
SECONDARY CONSIDERATIONS: A STRUCTURED
FRAMEWORK FOR PATENT ANALYSIS

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The most serious weakness in the present patent system is the lack of a uniform test or standard for determining whether the particular contribution of an inventor merits the award of the patent grant.

...
... The present confusion threatens the usefulness of the whole patent system and calls for an immediate and effective remedy.

– National Patent Planning Commission, 1943¹

I. INTRODUCTION

While the opening quotation was penned by the National Patent Planning Commission in 1943, it could just as well describe the confusion that pervades patentability determinations today. Despite the periodic interventions of Congress and the courts, the framework for evaluating obviousness—patents cannot be granted on inventions that are obvious—is surprisingly skeletal and undeveloped.² Such a paucity of guidance is not for want of foresight: decades ago the drafters of the modern patent standard expressly suggested that “at a later time . . . some criteria . . . [could] be worked out” to further define patentability, but Congress has never acted upon this suggestion.³

The continuing absence of a detailed, structured framework for

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¹ NAT’L PATENT PLANNING COMM’N, THE AMERICAN PATENT SYSTEM, H.R. DOC. NO. 78-239, at 5 (1943), as reprinted in 25 J. PAT. OFF. SOC’Y 455, 462–63 (1943).

² See, e.g., Gregory Mandel, *The Non-Obvious Problem: How the Indeterminate Nonobvious Standard Produces Excessive Patent Grants*, 42 U.C. DAVIS L. REV. 57, 88 (2008) [hereinafter Mandel, *The Non-Obvious Problem*] (“It may be that no legal term as significant as ‘nonobviousness’ is as poorly defined.”); Joseph Scott Miller, *Level of Skill and Long-Felt Need: Notes on a Forgotten Future*, 12 LEWIS & CLARK L. REV. 579, 592 (2008) (“Section 103 does not actually provide a metric.”).

³ S. REP. NO. 82-1979, at 18 (1952), as reprinted in 1952 U.S.C.C.A.N. 2394, 2411.

determining patentability is not only unnecessary, but also anomalous within intellectual property jurisprudence. Copyright law fair use determinations are guided by § 107, which provides four non-exclusive factors as well as illustrative examples.⁴ Trademark law relies on the eight *Polaroid*⁵ factors to guide the infringement analysis. In contrast, patent law obviousness determinations must be made on the scant language of § 103, which provides neither examples nor useful factors.⁶ *Graham v. John Deere Co. of Kansas City*,⁷ generally cited as the seminal modern Supreme Court obviousness decision, does little more than rearrange and restate the language of § 103.⁸

Yet, within the *Graham* decision lie doctrinal seeds which, if cultivated, could potentially grow into a robust framework to guide the obviousness determination. In addition to restating the language of § 103, *Graham* promisingly added: “Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.”⁹

Unfortunately, since *Graham* the doctrine of secondary considerations has been neither deliberately developed nor evenly applied. No judicial decision or secondary source has established itself as an accepted model for subsequent courts to follow. Acting within this statutory and judicial void, most courts have haphazardly applied whatever secondary considerations parties have troubled themselves to assert, with predictably erratic results.¹⁰ This paper endeavors to bring together the divergent

⁴ 17 U.S.C. § 107 (2006).

⁵ *Polaroid Corp. v. Polaroid Elects. Corp.*, 287 F.2d 492, 495 (2d Cir. 1961). Other circuits use similar lists. See, e.g., *In re E.I. du Pont de Nemours & Co.*, 476 F.2d 1357, 1361 (C.C.P.A. 1973) (providing thirteen factors which form the basis for likelihood of confusion determinations within the Federal Circuit); see generally Barton Beebe, *An Empirical Study of Multifactor Tests for Trademark Infringement*, 94 CAL. L. REV. 1581, 1587–1607 (2006) (summarizing and comparing the multifactor tests in the thirteen federal circuit courts of appeal).

⁶ See Lee Petherbridge & R. Polk Wagner, *The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness*, 85 TEX. L. REV. 2051, 2052 (2007) (noting the “spare statutory language” of 17 U.S.C. § 103).

⁷ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1 (1966).

⁸ *Id.* at 17–18; see also Petherbridge & Wagner, *supra* note 6, at 2060.

⁹ *Graham*, 383 U.S. at 17–18 (citing Richard L. Robbins, Note, *Subtests of “Nonobviousness”: A Nontechnical Approach to Patent Validity*, 112 U. PA. L. REV. 1169 (1964)).

¹⁰ See Sean M. McEldowney, *New Insights on the Death of Obviousness: An Empirical*

strands of the secondary considerations doctrine into a single, robust framework that might be further developed by future commentators and courts.

Part II introduces the secondary considerations doctrine, illustrates the extent to which the doctrine is underdeveloped and inconsistently applied, and explains how congressional and judicial developments, including *KSR International Co. v. Teleflex Inc.*,¹¹ have accelerated the need for the adoption of a uniform and well-developed secondary considerations framework. Part III responds to that need by proposing a comprehensive model framework for the utilization of secondary considerations, including a discussion of five under-acknowledged or newly proposed secondary considerations. Part IV explores the curiously voluminous criticism of secondary considerations and reconciles this criticism with broad doctrinal acceptance by judges and others for more than 150 years. Through the analysis, it becomes apparent that secondary considerations cannot be rigidly cabined within the § 103 obviousness determination. A second major contribution of this paper is therefore to explain that, contrary to prevailing doctrine, secondary considerations are in fact indicia of *patentability*, rather than merely indicia of § 103 obviousness.

II. PATENTABILITY, OBVIOUSNESS, AND SECONDARY CONSIDERATIONS

A. *Secondary Considerations Explained*

Secondary considerations are thought to aid judges in determining whether a given invention rises to the level of a patentable invention by providing “objective indicia” of patentability.¹² These indicia are not based on the technical complexity of the invention itself, but relate to non-technical, contextual factors surrounding the development of the invention. For example, if others had toiled for years, but failed to achieve the invention ultimately contributed by the inventor, this would tend to show that the invention is worthy of a patent. Similarly, if a product embodying an invention achieves commercial success in the

Study of District Court Obviousness Opinions, 2006 STAN. TECH. L. REV. 4, 46 (2006) (finding “significant regional variation in rates of obviousness, suggesting that district courts may be interpreting and applying obviousness standards differently”) (citation omitted).

¹¹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

¹² See ROBERT L. HARMON, HARMON ON PATENTS 478–79 (2007) (explaining the use of objective evidence of nonobviousness).

marketplace by displacing prior art products, this suggests that the value of the invention to society as compared to the prior art is sufficient to warrant a patent.

Because secondary considerations require an exploration of the context within which an invention came into being, they are responsive to Judge Hand's insistence that the patentability determination "should involve[] as complete a reconstruction of the art that preceded it as is possible."¹³

B. The Secondary Considerations Doctrine Is Substantially Underdeveloped

Although the secondary considerations doctrine has been germinating for more than 150 years, the doctrine is still surprisingly underdeveloped and inconsistently relied upon. In fact, there is no generally cited opinion or secondary source that even lists all of the secondary considerations to which a court might refer, let alone one that provides a roadmap for analysis.¹⁴

The Supreme Court in *Graham* listed three—(1) commercial success; (2) long-felt need; and (3) failure of others—but then added "etc." in an apparent indication that other factors may also be considered.¹⁵ Immediately after listing these three secondary considerations, the Court cites a note by Richard Robbins¹⁶ which, in addition to the three factors just mentioned, discusses (4) "commercial acquiescence";¹⁷ (5) "simultaneous solution";¹⁸ (6) "professional approval";¹⁹ and (7) "[p]rogress [t]hrough the Patent Office" as additional subtests of nonobviousness.²⁰ In his conclusion, Robbins notes that he has only devoted attention to those subtests "with which the courts have particularly struggled," suggesting that even more secondary considerations may be relevant.²¹ Indeed, courts and commentators have analyzed and

¹³ *Harries v. Air King Prods. Co.*, 183 F.2d 158, 162 (2d Cir. 1950).

