

BUFFALO INTELLECTUAL PROPERTY LAW JOURNAL

VOLUME 7

WINTER 2009

NUMBER 1

THE ANALOGOUS ART TEST

JEFFREY T. BURGESS†

I.	INTRODUCTION	64
II.	OBVIOUSNESS	64
III.	SCOPE OF THE PRIOR ART.....	65
IV.	35 U.S.C. § 102 AND THE PRIOR ART	66
V.	KSR IMPLICATIONS	68
VI.	WHY IS IT IMPORTANT?	68
VII.	DETERMINING WHETHER A REFERENCE IS WITHIN THE SCOPE OF THE PRIOR ART	69
VIII.	THE FIELD OF ENDEAVOR.....	69
IX.	REASONABLE PERTINENCE TO THE PARTICULAR PROBLEM WITH WHICH THE INVENTOR WAS INVOLVED	74
X.	GENERAL CONSIDERATIONS.....	78
XI.	CONCLUSION.....	79

† Associate, Arent Fox LLP. The author would like to extend his thanks to Mark Garcia for his time and insight in the content of the paper.

I. INTRODUCTION

Today, most patent practitioners would likely agree that it is much more difficult to determine obviousness than anticipation of an invention. Because obviousness is based on a more subjective analysis of the invention and the prior art, disputes about obviousness frequently arise. As a result, a rich body of case law has developed, replete with nuances and subtleties that make the obviousness analysis one of the most problematic issues in the field.

The objective of this article is to provide assistance to patent attorneys and agents who regularly deal with this issue by arming them with tools to disqualify a prior art reference that might otherwise be used to render an invention obvious. Specifically, using these tools, a potentially problematic reference can be excluded from the obviousness analysis if it is not within the so-called analogous art.

II. OBVIOUSNESS

Under the federal obviousness statute, an invention is unpatentable “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”¹ Questions of the obviousness of an invention can arise during patent examination, reexamination, and litigation. During patent examination or reexamination, a patent examiner seeks prior art to prove an invention is obvious. During litigation, an accused infringer of a patent similarly seeks prior art that would prove that the previously issued patent is invalid because it was obvious.

A determination of obviousness is a legal conclusion based on a series of underlying factual inquiries.² The three main underlying questions of fact, laid out by the Supreme Court in *Graham v. John Deere Co.*, are (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the pertinent art.³ Secondary considerations, or objective facts that may indicate non-obviousness of the invention, include things such as its commercial success, its satisfaction of a long-felt but unsolved need, the failure of others attempting to solve the same problem,⁴ skepticism of experts as to whether

¹ 35 U.S.C. § 103(a) (2006).

² *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1565 (Fed. Cir. 1987).

³ *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

⁴ *Id.*

the completed invention would work,⁵ and copying of the invention by others in preference over the prior art.⁶

That these determinations are questions of fact leads to significant implications. For example, during patent litigation, a genuine dispute as to any of these factual inquiries prevents a summary judgment of invalidity.⁷ Further, on an appeal of a rejection of a patent application, or an appeal of a finding of obviousness during litigation, these issues are reviewed under the “clearly erroneous” standard of the Federal Rules of Civil Procedure.⁸ Thus, it is important to get the answer right the first time.

III. SCOPE OF THE PRIOR ART

This article is generally limited to the first factual inquiry into the scope and content of the prior art. In fact, the scope of the prior art and its content are really two distinct inquiries: the scope refers to what references qualify and the content refers to what those qualifying references actually say. More specifically, then, this article is limited to the scope of the prior art, determined by the so-called analogous (or non-analogous) art test.⁹

The terminology used in different opinions can be inconsistent and may be a cause of confusion. Some opinions indicate that if a cited reference is non-analogous, it is not called “prior art.”¹⁰ Other opinions indicate that a non-analogous reference may still be called “prior art,” but that it is not relevant in determining obviousness.¹¹

Regardless of the terminology used, if a non-analogous reference is considered to be outside the prior art, or if it is considered to be within the prior art but not relevant to determining obviousness, the result is the same: the reference goes away. It cannot be used to support a determination of obviousness. Thus, for consistency in this article, a non-analogous reference will be referred to as being outside the scope of the prior art. However, the

⁵ See *United States v. Adams*, 383 U.S. 39, 52 (1966).

⁶ See *Diamond Rubber Co. v. Consol. Rubber Tire Co.*, 220 U.S. 428, 441 (1911).

⁷ *State Contracting & Eng'g Corp. v. Condotte Am., Inc.*, 346 F.3d 1057, 1069–70 (Fed. Cir. 2003) (reversing a summary judgment of obviousness because there was a genuine factual dispute as to, among other things, whether a cited reference was within the scope of the prior art).

