteness is a necessary condition for claim validity; it is not sufficient.

104. *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120, 2129 (2014).

105. 35 U.S.C. § 112(b).

106. 779 F.3d 1360, 1368 (Fed. Cir. 2015).

107. *Eidos Display*, 779 F.3d at 1363 (emphasis omitted) (quoting U.S. Patent No. 5,879,958 col. 58 ll. 40–41).

108. *Id.*

109. *Id.* at 1365 (“[A] person of ordinary skill in the art . . . would understand the limitation-at-issue to call for separate, different contact holes for the source wiring connection terminals and gate wiring connection terminals, rather than one shared contact hole.”).

in the industry, warranting a more explicit disclosure.¹¹⁰ Consequently, although the claim seemed linguistically indefinite at first, the claim met the reasonable-certainty standard because one construction was clearly correct.

A court is more likely to find that a claim open to three or more constructions is linguistically indefinite than a claim open to two constructions. In *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc. (Teva II)*, the Federal Circuit had to interpret the meaning of the term “molecular weight” in a claim for a method of making a polymer.¹¹¹ The court noted that the term can have three different meanings, each calculated in a different manner.¹¹² Accordingly, the court held that the claim was invalid for lack of definiteness, partially because there was conflicting evidence about which definition of “molecular weight” the patentee intended.¹¹³ Crucially, the claim did not have one construction that a PHOSITA would have found clearly correct.¹¹⁴ One expert witness even conceded that none of the three options are considered the default molecular weight.¹¹⁵ Because no construction stood out from the others, the claim fell short of the reasonable-certainty standard.

As the number of possible claim constructions increases, the chances that a claim will be invalidated for linguistic indefiniteness rise sharply. With more claim constructions, it becomes even harder for the inventor to show that a PHOSITA would find one of the constructions to be clearly correct. The Federal Circuit found a claim with two possible constructions sufficiently definite in *Eidos Display*, given how a PHOSITA would view those constructions,¹¹⁶ and it may be easy enough to imagine that a court would similarly find a claim with three possible constructions sufficiently definite.¹¹⁷ Beyond three constructions, the idea that a PHOSITA would find one

110. *Id.*

111. 789 F.3d 1335, 1338–40 (Fed. Cir. 2015). Although the Federal Circuit had previously ruled on the merits, the Supreme Court vacated that decision because it held that the Federal Circuit had improperly reviewed the district court’s factual findings. *Teva Pharm. USA, Inc. v. Sandoz, Inc. (Teva I)*, 135 S. Ct. 831, 835 (2015) (“We hold that the appellate court must apply a ‘clear error,’ not a *de novo*, standard of review.”). The Supreme Court instructed the Federal Circuit to reconsider the indefiniteness challenge under the proper standard of review on remand. *Id.* at 843.

112. *Teva II*, 789 F.3d at 1338. The three options are peak average molecular weight, number average molecular weight, and weight average molecular weight. *Id.* The three different molecular weights correspond to different points on a curve of chromatogram data. *See id.* at 1345 (“The district court fact findings regarding how one of skill in the art would understand the way in which a curve created with chromatogram data reflects molecular weights was not clearly erroneous.”).

113. *Id.*

114. *See id.* at 1341 (“[T]he claim on its face offers no guidance on which measure of ‘molecular weight’ the claims cover.”).

115. *Id.*

116. *See supra* notes 106–110 and accompanying text.

117. For example, consider *Teva II* with slightly modified facts where one method of calculating the slope was almost *always* used in the plastics industry.

construction clearly correct becomes largely unbelievable.¹¹⁸ As the Supreme Court hoped in *Nautilus II*, this framework would incentivize inventors to draft their claims as precisely as possible.¹¹⁹ The framework would motivate patent drafters to “afford clear notice of what is claimed” and accordingly alert other inventors as to the field in which they may decide to operate.¹²⁰ Therefore, viewing linguistic definiteness as part of the overall definiteness requirement is in line with the overall goal of claiming in the patent system.