¹⁴ There is even disagreement as to how many secondary considerations exist. See, e.g., *Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd.*, 254 F. Supp. 2d 527, 570 (E.D. Pa. 2003) (eleven factors); *Rhenalu v. Alcoa Inc.*, 224 F. Supp. 2d 773, 800 (D. Del. 2002) (at least nine factors); HARMON, *supra* note 12, at 481–488 (eight factors); DONALD S. CHISUM, CHISUM ON PATENTS § 5.05 (2005) (seven factors); Giles S. Rich, *Why and How Section 103 Came to Be*, 14 FED. CIR. B.J. 181, 187 (2005) ("a couple of dozen factors").

¹⁵ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966).

¹⁶ *Id.* at 18 (citing Robbins, *supra* note 9).

¹⁷ Robbins, *supra* note 9, at 1178.

¹⁸ *Id.* at 1180.

¹⁹ *Id.* at 1181.

²⁰ *Id.* at 1183.

²¹ *Id.* at 1184.

weighed a number of other factors under labels such as (8) “[c]opying”;²² (9) “[r]espect by the [i]ndustry”;²³ (10) “[a]ccclaim”;²⁴ (11) “[u]nexpected [r]esults”;²⁵ (12) “skepticism”;²⁶ (13) “teach[ing] [a]way”;²⁷ (14) “[l]ong experimentation”;²⁸ and (15) “[u]tility.”²⁹ Other less common secondary considerations have also been discussed.³⁰

The Supreme Court, true to its expressed desire to maintain a flexible patent jurisprudence,³¹ has provided only vague guidance as to the relevance and weight to be accorded to secondary considerations. The Court implied, for example, that an evaluation of secondary considerations may not always be required.³² The Court also provided a particularly impenetrable explanation of the purpose that might be served by secondary considerations. “[S]econdary considerations . . . might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.”³³ Perhaps because of the linguistic ambiguity, lower courts have generally avoided any discussion of the Supreme Court’s minimal contextual language with respect to secondary considerations.

In the absence of an accepted framework, vast variations exist in the degree of attention devoted to secondary considerations from one case to another. Some courts meticulously analyze each

²² *Janssen Pharmaceutica N.V. v. Mylan Pharm. Inc.*, 456 F. Supp. 2d 644, 671 (D.N.J. 2006).

²³ *Id.*

²⁴ *Id.* at 672.

²⁵ *Id.*

²⁶ *In re ‘318 Patent Infringement Litig.*, 578 F. Supp. 2d 711, 732 (D. Del. 2008).

²⁷ *Ortho-McNeil Pharm., Inc. v. Kali Labs., Inc.*, 482 F. Supp. 2d 478, 528–532 (D.N.J. 2007) (discussing teaching away and other secondary considerations).

²⁸ 1 ANTHONY WILLIAM DELLER, WALKER ON PATENTS 122, 119–35 (1st ed. 1937) [hereinafter DELLER 1] (discussing long-felt want, utility, long experimentation, prompt and general adoption, acquiescence, and failure of others).

²⁹ *Id.* at 120.

³⁰ Robert Harris catalogues several other secondary considerations embraced by courts, including “movement of the skilled in a different direction,” “the accused infringer’s efforts to obtain title to the patent,” and “the accused infringer’s admissions of nonobviousness.” Robert W. Harris, *The Emerging Primacy of “Secondary Considerations” as Validity Ammunition: Has the Federal Circuit Gone Too Far?*, 71 J. PAT. & TRADEMARK OFF. SOC’Y 185, 191–92 (1989); see also 1 WILLIAM CALLYHAN ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS 177 n.1 (1890) (noting that previous failures of *the inventor* suggest patentability).

³¹ *Bilski v. Kappos*, 130 S. Ct. 3218, 3226–27 (2010) (rejecting an exclusive test for patentable subject matter); *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) (“[O]ur cases have set forth an expansive and flexible approach.”).

³² *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 18 (1966) (secondary considerations “may have relevancy” (emphasis added)).

³³ *Id.* at 17–18.

secondary factor in turn.³⁴ For example, the District Court for the Northern District of West Virginia ruled on the obviousness of the antibiotic levofloxacin only after fastidiously examining eight secondary considerations in separately titled subsections.³⁵ Similarly, the Federal Circuit in *Geo M. Martin Co. v. Alliance Machine Systems International LLC* devoted nine paragraphs to secondary considerations, including a discussion of commercial success, long-felt need, industry praise, copying, and simultaneous invention.³⁶ Others, however, cite *Graham*, but offer no discussion of secondary considerations at all.³⁷ For example, in *Sundance, Inc. v. Demonte Fabricating Ltd.*, the Federal Circuit simply stated that the proffered “[s]econdary considerations . . . simply cannot overcome this strong prima facie case of obviousness,” without actually discussing any of them.³⁸ Similarly, the Supreme Court in *KSR International Co. v. Teleflex Inc.* devoted a lone sentence to the issue of secondary considerations.³⁹ One study found that only forty-one of the ninety-three obviousness opinions examined included secondary consideration evidence at all.⁴⁰

This desultory approach to secondary considerations persists even after the Federal Circuit’s decision in *Stratoflex Inc. v. Aeroquip Corp.*,⁴¹ which requires the consideration of objective indicia when present, and its repeated incantations that secondary

³⁴ *E.g.*, *Ecolochem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361, 1376–81 (Fed. Cir. 2000); *Elan Corp. PLC v. Andrx Pharm., Inc.*, Nos. 98-7164, 00-7057, 2008 WL 4709251, at *101–06 (S.D. Fla. Aug. 13, 2008).

³⁵ *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 348 F. Supp. 2d 713, 756–60 (N.D. W. Va. 2004).

³⁶ *Geo M. Martin Co. v. Alliance Mach. Sys. Int’l LLC*, Nos. 2009-1132, 2009-1151, 2010 WL 3275967, at *9–11 (Fed. Cir. Aug. 20, 2010).

³⁷ *See Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1310 (Fed. Cir. 2000); *Impax Labs., Inc. v. Aventis Pharm., Inc.*, 333 F. Supp. 2d 265, 274 (D. Del. 2004); *Astra Aktiebolag v. Andrx Pharma. Inc.*, 222 F. Supp. 2d 423, 579 (S.D.N.Y. 2002); *Glaxo Wellcome, Inc. v. Ben Venue Labs., Inc.*, No. 1:96-00278, 1998 WL 965993, at *9 (N.D. Ohio July 31, 1998); *Bristol-Myers Squibb Co. v. Boehringer Ingelheim Corp.*, 86 F. Supp. 2d 433, 445 (D.N.J. 2000) (discussing only unexpected results); *In re Wagner*, 371 F.2d 877, 882, 884–85 (C.C.P.A. 1967) (discussing only unexpected results).

³⁸ *Sundance, Inc. v. Demonte Fabricating Ltd.*, 550 F.3d 1356, 1368 (Fed. Cir. 2008); *see also Daiichi Pharm. Co. v. Apotex, Inc.*, 441 F. Supp. 2d 672, 690 n.25 (D.N.J. 2006) (relegating the entire discussion of secondary considerations to a single footnote in a twenty-two page opinion).

³⁹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 413 (2007); *see also AstraZeneca Pharm. LP v. Mayne Pharma (USA) Inc.*, No. 02 Civ. 7936 WHP, 2005 WL 2864666, at *25 (S.D.N.Y. Nov. 2, 2005) (devoting a single sentence to secondary considerations in an opinion of over 16,000 words).

⁴⁰ Gregory N. Mandel, *Patently Non-Obvious: Empirical Demonstration That the Hindsight Bias Renders Patent Decisions Irrational*, 67 OHIO ST. L.J. 1391, 1422 (2006) [hereinafter Mandel, *Hindsight Bias*].

⁴¹ *Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d 1530 (1983).

considerations may be “the most probative and cogent evidence in the record.”⁴² Despite this strong language, the Federal Circuit has stopped short of creating a comprehensive framework for the analysis of secondary considerations.⁴³ This failure to provide guidance to lower courts may result from the lack of agreement among Federal Circuit judges themselves on the proper analysis of secondary considerations.⁴⁴

Regardless of the depth of treatment of secondary considerations, their impact on the obviousness determination can vary. Some courts will find obviousness despite strong evidence of secondary considerations,⁴⁵ while others will find nonobviousness in the absence of any secondary considerations.⁴⁶

Judges, of course, are not necessarily to blame for the variability in the treatment of secondary considerations, as they are dependent, to a great extent, on the amount of secondary consideration evidence presented by the parties.⁴⁷ In addition, disparate case outcomes can legitimately result from the application of the remaining parts of the obviousness inquiry set forth in *Graham*. However, a consistent analytical framework could reduce this variation by helping to ensure that parties do not inadvertently fail to present important secondary consideration evidence. Moreover, courts would not need to review the entire body of obviousness jurisprudence in order to determine how to apply a single legal test.