⁸ FED. R. CIV. P. 52(a). See e.g., *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1565–69 (Fed. Cir. 1987) (“If findings necessary to support a legal conclusion are clearly erroneous, the conclusion cannot stand.”).

⁹ See *In re Icon Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007).

¹⁰ *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (“References . . . qualify as prior art for an obviousness determination only when analogous to the claimed invention.”).

¹¹ E.g., *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992) (“Whether a reference in the prior art is ‘analogous’ is a fact question.”).

reader is advised that depending on the audience or context of an argument made on this point, it may be advantageous to refer to a purportedly non-analogous reference as a prior art reference that is irrelevant or not reasonably pertinent to the question of obviousness.

As a side note, even if a reference is within the scope of the prior art, the factual inquiry continues to the other *Graham* questions, so this inquiry is only the beginning of a complete analysis of obviousness.¹²

IV. 35 U.S.C. § 102 AND THE PRIOR ART

Unlike § 102, which fairly clearly and explicitly defines what the prior art is, § 103 unfortunately lacks any definition of what qualifies, simply referring to “the prior art.” The comments to the 1952 Patent Act, which first codified the requirement of non-obviousness into 35 U.S.C. § 103, indicate that “the prior art” of § 102 is the “antecedent [basis]” for the term as used in § 103.¹³ Thus, in general, a reference that does not fall into any statutory category under § 102 can be excluded from an obviousness analysis.¹⁴ For this reason, unless otherwise noted, this paper will assume that the so-called “prior art” reference in question falls within the scope of at least one part of § 102.

It may initially appear that every reference or other subject matter that is prior art under § 102 is automatically available for an obviousness analysis under § 103. In fact, the Manual of Patent Examining Procedure (“MPEP”) explicitly states that all prior art that would be available under § 102 is automatically available under § 103.¹⁵ Is this statement accurate? Are all § 102 references available to invalidate patents or patent applications under § 103, or are there exceptions?

The courts have rejected one potential exception. Under the plain language of § 103, it appears that the inquiry should be whether the

¹² See, e.g., *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006) (“[T]his test begins the inquiry into whether a skilled artisan would have been motivated to combine references by defining the prior art relevant for the obviousness determination[.]”).

¹³ See *Ex parte Andresen*, 212 U.S.P.Q. 100, 101-02 (B.P.A.I. 1976) (“From the above quoted commentary and the committee report quoted, it appears to us that the commentator and the committee viewed section 103 as including all of the various bars to a patent as set forth in section 102.”).

¹⁴ Note that the converse does not apply: non-analogous art, even from the most distant field imaginable, can still anticipate an invention as long as it falls within a § 102 category. See *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997).

¹⁵ See U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2141.01(1) (2008), available at <http://www.uspto.gov/web/offices/pac/mpep/mpep.htm> [hereinafter M.P.E.P.] (The subsection is entitled: “PRIOR ART AVAILABLE UNDER 35 U.S.C. 102 IS AVAILABLE UNDER 35 U.S.C. 103.”).

invention would have been obvious to a person having ordinary skill in the art (“PHOSITA”) at the time the invention was made. Thus, this would seem to except a § 102(b) “statutory bar” reference if it was published more than a year before the application for patent, yet after the time the invention was conceived and reduced to practice. Obviously in this scenario, because such a reference was not published and potentially was not even written when the invention was made, it could not have rendered an invention obvious to a PHOSITA trying to solve the problem with which the inventor was concerned. However, contrary to the plain language of the statute, the courts do not except such § 102(b) references because such an exception would be “contrary to the policy consideration which motivated the enactment by Congress of a statutory bar.”¹⁶ Thus, evidently, a determination of obviousness in this situation must be performed by imagining a PHOSITA who somehow had access to a publication before it was published—and potentially before it was even written.¹⁷

Fortunately, however, the patent statutes do create some exceptions to the general rule. For example, § 103(b) and (c) exclude certain prior art references for biotechnology inventions and some otherwise obvious inventions that were created under a joint research agreement with the inventors of the prior art reference.

Most importantly, though, judicially created exceptions substantially narrow the scope of the prior art from that available for a § 102 rejection. A reference is excluded from an obviousness analysis if it is not within an analogous art to that of the invention.¹⁸ Analogous arts might generally be defined as those areas within which a PHOSITA seeking to solve the same problem with which the inventor was concerned would be inclined to research for a solution.¹⁹ This exclusion of non-analogous arts is based on a sense of fairness to inventors, as it is rather unreasonable to presume knowledge of every reference in every field.²⁰ However, it is proper to assume that a PHOSITA, faced with a particular problem, would have

¹⁶ *In re Foster*, 343 F.2d 980, 988 (C.C.P.A. 1965).

¹⁷ *See Hazeltine Research, Inc. v. Ladd*, 226 F. Supp. 459 (D.D.C. 1964), *aff'd*, 340 F.2d 786 (D.C. Cir. 1964), *aff'd*, 382 U.S. 252 (1965) (holding that § 102(e) prior art is also available for an obviousness analysis).