These cases illustrate how linguistic indefiniteness may arise when a claim is open to multiple constructions. In that case, the claim is only linguistically definite if a PHOSITA would find that one of those constructions is clearly correct. As the number of possible constructions increases, a claim is more likely to be found invalid for failing to meet the definiteness requirement.

B. Physical Definiteness

An ambiguous claim may not always suffer from linguistic indefiniteness. When considering whether a claim meets *Nautilus's* reasonable-certainty standard under the proposed two-part framework, courts may also evaluate whether the claim is physically definite. To be physically definite, a claim must be practically limited to a narrow range of possibilities.¹²¹ Conversely, a claim is physically indefinite when it is spatially imprecise. Spatial imprecision may arise when claims use comparative terms or when the relationship between claim elements is ambiguous. Wide ranges of possibilities

118. The Federal Circuit considered a claim with four possible constructions in *Dow Chemical Co. v. Nova Chemicals Corp. (Canada)*, which involved patents for plastics that “can be made into films that can be down-gauged (made thinner) without losing strength.” 803 F.3d 620, 624 (Fed. Cir. 2015). The claim required calculating the slope of a new coefficient that Dow created. *Dow Chem.*, 803 F.3d at 625. The slope could have been calculated using any one of four methods, and performing the four different calculations could lead to four different results. *Id.* at 633–34. The four methods included three standard methods—the 10% secant tangent method, the final slope method, and the most linear method—plus another method invented by Dow’s expert witness. *Id.* at 633. The court not only found that the claims were indefinite but also noted that they were “even more clearly indefinite than those in *Teva*.” *Id.* at 635 (referring to *Teva II*, 789 F.3d 1335). Presumably, the court found that a one-in-four chance of the chosen construction being correct was even less acceptable under the reasonable-certainty standard than a one-in-three chance of the chosen construction being correct. The uncertainty was not simply caused by “the inherent limitations of language.” *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120, 2128 (2014). Rather, the applicant failed to specify the claim’s metes and bounds. That shortcoming is fatal for a claim under the requirement of linguistic definiteness.

119. See *Nautilus II*, 134 S. Ct. at 2129 (“[A]bsent a meaningful definiteness check . . . patent applicants face powerful incentives to inject ambiguity into their claims.”).

120. *Id.* (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996)).

121. As before, the claim’s ultimate validity depends not just on satisfying the requirement of physical definiteness, but also on meeting the remaining requirements under the Patent Act. See *supra* note 103. Physical definiteness is not a sufficient condition for validity, but it is a necessary condition.

that leave substantial uncertainty over claim elements also prevent claims from satisfying the physical-definiteness requirement.

Physical definiteness differs from linguistic definiteness because physical definiteness does not involve choosing between or among a discrete number of claim constructions. Generally, physically indefinite claims are imprecise because they leave open a partially unbounded range of possibilities. Challenges related to physical definiteness are less likely to arise than challenges related to linguistic definiteness because all claims are expressed in words and must contend with “the inherent limitations of language.”¹²² But not all claims involve spatial precision. When claims do involve spatial precision, however, they must be both linguistically *and* physically definite.

Spatial imprecision may arise when claims use comparative terms or involve ambiguous arrangements of claim elements. Claims with comparative terms might suffer from physical indefiniteness, but those comparative terms may be acceptable if they are limited in scope. In *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, the Federal Circuit considered a comparative term under the post-*Nautilus* standard.¹²³ The case involved spinal implants and methods for performing spinal surgery.¹²⁴ The disputed claim language specified the following: “A translateral spinal implant . . . having a length that is *greater than one half the transverse width of the vertebrae*.”¹²⁵ Despite the claim’s use of the comparative term “greater than,” the court held that the claim was sufficiently definite.¹²⁶ In understanding the claim, a PHOSITA would be limited to a range of realistic possibilities because human anatomy is fairly consistent. Although vertebrae are not all the same size, the PHOSITA would have almost no uncertainty about the metes and bounds of the claim. Accordingly, the claim in *Warsaw Orthopedic* met the requirement of physical definiteness despite the presence of a comparative term.