⁴² *Id.* at 1538. *See, e.g.*, *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 667 (Fed. Cir. 2000) (quoting *Stratoflex*, 713 F.2d at 1538); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1555 (Fed. Cir. 1983) (Objective evidence of nonobviousness “may be the most pertinent, probative, and revealing evidence available.”).

⁴³ Glynn S. Lunney, Jr., *E-Obviousness*, 7 MICH. TELECOMM. & TECH. L. REV. 363, 391 (2001) (finding “consistency in the resolution of obviousness cases continues to elude the Federal Circuit”).

⁴⁴ *See, e.g.*, *Pfizer, Inc. v. Apotex, Inc.*, 488 F.3d 1377, 1380 (Fed. Cir. 2007) (Newman, J., dissenting from the denial of rehearing en banc) (“The panel further erred in declining to give weight to these acknowledged ‘secondary considerations’ of unexpected results.” (citing *Richardson-Vicks, Inc. v. Upjohn Co.*, 122 F.3d 1476 (Fed. Cir. 1997))); *Ruiz v. AB Chance Co.*, 234 F.3d 654, 667 (Fed. Cir. 2000).

⁴⁵ *See, e.g.*, *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 153 (1950) (“[C]ommercial success without invention will not make patentability.” (citing *Toledo Pressed Steel Co. v. Standard Parts, Inc.*, 307 U.S. 350 (1939))); *Pavement Salvage Co. v. Anderson’s-Black Rock, Inc.*, 404 F.2d 450, 453 (4th Cir. 1968), *rev’d*, 396 U.S. 57 (1969) (invention is obvious despite evidence of licensing, commercial success, patenting of the invention in other countries, praise, copying, skepticism, and long-felt need).

⁴⁶ Lunney, *supra* note 43, at 391 n.117 (2001) (collecting cases).

⁴⁷ *See, e.g.*, *In re Omeprazole Patent Litig.*, No. M-21-81BSJ, 2004 WL 1171254, at *12 n.12 (S.D.N.Y. May 25, 2004) (noting that the parties “offered no evidence or argument concerning any ‘secondary considerations’”).

C. Congressional and Judicial Developments Accelerate the Need for a Robust Secondary Considerations Framework

Troublingly, the last several decades have seen the increasing importance of secondary considerations significantly outstrip their doctrinal development. Although secondary considerations have long been a part of patentability jurisprudence, their importance was elevated in 1952 with the addition of § 103 (“Conditions for patentability; non-obvious subject matter”), a formal recognition by Congress of the centrality of obviousness to the patent validity determination.⁴⁸ The relevance of secondary considerations was again elevated in 1966 when the Supreme Court explicitly recognized “secondary considerations” as one of the four parts of the obviousness inquiry in *Graham*.⁴⁹ (The other three parts, as set forth in *Graham*, are (1) a determination of “the scope and content of the prior art”; (2) an evaluation of the “differences between the prior art and the claims at issue”; and (3) a determination of “the level of ordinary skill in the pertinent art.”)⁵⁰

The Supreme Court more recently increased the relevance of secondary considerations in *KSR International Co. v. Teleflex Inc.*,⁵¹ in which it criticized the Federal Circuit’s rigid application of its “teaching, suggestion, or motivation” test (“TSM test”).⁵² The TSM test was developed by the Federal Circuit as a tool that could be applied by district court judges to fight against hindsight bias, a recognized phenomenon by which an invention, once it has been disclosed, appears obvious in hindsight.⁵³ Under the TSM test, an invention will be obvious only if some teaching, suggestion, or motivation can be established “that would have led a person of ordinary skill in the art to combine the relevant prior art teachings

⁴⁸ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966).

⁴⁹ *Id.* at 17–18 (1966) (emphasis added); *but see* John F. Duffy, *A Timing Approach to Patentability*, 12 LEWIS & CLARK L. REV. 343, 364 (2008) (stating that the *Graham* court “demoted” secondary considerations by labeling them as such, in light of their previous characterization “as ‘objective’ evidence of . . . the ‘history of the art’”); *id.* at 368 (describing the *Graham* court’s “marginalization of objective factors”).

⁵⁰ *Graham*, 383 U.S. at 17.

⁵¹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

⁵² *Id.* at 407, 415.

⁵³ *See In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006) (“By requiring the Board [of Patent Appeals and Interferences] to explain the motivation, suggestion, or teaching as part of its *prima facie* case, the law guards against hindsight . . . which advances Congress’s goal of creating a more practical, uniform, and definite test for patentability.”).

in the manner claimed.”⁵⁴ Although the TSM test is far from moribund after *KSR*,⁵⁵ the Court’s insistence on a flexible approach opens the door more widely to the inclusion of secondary considerations in the analysis,⁵⁶ and it appears that both lower courts and the Federal Circuit have in fact been giving increased weight to secondary considerations following *KSR*.⁵⁷

The Federal Circuit has also enthusiastically embraced secondary considerations.⁵⁸ Despite the permissive language in *Graham* that secondary considerations “*might* be utilized” and “*may* have relevancy,”⁵⁹ the Federal Circuit has required their consideration,⁶⁰ referring to the “four inquiries mandated by *Graham*.”⁶¹ Although the Supreme Court had an opportunity in *KSR* to reinstate the permissive nature of the secondary considerations inquiry, it declined to do so. Instead, the Court noted only that *Graham* had “invited courts, where appropriate, to look at any secondary considerations that would prove instructive.”⁶² This language is sufficiently flexible to accommodate the Federal Circuit’s jurisprudence under which secondary considerations must be considered “when present.”⁶³

⁵⁴ *Teleflex Inc. v. KSR Int’l Co.*, 119 Fed. App’x 282, 285 (Fed. Cir. 2005) (citing *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1359–60 (Fed. Cir. 1999); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1572 (Fed. Cir. 1996)).

⁵⁵ See Emer Simic, *The TSM Test is Dead! Long Live the TSM Test! The Aftermath of KSR, What Was All the Fuss About?*, 37 AIPLA Q.J. 227, 255 (2009) (“[T]he Federal Circuit has largely opted to emphasize continuity with its old precedent and has narrowly interpreted the *KSR* holding.”).

⁵⁶ Duffy, *supra* note 49, at 368 (“[The Court’s] mandate [in *KSR*] seems to point courts toward more consideration of the facts of each case.”).

⁵⁷ See *Crocs, Inc. v. Int’l Trade Comm’n*, 598 F.3d 1294, 1310 (Fed. Cir. 2010) (invoking the language of *Learned Hand* to emphasize the importance of secondary considerations); *Trimed, Inc. v. Stryker Corp.*, 608 F.3d 1333, 1343 (Fed. Cir. 2010) (chastising the district court for not considering evidence of secondary considerations); Kenneth R. Adamo et al., *The Curse of “Copying”*, 7 J. MARSHALL REV. INTELL. PROP. L. 296, 296 (2008) (“[I]n the wake of [*KSR*] . . . , the lower courts are giving increased attention to secondary considerations.”).

⁵⁸ See Harris, *supra* note 30, at 185–86; Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CAL. L. REV. 803, 820 (1988) (noting that “secondary considerations have become more important” for the Federal Circuit).

⁵⁹ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966) (emphasis added).

⁶⁰ *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1380 (Fed. Cir. 1986) (“Objective evidence . . . must be considered *before* a conclusion on obviousness is reached.”); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983) (“[E]vidence rising out of the so-called ‘secondary considerations’ must always when present be considered.”).

⁶¹ *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 446 (Fed. Cir. 1986).

⁶² *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) (citing *Graham*, 383 U.S. at 17).

⁶³ *Stratoflex*, 713 F.2d at 1538. Under Federal Circuit precedent, the only secondary consideration that need not always be considered is simultaneous invention. See Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1651 n.281 (2003) (citing *Monoclonal Antibodies*, 802 F.3d at 1380 n.4).