¹⁸ *See, e.g., In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992) (a leading case on the issue of analogous arts).

¹⁹ *E.g., In re Shapleigh*, 248 F.2d 96, 102 (C.C.P.A. 1957).

²⁰ *See In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979) (“[A]tempt[s] to more closely approximate the reality of the circumstances surrounding the making of an invention by only presuming knowledge by the inventor of prior art in the field of his endeavor and in analogous arts.”). The presumption of knowledge is actually attributed to the PHOSITA, not the inventor. *Id.*

looked to the arts analogous to that particular problem in order to see if someone else had already solved that problem.

V. KSR IMPLICATIONS

An argument that a reference is not within the scope of the prior art must be made carefully after the recent decision of *KSR International Co. v. Teleflex Inc.*²¹ In *KSR*, the Supreme Court overruled longstanding precedent in the Federal Circuit related to a rigid application of the often-cited “teaching-suggestion-motivation” (TSM) test used to determine whether the teachings of prior art references may be combined to render an invention obvious.²² However, in light of a recent published opinion, it appears that at least the Federal Circuit believes that the analogous art test, used to determine the scope of the prior art, was not substantially affected by *KSR*.²³

The difficulty arises because many pre-*KSR* opinions closely intermingle their discussions of whether a reference is analogous and whether there is a teaching, suggestion, or motivation to combine cited references. In fact, this appears to have caused some skilled practitioners to fail to realize that these are distinct issues; even the MPEP confuses the two issues in its discussion of analogous and non-analogous art, quoting a passage from *KSR* related to combining references to support its statement of a rule on analogous art.²⁴ Thus, an argument in this area must be clear that it is attempting to disqualify a reference as outside the scope of the prior art. Plus, case law supporting the argument must be carefully reviewed to ensure that quoted passages are not part of a TSM analysis (pre-*KSR*) or reason to combine sources (post-*KSR*).

VI. WHY IS IT IMPORTANT?

If a reference is within the scope of the prior art, the inventor is charged with the knowledge and teachings of that reference.²⁵ More precisely, the imaginary PHOSITA who hypothetically was confronted with the same problem as the inventor at the time of invention is deemed to

²¹ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

²² *Id.*

²³ *See In re Icon Health & Fitness, Inc.*, 496 F.3d 1374 (Fed. Cir. 2007).

²⁴ M.P.E.P., *supra* note 15, § 2141.01(a)(1) (“Under the correct analysis, any need or problem known in the field of endeavor at the time of the invention and addressed by the patent [or application at issue] can provide a reason for combining the elements in the manner claimed.” (quoting *KSR*, 550 U.S. at 420)).

²⁵ *See In re Wood*, 599 F.2d at 1036 (“[W]e presume full knowledge by the inventor of all the prior art in the field of his endeavor.”).

know everything within the scope of the prior art.²⁶ Thus, a determination of obviousness is made by stepping into the shoes of this imaginary person of ordinary skill in the art (but, apparently, with extraordinary research skills).

VII. DETERMINING WHETHER A REFERENCE IS WITHIN THE SCOPE OF THE PRIOR ART

Many courts have visited this issue, frequently reciting two tests²⁷ to determine whether a particular cited reference that potentially renders a particular invention obvious is within the scope of the prior art. The first test asks whether the reference is in the same field as the inventor's endeavor.²⁸ The second test asks whether the reference is reasonably pertinent to the particular problem with which the inventor was involved.²⁹ These two tests are frequently conflated, and thus the intersection between the two is not always perfectly clear.³⁰ However, based on the description that follows, it should be clear that it is necessary to ask both questions because neither answer implies an answer to the other question. In other words, if the answer to either question is yes, this is sufficient to say that the reference is analogous and thus available for an obviousness rejection. In this case, an argument that the invention is nonetheless non-obvious must attack from a different angle (*e.g.*, a different *Graham* factor).

VIII. THE FIELD OF ENDEAVOR

Determining the field of endeavor sounds simple enough, especially in light of the USPTO recommended practice for inventors to include a statement in a patent application identifying the field of the invention.³¹

²⁶ See *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988) ("The board attributes to the 'hypothetical person' knowledge of all prior art in the field of the inventor's endeavor and of prior art solutions for a common problem even if outside that field.").

²⁷ See *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) ("two separate tests"); *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992) ("two criteria"); *In re Wood*, 599 F.2d at 1036 ("two-fold test").

²⁸ See *In re Clay*, 966 F.2d 656, at 659 (Fed. Cir. 1992).