Ambiguous arrangements of claim elements may also give rise to physical indefiniteness, though not if a PHOSITA would be constrained in practice. The Federal Circuit’s reconsideration of the merits in *Nautilus III* demonstrates how physical definiteness works.¹²⁷ The patent involved a heart-rate monitor for exercise equipment that users grip with their hands.¹²⁸ The claims specified electrodes having a “*spaced relationship* with

122. See *Nautilus II*, 134 S. Ct. at 2128.

123. 778 F.3d 1365 (Fed. Cir. 2015), *vacated on other grounds sub nom.* Medtronic Sofamor Danek USA, Inc. v. NuVasive, Inc., 136 S. Ct. 893 (2016) (mem.).

124. *Warsaw Orthopedic*, 778 F.3d at 1368.

125. *Id.* at 1370 (emphasis added) (quoting U.S. Patent No. 5,860,973 col. 13 ll. 1–3).

126. *Id.* at 1371 (“The relative nature of the claim does not itself make it indefinite, and NuVasive failed to establish . . . that human anatomy varies so significantly that reliance on the well-known dimensions of human vertebrae makes the claims indefinite.”).

127. *Biosig Instruments, Inc. v. Nautilus, Inc. (Nautilus III)*, 783 F.3d 1374 (Fed. Cir.), *cert. denied*, 136 S. Ct. 569 (2015).

128. See *Biosig Instruments, Inc. v. Nautilus, Inc. (Nautilus I)*, 715 F.3d 891, 893–94 (Fed. Cir. 2013), *vacated*, 134 S. Ct. 2120 (2014); see also *supra* notes 39–40 and accompanying text.

each other.”¹²⁹ Despite that generic phrase, the court held that Biosig's claims were sufficiently definite under the reasonable-certainty standard.¹³⁰ Given the device's function, the court noted that “an ordinarily skilled artisan would be able to determine this language requires the spaced relationship to be neither infinitesimally small nor greater than the width of a user's hands.”¹³¹ In other words, a PHOSITA would understand that the claim was practically limited to a narrow range of physical possibilities in order for it to function properly. The PHOSITA was constrained to a length varying by only a few inches.¹³² Thus, the claim met the requirement of physical definiteness.

These cases illustrate how claims might be physically definite even if they use comparative terms or involve ambiguous relationships between claim elements. Comparative terms are problematic, however, because they set up comparisons between inventions in practice and elements in patent claims; they do not clearly identify the outer edges of the claimed patent rights. In other words, relative terms may place inventors in the Supreme Court's unacceptable “zone of uncertainty” because they are unbounded.¹³³ Ambiguous spatial relationships are problematic for the same reason; they leave inventors unsure of which arrangements are claimed and which do not infringe. If such terms were acceptable under the definiteness requirement, patent applicants would purposefully draft overly flexible claims given the “powerful incentives to inject ambiguity.”¹³⁴ Although the Federal Circuit held that the claim terms were sufficiently definite in *Warsaw Orthopedic*¹³⁵ and *Nautilus III*,¹³⁶ one could imagine that the court might find the same comparative term or ambiguous spatial relationship indefinite in another context.

Under the proposed two-part framework, physical definiteness is just as important as linguistic definiteness because both are required for a claim to be sufficiently definite. A physically indefinite claim fails to meet the Supreme Court's standard in *Nautilus II* because such a claim “fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”¹³⁷ Similarly, a claim that is linguistically indefinite cannot survive the Supreme Court's higher standard. When a claim is open to multiple constructions and there is not one clearly correct construction, a

129. *Nautilus III*, 783 F.3d at 1376 (quoting U.S. Patent No. 5,337,753 col. 5 ll. 28–29).

130. *Id.* at 1382.

131. *Id.*

132. *See id.* at 1382–83.

133. *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120, 2129 (2014) (quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942)).

134. *Id.*

135. *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 778 F.3d 1365, 1371 (Fed. Cir. 2015), *vacated on other grounds sub nom. Medtronic Sofamor Danek USA, Inc. v. NuVasive, Inc.*, 136 S. Ct. 893 (2016) (mem.).

136. *Nautilus III*, 783 F.3d at 1382.

137. *Nautilus II*, 134 S. Ct. at 2124.