The increased focus on secondary considerations makes a great deal of sense. Lay judges, by definition, are not persons ordinarily skilled in each of the arts which they are required to evaluate as judges.⁶⁴ The § 103 requirement that obviousness be evaluated from the perspective of a “person having ordinary skill in the art” (“PHOSITA”) is therefore a literally impossible task.⁶⁵ Expert testimony can aid the court in obliging its duty, but it may not always suffice. Where inventions are particularly complicated, and expert opinions are contradictory, another approach is needed. Secondary considerations are responsive to that need, providing lay judges with objective, non-technical criteria that assist in the obviousness determination. It is therefore not surprising that the Federal Circuit has embraced secondary considerations to a greater extent than its predecessor courts.⁶⁶ Some scholars have also called for increased reliance on secondary considerations.⁶⁷

Moreover, the importance of secondary considerations is likely to be ever-increasing for the simple reason that the technical complexity of inventions is ever-increasing.⁶⁸ In the nineteenth century, the legal fiction of the PHOSITA was less pronounced and less problematic, as judges evaluated the obviousness of inventions such as porcelain doorknobs and shingle-making machines. In the twenty-first century, judges must evaluate inventions far removed

⁶⁴ See *Marconi Wireless Tel. Co. v. United States*, 320 U.S. 1, 60–61 (1943) (Frankfurter, J. dissenting) (“It is an old observation that the training of Anglo-American judges ill fits them to discharge the duties cast upon them by patent legislation. . . . [J]udges must overcome their scientific incompetence as best they can.” (citing Letter from Thomas Jefferson to Isaac M’Pherson (Aug. 13, 1813), in 6 WORKS OF THOMAS JEFFERSON 181–82 (Wash. Ed. 1884))).

⁶⁵ 35 U.S.C. § 103(a) (2006). This is not a criticism of the PHOSITA standard. The PHOSITA standard serves the useful purpose of reminding judges that “obviousness” is a term of art, and that what might not seem obvious to a lay person may nevertheless be obvious (and vice versa).

⁶⁶ See *Merges*, *supra* note 58, at 820.

⁶⁷ Amanda Wieker, *Secondary Considerations Should Be Given Increased Weight in Obviousness Inquiries Under 35 U.S.C. § 103 in the Post-KSR v. Teleflex World*, 17 FED. CIR. B.J. 665 (2008); Jay Jongjitirat, *Leapfrog Enters. v. Fisher-Price: Secondary Considerations in Non-Obviousness Determinations*, 42 U.C. DAVIS L. REV. 599, 620–21 (2008) (criticizing the Federal Circuit for not adequately weighing secondary considerations); Lunney, *supra* note 43, at 369 (calling for increased use of secondary considerations in two “special cases”); see also Duffy, *supra* note 49, at 368 (“[C]ourts should be willing to give such [secondary] considerations [related to simultaneous invention] more weight than has been given in the recent past.”).

⁶⁸ See Dorothy Whelan, *A Critique of the Use of Secondary Considerations in Applying the Section 103 Nonobviousness Test for Patentability*, 28 B.C. L. REV. 357, 366 (1987) (“Although this problem [i.e., lay judges evaluating complex inventions] was not serious when the invention was relatively simple and straightforward, it became particularly acute as technology became increasingly complex.” (citing *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 36 (1966); Robbins, *supra* note 9, at 1170)).

from common experience in an increasingly specialized technological environment. The obviousness determinations of “expressed sequence tags,”⁶⁹ seamless discrete wavelet transform,⁷⁰ or digital watermarks⁷¹ are difficult to fathom, even with the aid of expert testimony and the explications of teams of sophisticated, Ph.D.-wielding lawyers. As technology continues to develop, the gap between judicial knowledge and inventive subject matter will only widen.

III. A FRAMEWORK FOR PATENT ANALYSIS: PROPOSED § 103A (“SECONDARY CONSIDERATIONS”)

The Supreme Court has repeatedly insisted on a flexible approach to the determination of obviousness,⁷² declining to provide clear signposts beyond the *Graham* framework. Yet, while flexibility may be necessary to avoid inappropriate outcomes resulting from the rigid application of rules, too much flexibility can lead to inconsistency and result in relevant information being overlooked. Perhaps foreseeing this shortcoming of the current § 103, the drafters of the 1952 Act specifically suggested that more detailed criteria for determining obviousness be added at a later date.⁷³ This section proposes a statutory amendment that would provide such detailed criteria, and thereby achieve a more optimal balance between structure and flexibility.

A. Multifactor Tests: An Imperfect Improvement

Just as the four fair use factors bring consistency and structure to the analysis of potential copyright infringement, a deliberate statutory enumeration of secondary considerations can do so with patentability determinations. Although multifactor tests have been criticized as indeterminate, they can help to “settle the general

⁶⁹ *In re Fisher*, 421 F.3d 1365, 1367 (Fed. Cir. 2005) (“An [expressed sequence tag] is a short nucleotide sequence that represents a fragment of a cDNA clone.”).

⁷⁰ *Lizardtech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1337 (Fed. Cir. 2005) (“Wavelet transforms allow digital images to be greatly compressed with very little loss of information.”).

⁷¹ *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007).

⁷² *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) (“Throughout this Court’s engagement with the question of obviousness, our cases have set forth an expansive and flexible approach.”).

⁷³ 35 U.S.C. § 103 (2001) (Historical and Statutory Notes) (“This paragraph [§103(a)] is added with the view that an explicit statement in the statute may have some stabilizing effect, and also to serve as a basis for the addition at a later time of some criteria which may be worked out.”).

pattern of proof and argument, and . . . make[] the decision process more uniform and predictable.”⁷⁴ Moreover, the criticism of multifactor tests itself brings to light the multiplicity of areas in which multifactor tests already enjoy wide use by courts, such as class action fee awards,⁷⁵ strict liability,⁷⁶ the agency relationship,⁷⁷ and trademark infringement.⁷⁸ In any event, critics of multifactor tests bear the burden of proposing a better alternative. At present, a multifactor test at least improves upon the status quo by apprising parties and courts of the factors that they might consider.⁷⁹ Moreover, a multifactor test could be annotated with “Drafter’s Notes” that help to explain how the factors might be applied, as well as caveats to avoid.

As with copyright’s fair use factors, any list of secondary considerations need not be exclusive.⁸⁰ Courts must remain free to consider whatever evidence is most salient in the context of each individual case. Nevertheless, providing a structure will serve as a checklist to reduce the likelihood that critical information is overlooked by either litigants or courts.⁸¹ Nor would a clear analytical framework imply rigidity in the patentability analysis. To the contrary, by deliberately considering the most commonly relevant secondary considerations, both courts and litigants will be able to more effectively elucidate the broad context of the invention, and its patentable merits, and synthesize the disparate patentability considerations into a flexible conceptual paradigm.

⁷⁴ Stephen C. Root, *Trade Dress, the “Likelihood of Confusion,” and Wittgenstein’s Discussion of “Seeing As”: The Tangled Landscape of Resemblance*, 30 SETON HALL L. REV. 757, 804 (2000) (quoting RICHARD L. KIRPATRICK, LIKELIHOOD OF CONFUSION IN TRADEMARK LAW § 2.4 (1997)).

⁷⁵ See Brian T. Fitzpatrick, *Do Class Action Lawyers Make Too Little?*, 158 U. PA. L. REV. 2043, 2046 (2010).

⁷⁶ See Kenneth W. Simons, *The Restatement (Third) of Torts and Traditional Strict Liability: Robust Rationales, Slender Doctrines*, 44 WAKE FOREST L. REV. 1355, 1356 (2009).

⁷⁷ See Cynthia Estlund, *Who Mops the Floors at the Fortune 500? Corporate Self-Regulation and the Low-Wage Workplace*, 12 LEWIS & CLARK L. REV. 671, 690 (2008).

⁷⁸ Root, *supra* note 74, at 781–82.

⁷⁹ See Chris Guthrie et al., *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 41 (2007) (“Multifactor tests can help ensure that judges consider all relevant factors and can remind them of their responsibility to base decisions on more than mere intuition.”).

⁸⁰ See 17 U.S.C. § 107 (2006).

⁸¹ See, e.g., A.B. Haynes et al., *A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population*, 360 NEW ENG. J. MED. 491, 496 (2009) (finding a greater than one-third reduction in post-operative complications after implementation of a checklist for use by surgeons); Daniel Boorman, *Today’s Electronic Checklists Reduce Likelihood of Crew Errors and Help Prevent Mishaps*, ICAO J., Jan./Feb. 2001, at 17 (explaining how new electronic checklists reduce error by pilots and improve safety).