²⁹ See *id.*

³⁰ See, *e.g.*, *In re Bigio*, 381 F.3d at 1326 (stating that in rejecting a patent application for a hair brush based on obviousness over certain toothbrushes, the Board "correctly set the field of the invention by consulting the structure and function of the claimed invention as perceived by one of ordinary skill in the art."). However, the quotation of the Board cited by the Federal Circuit was not related to setting the field of the invention, but instead related to the second question, by stating that "'one of ordinary skill in the art working in the specific field of hairbrushes [would] consider all similar brushes including toothbrushes.'" *Id.* (quoting *In re Bigio*, No. 2002-0967, slip op. at 7 (B.P.A.I. Jan. 24, 2003)).

³¹ See M.P.E.P., *supra* note 15, § 601(l).

However, a formal announcement that an invention is in a particular field is not required, and has its disadvantages, and is thus frequently omitted from a patent application or intentionally obscured.³² Thus, the field of endeavor is not always clear and can be a point of contention in an obviousness analysis, particularly if confronted by a patent examiner who defines the field of endeavor as something as broad as, for example, "mechanics."

Unfortunately, the case law appears erratic on this issue at times with some opinions, particularly those of the various circuit courts prior to the establishment of the Court of Appeals for the Federal Circuit, finding an exceptionally narrow field of endeavor³³ and others finding an extraordinarily wide field.³⁴ Arguing this issue can easily appear to be cherry picking of favorable opinions unless one makes a clear synthesis of the case law stating a convincing rule. Of course, this situation may work in an applicant or patentee's favor. An issue that is so apparently subjective can allow an advocate some wiggle room in which a powerfully persuasive argument can sway a fact finder even in a seemingly hopeless situation.

The field of endeavor is an objective test, and as such, a proper characterization of the field of endeavor should be wholly independent of the state of mind of the inventor. Specifically, one consideration to avoid in determining the field of endeavor is the problem addressed by the inventor.³⁵ As will be discussed below, however, the problem the inventor addressed is very relevant to the second test, asking whether a reference would have been reasonably pertinent to that problem.

One straightforward and useful tool to determine the field of a patent

³² JEFFREY G. SHELDON, *HOW TO WRITE A PATENT APPLICATION* § 8:5.8[B] (2d ed. 2009) ("Identification of the 'field of the invention' can hurt the applicant. If the field of invention is described very broadly, this can be interpreted to be an admission that anything within the broad description is analogous art and can be used to reject the claims under 35 U.S.C. § 103. If the field of the invention is described unduly narrowly, then the scope of the claims may be interpreted during litigation to be of commensurate narrow scope.").

³³ See, e.g., *Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858 (Fed. Cir. 1993) (holding valid a patent for a computer memory module having nine memory chips: eight for storing data and one for error detection, mounted in a single row on an epoxy-glass printed circuit board substrate, directed to personal computers, because a reference was outside the field of endeavor when it disclosed a memory module having nine memory chips: eight for storing data and one for error detection, mounted in a single row on an epoxy-glass printed circuit board substrate, directed to industrial applications).

³⁴ See, e.g., *Stevenson v. Int'l Trade Comm'n*, 612 F.2d 546, 550 (C.C.P.A. 1979) ("In a simple mechanical invention a broad spectrum of prior art must be explored and it is reasonable to permit inquiry into other areas where one of ordinary skill in the art would be aware that similar problems exist."); See *Skee-Trainer, Inc. v. Garelick Mfg. Co.*, 361 F.2d 895, 896 (8th Cir. 1966) (defining the field of endeavor as "the field of mechanics").

³⁵ *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992) (defining the test as "whether the art is from the same field of endeavor, regardless of the problem addressed.").

application is the Patent Office classification system. After a new application for a patent is filed, the USPTO classifies it into at least one of a large number of very detailed classes and subclasses.³⁶ This classification system was designed to assist patent examiners during their patentability search.³⁷ So it makes sense that courts consider the fact that a prior art patent has been classified in the same or nearly the same class as the invention as evidence that the two inventions are in the same field³⁸ and far-departed classifications are considered evidence that the inventions are not.³⁹

The USPTO Handbook of Classification provides a helpful discussion of the bases on which it determines the classification of patent applications. The classification is based on (1) the industry employing the art or use to which the device is put; (2) the “proximate” function, or the fundamental utility of the invention;⁴⁰ (3) the effect of or product produced by the invention; and (4) the structure of the invention.⁴¹ Although it does not appear that the Federal Circuit has ever expressly followed these guidelines in determining the field of endeavor, they are nonetheless very well thought out and will provide a helpful basis on which to begin an analysis of the field of endeavor.