PHOSITA would not be able to discern the claim's scope with reasonable certainty. In the post-*Nautilus* era, patent applicants should avoid the ambiguities associated with both linguistic and physical definiteness to draft claims that will survive a challenge under 35 U.S.C. § 112(b).

The two-part framework for definiteness presented in this Note should not be mistaken as a proposal for courts to apply a rigid, two-prong test. The Supreme Court has repeatedly struck down the Federal Circuit's rigid tests in favor of more flexible standards.¹³⁸ Plus, *Nautilus II* rejected the insoluble-ambiguity inquiry because it was too simplistic,¹³⁹ and renewed interest in the definiteness requirement stemmed from the Court's abrogation of the Federal Circuit's mechanical application of the previous standard.¹⁴⁰ Courts should continue to apply the definiteness requirement flexibly under the Supreme Court's standard from *Nautilus II*.

Additionally, this framework may not fully capture every definiteness issue that might arise during patent prosecution or litigation. For example, one could imagine a claim that does not implicate a physical relationship and has only one possible construction but still remains ambiguous.¹⁴¹ In this example, the underlying problem would not follow the pattern of the other linguistic definiteness cases but would still be better considered an issue involving linguistic definiteness.¹⁴² The two-part framework is meant to encapsulate the most common problems that arise under 35 U.S.C. § 112(b), but it might not fit every problem that arises. Yet understanding the definiteness requirement as two requirements for linguistic and physical definiteness may be helpful for courts applying the flexible standard from *Nautilus II*.

Once again, consider trying to follow a hypothetical recipe. When the recipe tells you to "place one half of the separated eggs into a bowl" and "discard the remaining half," it suffers from linguistic indefiniteness. Those terms could be construed in two ways—placing the yolks in the bowl and discarding the whites or vice-versa. If a chef with ordinary culinary skills cannot determine which interpretation is correct, it would be impossible for her to proceed. Then, when the recipe instructs you to "place the pan a

138. See, e.g., *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1928 (2016) (striking down the Federal Circuit's test for enhanced damages); *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1755 (2014) (dismissing the Federal Circuit's test for awarding attorney's fees as "unduly rigid"); *Bilski v. Kappos*, 561 U.S. 593, 604 (2010) (holding that the Federal Circuit's "machine-or-transformation" test for patentable subject matter is "not the sole test"); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) (finding the Federal Circuit's "teaching, suggestion, or motivation" test for obviousness "inconsistent" with the Court's "expansive and flexible approach").

139. See *Nautilus II*, 134 S. Ct. at 2124.

140. *Id.* at 2130.

141. Imagine that the court in *DDR Holdings, LLC v. Hotels.com, L.P.* held that the term "look and feel" had one construction but was still too ambiguous to define the claim's metes and bounds. See 773 F.3d 1245, 1259 (Fed. Cir. 2014); see also *supra* notes 98–102 and accompanying text.

142. See discussion *supra* Section III.A.

distance away from the center of the oven” for proper cooking, it suffers from physical indefiniteness. The proper distance could be anywhere from a couple of inches to half the width of the oven. If the distance makes a considerable difference, then once again a chef with ordinary culinary skills will not have enough information to continue following the recipe. These problems could be fixed if the recipe unambiguously instructed you to “place the separated yolks into a bowl” and to “place the pan six inches from the center of the oven.” Like a chef who is selective about the recipes she will accept, courts may reject claims that suffer from either of these problems.

CONCLUSION

At a time when companies aggressively assert their patent portfolios, innovators face high incentives to ensure that their patents are valid. Litigants may mount substantial challenges to patents suffering from potentially fatal flaws. In particular, the Supreme Court’s articulation of the definiteness requirement in *Nautilus II* brought about a renewed interest in that requirement. In the post-*Nautilus* era, courts evaluate claims to determine whether those claims meet the Court’s higher bar of reasonable certainty. When courts complete that analysis, they may consider whether claims meet the requirements of linguistic and physical definiteness. By evaluating claims for both types of definiteness, courts could help inventors, patent drafters, and litigants avoid ambiguity while reaching more consistent results in definiteness cases.