Although secondary considerations are usually thought to relate to obviousness, the proposed statutory language has been designed to emphasize that secondary considerations pertain to the overall patentability inquiry,⁸² and should not be inflexibly cabined within § 103.⁸³ To this end, the proposed statutory language would be placed in a new § 103A and would read as follows:

In determining whether a purported invention is patentable, factors that may be considered include:

1. The commercial success of an embodiment of the invention
2. The existence of a long-felt need for the end achieved by the invention
3. The failure of others ordinarily skilled in the art to achieve the invention
4. The progress of the patent application through the United States Patent and Trademark Office (“PTO”)
5. Commercial acquiescence or licensing of the invention
6. Simultaneous solution of the problem solved by the invention
7. Unexpected results produced by the invention
8. Copying of the invention by competitors
9. Skepticism of experts that the invention could be accomplished, or prior art that teaches away from the invention
10. Professional approval of the invention
11. The utility produced by the invention
12. The efforts and expenses of the inventor
13. The amount of time since arrival of relevant prior art
14. Patents granted on the invention in other countries

Each of these secondary considerations has the potential to aid in the patentability analysis if properly applied. A recommended roadmap for analysis of each of these secondary considerations, as well as a discussion of the most common caveats to be avoided, is presented below. At the end of the discussion of each secondary consideration is a proposed Drafter’s Note that summarizes the analytical framework.

⁸² See P.J. Federico, *Origins of Section 103*, in *NONOBVIOUSNESS—THE ULTIMATE CONDITION OF PATENTABILITY* 1:101, 1:105 (John F. Witherspoon ed., 1980) (noting that § 103 was originally drafted as “a qualification of” § 102). Federico was the principal drafter of the 1952 Patent Act.

⁸³ See *infra* Part IV.

1. Commercial Success

Of all the secondary considerations, commercial success is the most frequently cited by the courts.⁸⁴ It was relied upon by Justice Story in the 1825 case of *Earle v. Sawyer*,⁸⁵ by the Supreme Court in the 1876 case of *Smith v. Goodyear Dental Vulcanite, Co.*,⁸⁶ and remains a preferred indicium for litigants today. According to a study examining an eighteen-month period between 2004 and 2005 by Professor Gregory Mandel, commercial success was cited in thirty-three percent of nonobviousness decisions and seventy-six percent of decisions which considered any secondary consideration evidence.⁸⁷

If commercial success is to be utilized effectively as a secondary consideration, it must first be defined. Unfortunately, there are a number of possible meanings of the term “commercial success,” and little definitive guidance has been provided as to which definition is most appropriate. For example, the term could refer to absolute revenues, comparative revenues vis-à-vis competitors, profits,⁸⁸ an especially high unit price, market share, speed of adoption, or simply proven value in commerce.⁸⁹ While judicial approaches have varied, most recent courts have followed the guidance of the Federal Circuit in *J.T. Eaton & Co. v. Atlantic Paste & Glue*, in which it was stated that commercial success is “usually shown by significant sales in a relevant market.”⁹⁰ The *J.T. Eaton* definition, while not particularly precise, has led subsequent courts to describe the impressive revenues generated by the patented product as they endeavor to justify a holding of patent validity.⁹¹

⁸⁴ See Mandel, *Hindsight Bias*, *supra* note 40, at 1425.

⁸⁵ *Earle v. Sawyer*, 8 F.Cas. 254, 259 (C.C.D. Mass 1825) (No. 4247).

⁸⁶ *Smith v. Goodyear Dental Vulcanite, Co.*, 93 U.S. 486, 495–96 (1876).

⁸⁷ Mandel, *Hindsight Bias*, *supra* note 40, at 1425 n.134.

⁸⁸ See Andrew Blair-Stanek, Note, *Profits as Commercial Success*, 117 YALE L.J. 642, 645 (2008) [hereinafter Blair-Stanek, *Profits as Commercial Success*] (discussing the superiority of profits over revenue as a metric of commercial success).

⁸⁹ See *Kansas Jack Inc. v. Kuhn*, 719 F.2d 1144, 1151 (Fed. Cir. 1983) (Possible measures of commercial success include “market share, . . . growth in market share, . . . replacing earlier units sold by others or . . . dollar amounts.”). As to proven value in commerce, see *Hollister v. Benedict & Burnham Mfg. Co.*, 113 U.S. 59, 71–72 (1885) (noting that the invention in question had been “abundantly proven” superior to the prior art in the course of its use by the government, but finding the invention obvious nonetheless); see also *id.* at 72 (“Such an increased utility, beyond what had been attained by devices previously in use, in cases of doubt, is usually regarded as determining the question of invention.”).

⁹⁰ *J.T. Eaton & Co. v. Atlantic Paste & Glue*, 106 F.3d 1563, 1571 (Fed. Cir. 1997).

⁹¹ See, e.g., *Ecolochem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361, 1377 (Fed. Cir. 2000); *Elan Corp. PLC v. Andrx Pharm., Inc.*, Nos. 98-7164, 00-7057, 2008 WL 4709251, at *102, *106 (S.D. Fla. Aug. 13, 2008) (noting sales of Napreelan exceeded \$200 million in the United

There are two concerns raised by this approach. The first is that the sales volume might be attributable to something other than the product claimed in the invention, such as unclaimed product features. Doctrinally, the concern is addressed via the nexus requirement, which requires a showing that “the successful product is the invention disclosed and claimed in the patent.”⁹² Once the patentee makes a prima facie showing of nexus, the *J.T. Eaton* burden-shifting framework allows the defendant to rebut the showing by introducing evidence tending to demonstrate that success was due to other factors, such as aggressive marketing.⁹³ This is an opportunity for the defendant to show that the commercial success was not “due to the merits of the claimed invention beyond what was readily available in the prior art.”⁹⁴ Nineteenth century Supreme Court cases drew ample attention to the concern that commercial success might not be related to the merits of the invention,⁹⁵ which is no less relevant today.

The second concern is that bare revenue figures, even if resulting from the sale of the patented invention, reveal little about the superiority of the invention over the prior art. For example, in *Ecolochem, Inc. v. Southern California Edison, Co.* the patentee put forth evidence that its water treatment service apparatus had generated \$13 million in revenue during a seven-year period, and that its invention was in use at twenty-eight nuclear power plants.⁹⁶ Without discussion, the Federal Circuit noted that the patentee had “made the requisite showing of . . . commercial success,” and proceeded to evaluate whether a nexus had been demonstrated.⁹⁷ However, the mere fact of \$13 million in revenue may justify significantly different probative value depending on a number of

States alone, and concluding that the patent was valid).

⁹² *J.T. Eaton & Co.*, 106 F.3d at 1571.

⁹³ See, e.g., *A.H. Robins Co. v. Erbamont, Inc.*, No. C2-89-864, 1991 WL 229150, at *21 (S.D. Ohio Apr. 18, 1991) (concluding that the commercial success in that case was “the result of an aggressive advertising campaign, which included claims of enhanced safety, which were later determined by the FDA to be unfounded”).

⁹⁴ *J.T. Eaton & Co.*, 106 F.3d at 1571.

⁹⁵ See, e.g., *Kremenz v. S. Cottle Co.*, 148 U.S. 556, 560 (1893) (“The argument drawn from the commercial success of a patented article is not always to be relied on. Other causes, such as the enterprise of the vendors, and the resort to lavish expenditures in advertising, may co-operate to promote a large marketable demand.”); *McClain v. Ortmyer*, 141 U.S. 419, 428 (1891) (“[T]he extent to which a patented device has gone into use is an unsafe criterion . . . of its actual utility” because sales volume may reflect “judicious advertising, activity in putting the goods upon the market[,] and large commissions to dealers, [rather than reflecting] the intrinsic merit of the [device itself].”).

⁹⁶ *Ecolochem*, 227 F.3d at 1377.