In at least one precedential opinion, the evidentiary value of USPTO classification toward a definition of the field of endeavor was characterized as “weak” because “considerations in forming a classification system differ from those relating to a person of ordinary skill seeking solution for a particular problem.”⁴² However, the court did not explain what it believed to be the considerations in forming the classification system, or what the person having ordinary skill would look at in seeking such a solution. Moreover, the argument appears inapposite, more properly directed to the second test (discussed below, in which it is considered whether a prior art reference outside the field of endeavor would nevertheless have been reasonably pertinent to the particular problem with which the inventor was concerned) rather than the question of what the field of endeavor is. Therefore, the straightforward usefulness of the USPTO classification

³⁶ See U.S. PATENT AND TRADE OFFICE, HANDBOOK OF CLASSIFICATION (2005), available at <http://www.uspto.gov/web/offices/opc/documents/handbook.pdf>.

³⁷ *Id.* at 1.

³⁸ See *In re Deminski*, 796 F.2d 436, 442 n.3 (Fed. Cir. 1986).

³⁹ See, e.g., *In re Ellis*, 476 F.2d 1370, 1372 (C.C.P.A. 1973).

⁴⁰ “[S]imilar processes or structures that achieve similar results by the application of similar natural laws to similar substances are considered to have the same fundamental utility and are grouped together.” HANDBOOK OF CLASSIFICATION, *supra* note 36, at 3.

⁴¹ *Id.* at 3–4.

⁴² *In re Mlot-Fijalkowski*, 676 F.2d 666, 670 (C.C.P.A. 1982).

system should not be overlooked.

Of course, the Patent Office classification system is obviously not helpful for an applicant or patentee who believes that the classification of an application is wrong, and that an incorrect classification is a chief reason that a reference is being improperly considered in an obviousness analysis. In this situation, the differences in structure and function should be emphasized.

The primary consideration that the USPTO uses during examination to determine whether a reference is in the same field of endeavor as an invention is if the reference discloses the same structure and function as the invention.⁴³ The structure and function of the invention are broadly defined, and are based on the complete disclosure of all the embodiments in the patent's specification.⁴⁴ In general, if an allegedly prior art reference discloses essentially the same structure *and* the same function as the invention, it is very likely in the same field of endeavor; that is, the reference is almost certainly within the scope of the prior art.⁴⁵ In borderline cases such as when a reference discloses the same structure explicitly limited to performing a different function, or if it discloses a different structure performing the same function as the invention, there may be a convincing argument that the reference is not in the same field of endeavor.

However, these borderline cases may still sometimes be held to be within the same field. For example, the Federal Circuit in *In re Bigio* held a patent application for a hairbrush obvious over references disclosing toothbrushes.⁴⁶ In dissent, Judge Newman made the common sense argument that "[a] brush for hair has no more relation to a brush for teeth than does hair resemble teeth," and that the references were therefore in a non-analogous art.⁴⁷ However, the court agreed with the assessment of the Board of Patent Appeals and Interferences ("BPAI") that the toothbrush references were analogous, and used them to render the application obvious.

First, the BPAI had held that structure was similar, a relatively simple determination.⁴⁸ Second, the BPAI proposed an alternate function of the

⁴³ See M.P.E.P., *supra* note 15, § 2141.01(a)(II).

⁴⁴ See, e.g., *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (The field of endeavor is determined "by reference to explanations of the invention's subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.").

⁴⁵ See *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986).

⁴⁶ 381 F.3d at 1325.

⁴⁷ *Id.* at 1327 (Newman, J., dissenting).

⁴⁸ *Id.* at 1326.

toothbrush, stating that the toothbrush “may easily be used for brushing hair (e.g., human facial hair) in view of the size of the bristle segment and arrangement of the bristle bundles described in the reference.”⁴⁹ Thus, the structure and function were similar enough, and the art was analogous. The court agreed with the BPAI, holding that the references were in an analogous art and rendered the application obvious.⁵⁰

In considering the field of endeavor, the simplicity or complexity of the invention can respectively broaden or narrow the field of endeavor. For example, if an invention is a simple mechanical device, then the fact finder may believe that all fields that use such simple mechanical devices are analogous. Consequently, the inventor is charged with all knowledge in this sweeping field.⁵¹ On the other hand, more complex inventions such as those requiring a high degree of specialization may result in a narrow field of endeavor.⁵²

If other issues do not render the field of endeavor apparent, extrinsic evidence of the scope of the field of endeavor may be useful. In this case, extrinsic evidence refers to evidence from outside the specification itself. The Federal Circuit in *Bigio* recently stated that any basis for limiting or expanding the field of endeavor must come from the specification, leading to a possible question of the admissibility of such evidence for this issue.⁵³ However, the same court has previously allowed expert testimony on this point.⁵⁴ Expert testimony from one familiar with either the patent or a prior art reference appears to be a logical choice to help determine whether the reference is in the same field as the invention. Similarly, an affidavit by such an individual would almost certainly help an applicant during patent examination to establish that a cited reference is outside the applicant’s field of endeavor. Because expert testimony was not directly discussed in *Bigio*, the dictum quoted above does not carry much weight, and extrinsic evidence is very likely admissible on this point. Furthermore, because an expert’s testimony can win or lose a case on this point,⁵⁵ the better rule is to

⁴⁹ *Id.* (quoting *In re Bigio*, No. 2002-0967, slip op. at 5 (B.P.A.I. Jan. 24, 2003).