⁹⁷ *Id.*

other factors. For example, revenue of \$13 million should be given more probative weight if the total market for prior art water treatment devices is \$14 million during the period in question, than if it is \$1.4 billion.⁹⁸ The Federal Circuit should therefore abandon its limited “significant sales” test in favor of a more flexible test that considers factors such as market share and degree of displacement of prior art products, as well as alternate explanations for market share such as the amount of advertising or pricing below cost.⁹⁹

Drafter’s Note (Commercial Success). Commercial success may be more probative of patentability where the invention: (a) obtains a large share of the relevant market; (b) rapidly displaces the prior art;¹⁰⁰ (c) is rapidly adopted (regardless of displacement); (d) commands a high price vis-à-vis the closest prior art;¹⁰¹ (e) is minimally promoted and minimally advertised;¹⁰² (f) is promoted or advertised in an informative, as opposed to persuasive, manner; and (g) contains few if any features other than the patented features that could account for the commercial success.

2. Long-Felt Need

Professor Mandel notes that long-felt need is the second most common type of secondary consideration, being present in twenty-four percent of the cases in his study.¹⁰³ The Supreme Court endorsed the use of long-felt need in the 1876 case of *Smith v. Goodyear Dental Vulcanite Co.*¹⁰⁴ This case involved a dentist who had obtained an improvement patent on “artificial sets of teeth,”

⁹⁸ See *In re Mageli*, 470 F.2d 1380, 1384 (C.C.P.A. 1973) (discounting evidence of commercial success because the court had “no idea of the size of the market”).

⁹⁹ See *Kansas Jack, Inc. v. Kuhn*, 719 F.2d 1144, 1151 (Fed. Cir. 1983) (where alleged “commercial success consist[s] solely of number of units sold,” with “no evidence of market share . . . [or] nexus,” a finding of obviousness is proper).

¹⁰⁰ *Diamond Rubber Co. of N.Y. v. Consol. Rubber Tire Co.*, 220 U.S. 428, 435 (1911) (“[The law] regards . . . the acceptance and utility of change as a further evidence, even as demonstration [of patentability].”); see also Peter L. Costas, *Discovery and the Issue of Commercial Success in Patent Infringement Actions*, 31 FED. RULE DECISIONS 215, 227 (1963) (citing *Goldman v. Bobins*, 245 F.2d 840, 844 (7th Cir. 1957)).

¹⁰¹ See *H.D. Smith & Co. v. Peck, Stow & Wilcox Co.*, 262 F. 415, 417 (2d Cir. 1919) (upholding patent where “4,700,000 of [the patentee’s] screwdrivers [were] sold at a price of at least 10 per cent. higher than the next highest priced screwdriver”).

¹⁰² *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270 (1916) (commercial success achieved “without puffing or other business exploitation”).

¹⁰³ Mandel, *Hindsight Bias*, *supra* note 40, at 1425.

¹⁰⁴ *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486 (1876).

which were more economical, more comfortable, and allowed for greater articulation of the wearer.¹⁰⁵ The Court found the patent valid despite the fact that all of the materials employed in the invention were old in the art, noting that the patentee had succeeded in achieving long-sought goals:

To find a material, with a mode of using it, capable of being combined with the teeth in such a manner as to be free from the admitted faults of all other known combinations, had been an object long and earnestly sought. It had been a subject for frequent discussion among dentists and in scientific journals.¹⁰⁶

Long-felt need was thus evidenced by discussions among those of ordinary skill in the dental art, as well as scholars writing in the relevant journals.

A few years later, the Supreme Court again embraced long-felt need in the decision of *Loom Co. v. Higgins*, which involved a device that could increase weaving speed from forty to fifty yards per loom, per day.¹⁰⁷ The court devoted considerable attention to the development of the weaving art during the preceding thirty years, noting the various improvements that increased weaving speed from just a few yards per day, to about forty yards per day.¹⁰⁸ In response to the defendant's assertion that the device was obvious, the Court stated: "it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not, for years, occur in this light to even the most skilful [sic] persons."¹⁰⁹ As with *Goodyear Dental Vulcanite*, the extended discussion of others' attempts at increasing weaving speed was viewed by the court as evidence that achieving yet greater weaving speed had long been sought.

Drafter's Note (Long-Felt Need). Long-felt need may be more probative of patentability if: (a) the need lasted longer than the average length of time needs go unfilled in the industry; (b) no significant prior art appeared during the time of need and shortly before the patentee's invention; (c) no alternate reason can explain why others did not solve the problem sooner (e.g., the inventor holds a patent on a prior

¹⁰⁵ *Id.* at 490–93.

¹⁰⁶ *Id.* at 495.

¹⁰⁷ *Loom Co. v. Higgins*, 105 U.S. 580, 591–92 (1881).

¹⁰⁸ *Id.* at 583–84.

¹⁰⁹ *Id.* at 591.

art invention essential to the development of the new invention); and (d) the need has been clearly and widely expressed (e.g., in industry magazines or other widely disseminated documentation).

3. Failure of Others

Professor Mandel's research revealed that only twelve percent of the judicial opinions in his study considered evidence of failure of others (compared to twenty-four percent for long-felt need).¹¹⁰ Nevertheless, failure of others and long-felt need are particularly closely linked. If evidence is present that others had tried and failed to achieve the claimed invention, this evidence would simultaneously serve to show need, though not necessarily *long-felt* need.¹¹¹ This close relationship between long-felt need and failure of others may explain why Robbins, in his seminal article on the *Subtests of "Nonobviousness,"* discussed failure of others under the subheading of long-felt need.¹¹² Failure of others can also be thought of as the opposite of simultaneous invention, in that the presence of simultaneous invention demonstrates a *lack* of failure by others.¹¹³ It is evident that the various secondary considerations often exhibit considerable overlap. This is no different, however, from the copyright fair use factors.¹¹⁴

Failure of others need not be so rigidly viewed as to encompass only the overt efforts of others to achieve the results accomplished by the claimed invention.¹¹⁵ Where others skilled in the art have tried generally to improve the art in question with results inferior to those of the patentee, obviousness can be negated. This was the case in *Kremetz v. S. Cottle Co.*, in which the Supreme Court addressed the patentability of a collar button made of a single piece of metal.¹¹⁶ In holding the patent valid, the Court noted that the

¹¹⁰ Mandel, *Hindsight Bias*, *supra* note 40, at 1463.

¹¹¹ See Robbins, *supra* note 9, at 1180 ("[A] failure of other investigators to solve the problem solved by a patentee is evidence of a longfelt demand.").

¹¹² *Id.* at 1175–77. Chisum also groups long-felt need together with failure of others. CHISUM, *supra* note 14, § 5.05[1] (subsection entitled "Long-Felt Need—Failure of Others").

¹¹³ See *Eli Lilly & Co. v. Teva Pharm. USA Inc.*, No. IP 02-0512-C-B/S, 2004 WL 1724632, at *38 (S.D. Ind. July 29, 2004) (grouping long-felt need, failure of others, and simultaneous invention).

¹¹⁴ See *Vanderhuy v. iParadigms, LLC*, 562 F.3d 630, 642 (4th Cir. 2009) ("Plaintiffs' argument . . . fails to recognize the overlap that exists between the fair use factors.").

¹¹⁵ *Brown v. Guild (The Corn Planter Patent)*, 90 U.S. (23 Wall.) 181, 220 (1874) (general failure of the prior art).

¹¹⁶ *Kremetz v. S. Cottle Co.*, 148 U.S. 556, 557 (1893).

president of the defendant's company had himself obtained a patent on a button, but failed to achieve the results of the claimed invention in suit.¹¹⁷ The defendant's president had reduced the number of pieces of metal required to make a button from three to two, but "failed to see . . . that a button might be made of one continuous sheet of metal, wholly dispensing with solder, of an improved shape, of increased strength, and requiring less material."¹¹⁸ In general, the failure of a defendant, who has ordinary skill in the art, to make the asserted obvious step taken by the patentee can be evidence of nonobviousness.

Evidence of failure of others is generally accepted as one of the most reliable indicators of nonobviousness because it provides direct evidence that an invention was not obvious to those who actually tried to invent it.¹¹⁹ So long as those who failed: (1) were attempting to solve the same problem as that addressed by the patented invention; (2) were operating under the same state of the art as the patentee; and (3) possessed at least ordinary skill in the art, failure to create an invention should generally constitute persuasive evidence of patentability.

Drafter's Note (Failure of Others). Failure of others may be more probative of patentability if: (a) the number of others who failed is large; (b) those who failed possessed the level of skill of a PHOSITA or greater; (c) the amount of time during which others failed is long; (d) the extent of resources devoted by others to solving the problem was large; and (e) those who failed were operating under the same state of the art as the patentee.

4. Progress Through the PTO

The history of the patent application as it made its way through the PTO was the sixth and final subtest mentioned by Robbins in his seminal article,¹²⁰ but has since all but disappeared from the

¹¹⁷ *Id.* at 560.

¹¹⁸ *Id.*

¹¹⁹ See Duffy, *supra* note 49, at 371 ("'[L]ong felt need' and 'failure of others' have long been noted to be especially good proxies for nonobviousness." (quoting *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1054 (Fed. Cir. 1988))); see also *Reeves Instrument Corp. v. Beckman Instruments, Inc.*, 444 F.2d 263, 272 (9th Cir. 1971) ("Substantial efforts by others . . . which fail . . . are persuasive indications of nonobviousness.").

¹²⁰ Robbins, *supra* note 9, at 1183.

scholarly literature,¹²¹ and is not discussed in any Federal Circuit decision.¹²²

On the one hand, the disappearance of this factor is sensible. It would create perverse incentives to consider a long and difficult path through the PTO to be evidence of nonobviousness. Once applicants became aware of such a rule, every adverse office action would fuel the desire to obtain the patent, and every rejection would, paradoxically, increase the likelihood that any eventual patent would be upheld as valid at some indefinite future point. Moreover, such a rule could encourage intentionally inefficient prosecution tactics that would lead to unnecessary delay, squandering limited PTO resources.

On the other hand, progress through the PTO has the potential to be helpful evidence of patentability because it reveals the opinion of a patent examiner who is, after all, a specialist in patentability determinations. In fact, Congress has explicitly instructed courts to give deference to PTO determinations via § 282 of the patent statute, which states that “[a] patent shall be presumed valid.”¹²³ As a secondary consideration, a patentability determination by the PTO is defensible only if the patent examiner actually considered the prior art references that are at issue. Although the statutory presumption of validity technically applies even when new prior art is introduced at trial,¹²⁴ common sense suggests that the presumption should carry little, if any, weight under such circumstances, and courts have frequently acted consistently with this common sense intuition.¹²⁵ The Supreme Court will soon weigh

¹²¹ See Mandel, *Hindsight Bias*, *supra* note 40; Merges, *supra* note 58, at 816 n.41 (relegating discussion to a footnote where he describes progress through the PTO as a “less significant factor”); Edward Philip Walker, *Objective Evidence of Nonobviousness: The Elusive Nexus Requirement (Part I)*, 69 J. PAT. & TRADEMARK OFF. SOC’Y 175 (1987) [hereinafter Walker, *Elusive Nexus Requirement (Part I)*] (no mention); Whelan, *supra* note 68, at 372 (single paragraph).

¹²² Whelan, *supra* note 68, at 372 n.168 (“The Federal Circuit has not considered progress through the Patent and Trademark Office, probably because litigants rarely present such evidence.”). A search of the Westlaw “allfeds” database performed on September 27, 2010 using the search (“federal circuit” and (“progress through” /5 (patent or PTO))) updates and corroborates Whelan’s conclusion.

¹²³ 35 U.S.C. § 282 (2006).

¹²⁴ *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1355–56 (Fed. Cir. 2000) (“While the presentation at trial of a reference that was not before the examiner does not change the presumption of validity, the alleged infringer’s burden may be more easily carried because of this additional reference.” (citing *Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc.*, 98 F.3d 1563, 1569 (Fed. Cir. 1996))).

¹²⁵ See, e.g., *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007); *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 35 (1966) (holding the patent obvious in the consolidated case of *Calmar, Inc. v. Cook Chem. Co.*, and noting that “the space so strongly asserted by [patentee]

in on the appropriate level of deference under § 282.¹²⁶

The Supreme Court embraced PTO evidence as a secondary consideration in *United States v. Adams*,¹²⁷ a companion case to *Graham*. In supporting its holding of patent validity, the Court noted the absence of any prior art cited by the PTO during prosecution: “in a crowded art replete with a century and a half of advancement, the Patent Office found not one reference to cite against the . . . application.”¹²⁸ In contrast, a district court in another case sought to minimize the importance of the patent examiner’s validity determination by questioning the competence of the examiner: “There was no showing that the patent examiner had any experience in the art, or that he was aware of the practices of the industry or matters within the common knowledge of those of ordinary skill in the art.”¹²⁹

Drafter’s Note (Progress Through the PTO). Progress through the PTO may be more probative of patentability if: (a) all relevant prior art was before the examiner; (b) any prior art that was not before the examiner is of minimal significance; (c) few prior art sources were cited by the examiner, despite a crowded and long-existing art; and (d) the patent examiner was particularly knowledgeable and experienced in the field of the invention.

5. Commercial Acquiescence and Licensing

Whereas commercial success relies on consumer perception of the invention for guidance on the patentability issue, acquiescence and licensing rely on the actions and perceptions of competitors. Acquiescence and licensing as indicators of patentability have been

Cook Chemical appears quite plainly on the Livingstone device, a reference not cited by the Examiner”; *Torpharm, Inc. v. Ranbaxy Pharms., Inc.*, 336 F.3d 1322, 1329–30 (Fed. Cir. 2003) (“[W]here prior art not before the examiner is brought to light during litigation—a court’s responsibility is . . . to assess independently the validity of the claim against the prior art under . . . section 103.”); *compare* *Cline Elec. Mfg. Co. v. Kohler*, 27 F.2d 638, 639–40 (7th Cir. 1928) (PTO determination is persuasive evidence of patentability where all but one reference was cited by examiner).

¹²⁶ *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831 (Fed. Cir. 2010), *cert. granted*, 131 S. Ct. 647 (Nov. 29, 2010).

¹²⁷ *United States v. Adams*, 383 U.S. 39 (1966).

¹²⁸ *Id.* at 52 (other secondary considerations were also considered by the court, including: (1) expressed disbelief of experts; (2) recognition by experts; and (3) the subsequent seeking of improvement patents by experts).

¹²⁹ *A.H. Robins Co. v. Erbamont, Inc.*, No. C2-89-846, 1991 WL 229150, at *20 (S.D. Ohio Apr. 18, 1991).

defended under the rationale that competitors would not pay for the right to practice the patented invention if the competitor thought that the patent was invalid.¹³⁰ However, a number of exceptions to this general rule have been noted. For example, large cross-licensing deals that incidentally include the patented invention would not seem to signify acquiescence. In addition, commentators have long noted that licensing may simply be a cheaper alternative than litigation, and therefore not reflective of beliefs as to patent validity.¹³¹

Although licensing is sometimes treated as synonymous with acquiescence, it can be helpful to understand how they may differ. In those cases where licensing is based on the perceived validity of the patent, licensing is a form of acquiescence. However, acquiescence can also include actions beyond licensing, such as designing around the invention, attempting to design around, or simply refraining from action.

Just as failure of others and long-felt need are not as distinct from one another as they are sometimes portrayed to be, licensing and acquiescence may overlap with other secondary considerations. Licensing, for example, could be considered a form of commercial success. If the patentee is viewed as an upstream supplier of intellectual property, rather than as a competitor of its licensees, then the willingness of firms to pay to license the technology begins to resemble sales of the invention by the patentee. Licensing can also be viewed as a type of copying that involves the payment of a royalty. *Deller's Walker on Patents* notes that copying and acclaim can overlap, referring to the "tribute of praise to the patent by defendants' copying."¹³² Similarly, licensing or acquiescence could be interpreted to indicate praise or approval by competitors who are skilled in the art.

Drafter's Note (Commercial Acquiescence and Licensing). Commercial acquiescence may include (1) refraining from copying an invention; (2) deliberately designing around an invention;¹³³ and (3) licensing an

¹³⁰ Robbins, *supra* note 9, at 1178.

¹³¹ See, e.g., Costas, *supra* note 100, at 218–19 (citing *Kay Jewelry Co. v. Gruen Nat'l Watch Case Co.*, 40 F.2d 600, 604 (6th Cir. 1930)).

¹³² 2 ANTHONY WILLIAM DELLER, *DELLER'S WALKER ON PATENTS* 310, § 125 (2d ed. 1964) [hereinafter *DELLER 2*]. Or, as Charles Caleb Colton famously said, "[i]mitation is the sincerest form of flattery."