⁵⁰ *Id.*

⁵¹ See *Stevenson v. Int’l Trade Comm’n*, 612 F.2d 546, 550 (C.C.P.A. 1979) (“In a simple mechanical invention a broad spectrum of prior art must be explored and it is reasonable to permit inquiry into other areas where one of ordinary skill in the art would be aware that similar problems exist.”).

⁵² See, e.g., *Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858 (Fed. Cir. 1993).

⁵³ 381 F.3d at 1326 (“The examiner and the Board must have a basis in the application and its claimed invention for limiting or expanding the scope of the field of endeavor.”).

⁵⁴ See *Union Carbide Corp. v. Am. Can Co.*, 724 F.2d 1567, 1572 (Fed. Cir. 1984).

⁵⁵ E.g., *SAB Industri AB v. Bendix Corp.*, 199 U.S.P.Q. 95 (E.D. Va. 1978) (holding a patent related to automotive brakes nonobvious, over reference related to railway brakes,

allow its use to help determine whether a reference is in the same field. If expert testimony is to be used during litigation, a foundation must be laid to show that the purported expert has expertise as to the scope of the field.⁵⁶

IX. REASONABLE PERTINENCE TO THE PARTICULAR PROBLEM WITH WHICH THE INVENTOR WAS INVOLVED

The second test used to determine whether a reference is within the analogous art broadens the universe of prior art references. That is, even if a reference is not in the same field of endeavor, it may still be considered analogous if the reference would have been reasonably pertinent to the particular problem with which the inventor was involved when the act of inventing took place.⁵⁷ This test has four essential components, with the first three being preliminary to the fourth, and main, part. The first part is the characterization of the fictional person having ordinary skill in the art, rather than characterizing the inventor him or herself. Second is stepping back in time to when the act of inventing took place. Third is defining the particular problem with which the inventor was involved. Fourth, and most importantly, the "reasonable pertinence" standard requires determining whether a reference logically would have commended itself to the inventor's attention.

The first part may seem counterintuitive. In order to determine what the inventor was doing or what the inventor should have looked at in an analogous art test, one might guess that a fact finder should characterize that inventor. However, even though courts may sometimes refer to or even occasionally concentrate on the inventor,⁵⁸ the proper analysis does not relate directly to the inventor. Instead, as told by § 103, the question relates to the imaginary person having ordinary skill in the art, called the PHOSITA.⁵⁹

Similar to the ordinary and reasonable person of tort law, the

when the defendant's expert on automotive braking systems admitted he had no knowledge of railway braking systems; pertinent art defined as limited to the brake art for automotive vehicles, not the brake art, which would include railway brakes).

⁵⁶ See *Union Carbide Corp.*, 724 F.2d at 1572.

⁵⁷ *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

⁵⁸ See, e.g., *Digitronics Corp. v. New York Racing Ass'n*, 553 F.2d 740, 745 (2d Cir. 1977) (considering the training of the patentee in an effort to determine scope of prior art).

⁵⁹ *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566 (Fed. Cir. 1987) ("To reach a proper conclusion under § 103, the decision maker must step backward in time and into the shoes worn by that 'person' [the PHOSITA] when the invention was unknown and just before it was made . . . [and then] determine whether the patent challenger has convincingly established . . . that the claimed invention as a whole would have been obvious at *that* time to *that* person.") (emphasis in original).

PHOSITA standard provides a more objective basis on which the fact finder can determine the obviousness of an invention.⁶⁰ Because this skilled person must be defined in any obviousness analysis, however, and defining the PHOSITA is in fact its own *Graham* factor,⁶¹ a detailed discussion is not included here, and the level of skill is assumed to be known.

Once the PHOSITA has been determined, the fact finder must step back in time and imagine being in that person's shoes at the time that the inventor came up with the invention. This step is important in order to avoid hindsight bias, where the disclosure of the invention itself is improperly used as a kind of a roadmap to find prior art sources that might render the invention obvious.⁶² The thought processes of the inventor, or any other events that occurred after the time of the application, must be carefully avoided to reduce any potential for hindsight bias.

Obviously, to determine whether a reference is reasonably pertinent to the particular problem with which the inventor was involved, one must define that problem. Thus, the third part is to define the particular problem that the inventor confronted by creating the invention. This question may be answered explicitly in the specification, or it may be straightforward from the nature of the invention. In other cases, a declaration or affidavit by the inventor may be warranted.

The definition of the particular problem with which the inventor was involved must be carefully performed, so as not to expand the scope of the analysis to include other problems that might be solved by the disclosure of the invention, but were not the actual problem (or problems) the inventor was addressing. In *KSR*, the Federal Circuit does refer to those other problems that the disclosure might solve; however, its statements on this point are not related to the analogous art test. Rather, the court in *KSR* is referring to the subsequent step in an obviousness analysis, which determines whether one skilled in the art would have had a reason to combine references.⁶³ The question of whether there was a reason to combine the references is only resolved after those references have been determined to be within an analogous art. In the analogous art analysis,

⁶⁰ *Id.* (stating that the PHOSITA is "a ghost . . . not unlike the 'reasonable man' and other ghosts in the law.").

⁶¹ See *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

⁶² See *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992) ("The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a prima facie case of obviousness.").

⁶³ *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007) ("[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.").

however, those other problems are not relevant.

With these preliminary considerations settled, the heart of the analogous art test is whether the reference logically would have commended itself to the attention of the PHOSITA, if the PHOSITA were trying to solve the problems the inventor was addressing.⁶⁴ Courts appear flexible, frequently referring to common sense when answering this question.⁶⁵ For example, if the arts are “manifestly far removed,” like the art of Japanese cutlery is from the art of rocket science, references in those arts will typically be considered non-analogous.⁶⁶

Even if the pertinence of a reference is not quite so straightforward, what might be called common sense still goes a long way. At the relevant time, when confronted with the particular problem the inventor addressed, one skilled in the art is likely to have looked at other references that addressed the same problem. Thus, when confronted with a particular reference, such as one provided by a patent examiner, it is important to determine the problem the author of that reference was addressing. If the purpose of the prior art reference is the same or similar to the purpose of the application or patent, then it is more likely to be considered within an analogous art.⁶⁷

More broadly, if practitioners in another field frequently confront very similar problems as that problem addressed by the inventor, then one skilled in the art should be expected to generally refer to references in that field.⁶⁸ Thus, essentially any reference within that field might be considered within the analogous art. Clearly, understanding the relationship between the problem the inventor confronted and the problem the author of the “prior art” reference has great value.

In fact, even a seemingly obvious relationship between the art of the invention and the purportedly analogous art is much less important than the

⁶⁴ *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

⁶⁵ *See In re Bigio*, 381 F.3d 1320, 1326 (Fed. Cir. 2004).

⁶⁶ *See In re Van Wanderham*, 378 F.2d 981, 988 (C.C.P.A. 1967); *see also In re Clay*, 966 F.2d at 658 (stating in dicta that art in too remote a field is non-analogous).

⁶⁷ *In re Clay*, 966 F.2d at 659 (“[T]he purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem[.]”).

⁶⁸ *See, e.g., Automatic Arc Welding Co. v. A.O. Smith Corp.*, 60 F.2d 740 (7th Cir. 1932) (holding that an electric arc lamp was in an analogous art to a patent for an electric arc welder). “Obviously, the problem of the electrical engineer in the other fields was so similar, and necessarily so, that one trained as an electrical engineer must be chargeable with the knowledge common to those who labored in those fields. . . . It seems to us that an electrical engineer, or other worker skilled in this art, would naturally turn to other electrical fields such as lighting and adopt the means there commonly used.” *Id.* at 743-44.

relationship between the problems confronted by those skilled in the relevant arts. Thus, even arts that may appear to be very similar, such as automotive brakes and railway brakes, may be non-analogous if it can be shown that those skilled in the art of automotive braking systems have no knowledge of the problems confronted while designing railway braking systems.⁶⁹

One useful question is to ask whether the problem confronting the inventor was a peculiar problem essentially confined to a particular field. If the same problem confronting this inventor frequently occurs in other fields, then references from those fields are more likely to be analogous.⁷⁰ Conversely, if the problem is unique to the inventor's field, then seemingly similar references in other fields are probably not analogous.

Continuing with the "common sense" theme, and similar to the previously mentioned test for whether a reference is within the same field, reasonable pertinence might be decided based on similarities in structure and function of the invention and the subject of the "prior art" reference. Once again, the MPEP considers similarities and differences in structure and the function very important and gives them top billing in its discussion of the analogous art test.⁷¹

Another way to prove whether a reference is in the analogous arts is to ask an expert. The Federal Circuit has allowed expert testimony in an infringement litigation to assist in the determination of whether a reference should be considered.⁷² Thus, it stands to reason that during the application process, the declaration of an expert should be considered as to whether a field is analogous or not. In either case, though, the proponent of expert testimony must lay a sufficient foundation to show that the purported expert has expertise as to the scope of the field and/or what other fields are analogous.

Once a reference is determined to be within an analogous art, the inventor is charged with all the teachings of that reference, regardless of what problem the reference was directed to. This rule might therefore be

⁶⁹ See *SAB Industri AB v. Bendix Corp.*, 199 U.S.P.Q. 95 (E.D. Va. 1978).

⁷⁰ See *In re Icon Health & Fitness, Inc.*, 496 F.3d 1374, 1380 (Fed. Cir. 2007) (affirming the invalidation of a patent for a treadmill with a folding base over prior art teaching a bed that folds up into a cabinet). "Nothing about Icon's folding mechanism requires any particular focus on treadmills; it generally addresses problems of supporting the weight of such a mechanism and providing a stable resting position." *Id.* See also *In re Paulsen*, 30 F.3d 1475 (Fed. Cir. 1994) (holding a patent application for a laptop computer having a monitor that folds over the keyboard with hinges obvious over references such as hinged cabinets, piano lids, etc., because the problem was not unique to its field).

⁷¹ See *M.P.E.P.*, *supra* note 15, § 2141.01(a)(II).

⁷² See *Union Carbide Corp. v. Am. Can Co.*, 724 F.2d 1567, 1572 (Fed. Cir. 1984).

thought of as a threshold; if any part of the reference brings it within the prior art, the reference is considered as a whole.⁷³

X. GENERAL CONSIDERATIONS

Although the two questions of whether a reference is within the same field of endeavor, or whether one having ordinary skill in the art would have considered the reference reasonably pertinent to the particular problem with which the inventor was involved are the primary questions in the determination of the analogous art, they do not end the inquiry. Even if the answer to both questions is "no," a reference may nonetheless be available for an obviousness analysis. For example, if the inventor admits to having consulted a particular reference during the inventive process, then that reference is available for consideration.⁷⁴ Similarly, if the inventor admits that a particular reference is analogous in the specification or during prosecution, then the inventor is precluded from later arguing that that reference is non-analogous.⁷⁵ However, such admissions are not generally made by merely citing references in an information disclosure statement ("IDS"); a binding admission that a reference is available as prior art is generally made during prosecution.⁷⁶

While it may seem improper to consider a design patent to be within an analogous art to a utility patent or application, or vice versa, this is not the case.⁷⁷ Using the same analysis above, essentially any type of reference can potentially be analogous and it does not matter if it is a design or a utility patent. Similarly, method claims can be analogous to a patent or application claiming an apparatus, as long as the method results in a

⁷³ See *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983) (holding that a prior art reference must be considered in its entirety).

⁷⁴ *Constant v. Advanced Micro Devices, Inc.*, 848 F.2d 1560, 1572 (Fed. Cir. 1988) ("[A]ny reference . . . that was the source of ideas used by the inventor when he conceived his invention is relevant and can be considered on the issue of obviousness.").

⁷⁵ See, e.g., *In re Schreiber*, 128 F.3d 1473, 1479 (Fed. Cir. 1997) ("[W]e note that [the inventor] Schreiber acknowledges in the specification that the prior art pertinent to his invention [related to popcorn dispensing] includes patents relating to dispensing fluids. Schreiber therefore may not now argue that such patents are non-analogous art.").

⁷⁶ See, e.g., *Abbott Labs. v. Baxter Pharm. Prods., Inc.*, 334 F.3d 1274, 1279 (Fed. Cir. 2003) ("[M]ere submission of an IDS to the USPTO does not constitute the patent applicant's admission that any reference in the IDS is material prior art. . . . Under certain circumstances, even an express representation that a reference cited in an IDS is prior art to pending claims is not sufficient to create prior art by admission.").

⁷⁷ See *In re Aslanian*, 590 F.2d 911 (C.C.P.A. 1979) (holding a utility patent obvious over a design patent, and further citing precedent that utility patents may be cited as prior art to render a design patent obvious).

product having a similar structure to the apparatus claimed.⁷⁸ For the same reason, this would work the other way as well—a method claim could be rendered obvious by an analogous art reference with only apparatus claims.

XI. CONCLUSION

In the end, if a cited reference in an obviousness rejection is within the prior art, a patent practitioner must enter the minefield of accurately portraying the differences between the reference and the invention. Dangers to the patentee are numerous, such as inadvertent admissions, the addition of unneeded limitations on the claimed subject matter, or just plain wrong statements. Thus, every patent attorney and agent needs a clear path through the minefield, having as many tools as possible to eliminate a potential prior art reference from being considered at all. In most cases, if the reference qualifies under at least one part of 35 U.S.C. § 102, the analogous art test can many times achieve this goal and vanish a reference. The analogous test is actually two tests—whether a reference is in the same art, and if not, whether its teachings would have been reasonably pertinent to the particular problem with which the inventor was involved. If the answer to both questions is no, then in most instances there is no need to even set foot in the minefield because the reference is gone.

⁷⁸ See *Nat'l Filters, Inc. v. Research Prods. Corp.*, 384 F.2d 516 (5th Cir. 1967).