¹³³ See *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1285 (Fed. Cir. 2000) ("[E]ven after gaining access to the claimed invention, [the alleged infringer] was

invention. Acquiescence or licensing may be less probative of patentability if the act of acquiescence: (a) reflects a business decision that licensing or other acquiescence is more cost effective than litigation;¹³⁴ (b) is part of a cooperative arrangement between or among competitors (e.g., cross-licensing);¹³⁵ (c) is for the purpose of maintaining positive industry relations;¹³⁶ (d) is part of a patent “package” that happens to include the patent at issue;¹³⁷ or (e) is the result of a settlement.¹³⁸

6. Simultaneous Solution

Simultaneous solution¹³⁹ is considered by many scholars to be a particularly meaningful indicator of obviousness. Professors Merges and Walker, for example, note that simultaneous invention tends to demonstrate obviousness for the same reason that failure of others tends to demonstrate nonobviousness.¹⁴⁰ That is, it tends to show what persons ordinarily skilled in the art actually were or were not able to do. Professor Duffy interprets *KSR*¹⁴¹ as indicating that simultaneous invention should be given increased weight, a result of which he approves.¹⁴²

As always, a few caveats must be observed. Simultaneous invention may not indicate obviousness if, as compared to the claimed invention, the simultaneous inventions were not made independently, were made only after important intervening developments in the art, occurred by accident rather than as a result of skill, or solved the problem in a manner so different from the claimed invention as to diminish the simultaneous invention’s

unable to design around the West patent.”)

¹³⁴ See *John E. Thropp’s Sons’ Co. v. Seiberling*, 264 U.S. 320, 329–30 (1924); *EWP Corp. v. Reliance Universal, Inc.*, 755 F.2d 898, 907–08 (Fed. Cir. 1985).

¹³⁵ Robbins, *supra* note 9, at 1178–80.

¹³⁶ Merges, *supra* note 58, at 867; see also Mandel, *Hindsight Bias*, *supra* note 40, at 1424.

¹³⁷ Merges, *supra* note 58, at 829.

¹³⁸ *Id.* at 868.

¹³⁹ Simultaneous solution is also referred to as “simultaneous invention,” “contemporaneous solution,” and “contemporaneous invention.”

¹⁴⁰ Merges, *supra* note 58, at 862 n.241; Edward Philip Walker, *Objective Evidence of Nonobviousness: The Elusive Nexus Requirement (Part II)*, 69 J. PAT. & TRADEMARK OFF. SOC’Y 229, 243 (1987) [hereinafter Walker, *Elusive Nexus Requirement (Part II)*]; see also Robbins, *supra* note 9, at 1180 (“[I]dentical solutions are highly persuasive evidence of obviousness.”); Mandel, *The Non-Obvious Problem*, *supra* note 2, at 121 (“[E]vidence of simultaneous invention by others should play a significant role in nonobviousness analysis.”).

¹⁴¹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

¹⁴² Duffy, *supra* note 49, at 361.

relevance. Moreover, the Federal Circuit has noted that contemporaneous development cannot be conclusive of obviousness under a statutory framework that provides for interference proceedings.¹⁴³

Finally, for all its appeal and perceived similarity to the objective indicium of failure of others, simultaneous invention may not always be a sound basis for determining obviousness in research-intensive industries. While failure of others demonstrates that *all* others, both those of ordinary skill and those of extraordinary skill, failed to develop the claimed invention,¹⁴⁴ simultaneous solution is only relevant to the question of obviousness if it is made by those of ordinary skill in the art. If those of extraordinary skill in the art simultaneously make the claimed invention, this does not indicate obviousness under the terms of § 103.¹⁴⁵

Drafter's Note (Simultaneous Solution). Simultaneous invention may be more probative of obviousness if: (a) the number of simultaneous inventors is large (b) the level of skill in the art of the simultaneous inventors is that of a PHOSITA or lower (c) the simultaneous inventors are operating under the same state of the art (or a more limited state of the art) (d) the simultaneous inventors are independent of the inventor and of each other (e) the financial, technical, and institutional resources available to the simultaneous inventors are minimal.

7. Copying

It has been noted that copying may weigh in favor of nonobviousness with particular force where the field is crowded and the copying is exact.¹⁴⁶ The rationale is that, where many

¹⁴³ *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 883 (Fed. Cir. 1998) (“Because Title 35 provides for interference proceedings, it implicitly recognizes that contemporaneous independent invention may not alone show obviousness.”).

¹⁴⁴ It would be enough to show nonobviousness if those of ordinary skill in the art had failed. Demonstrating that all others failed, including those of extraordinary skill, goes above and beyond what is strictly required to show nonobviousness. See *Pelton Water Wheel Co. v. Doble*, 190 F. 760, 764 (1911) (“The problem of their correction was submitted, not to mere mechanics, but to the most skillful engineers in the art.”).

¹⁴⁵ 35 U.S.C. § 103 (2006) (Obviousness is determined from the perspective of one of “ordinary skill in the art.”). See generally Jonathan J. Darrow, Note, *The Neglected Dimension of Patent Law's PHOSITA Standard*, 23 HARV. J.L. & TECH. 227 (2009) (discussing the history of PHOSITA and suggesting broad guidelines for the conceptual development of PHOSITA).

¹⁴⁶ See Guy McClung & Ronald G. Bliss, *So-Called “Secondary Considerations” Related to*

alternatives are available, the fact that the defendant chose to copy the plaintiff's exact contribution to the field, rather than one of the many other prior art options, suggests that there is something particularly important about the claimed advance. The inference of nonobviousness would not apply, however, where copying was motivated by factors other than the merits of the invention. For example, if competitors in the pharmaceutical industry do not exactly copy previously approved pharmaceuticals, they will face extraordinarily high regulatory approval costs.

Drafter's Note (Copying). Copying may be more probative of patentability if: (a) the prior art is replete with substitutes to the claimed invention; (b) the copying is exact; (c) the copying cannot be explained by factors other than the merits of the invention.

8. Skepticism and Teaching Away

Skepticism of those skilled in the art has been embraced by both the Supreme Court¹⁴⁷ and the Federal Circuit¹⁴⁸ as evidence of nonobviousness. The general rationale for skepticism as an indicator of nonobviousness is that, if those skilled in the art were skeptical that a particular solution would solve the problem with which the art was faced, pursuing that solution could not have been obvious.¹⁴⁹ The rationale is therefore very similar to the "teaching away" doctrine under which an invention is more likely to be found nonobvious if the prior art provides reasons to think that the patentee's solution will not work; that is, if the prior art "teaches away" from the patentee's solution.¹⁵⁰

Although "teaching away" is sometimes thought of as a secondary consideration, it fits more naturally within the framework of the

the Nonobviousness of an Invention, 26 IDEA 95, 97 (1985) (citing *Diamond Rubber Co. v. Consol. Rubber Tire Co.*, 220 U.S. 428 (1911)).

¹⁴⁷ *United States v. Adams*, 383 U.S. 39, 44 (1966).

¹⁴⁸ *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 668 (Fed. Cir. 2000) (skepticism that invention "offered advantages over" the prior art); *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 885 (Fed. Cir. 1998) (skepticism is evidence of unexpected results); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1545 (Fed. Cir. 1983).

¹⁴⁹ See Whelan, *supra* note 68, at 373.

¹⁵⁰ See Walker, *Elusive Nexus Requirement (Part II)*, *supra* note 140, at 243 (Skepticism consists of proceeding "contrary to the teachings or accepted wisdom of the prior art or of experts in the field." (citing *Adams*, 383 U.S. at 51–52; *In re Hedges*, 783 F.2d 1038 (Fed. Cir. 1986)); *Knoll Pharm. Co. v. Teva Pharm. USA, Inc.*, No. 01 C 1646, 2002 WL 31050138, at *14 (N.D. Ill. Sept. 13, 2002) (referring to "skepticism" and "teaching away" as a single secondary consideration).

first and second *Graham* inquiries that address the scope and content of the prior art in relation to the claimed invention.¹⁵¹ Skepticism, in contrast, may take the form of “accepted wisdom” or testimony at trial that may not formally constitute prior art.¹⁵²

Skepticism has been held to include both *ex ante* skepticism that a proposed solution would work,¹⁵³ as well as the *ex post* skepticism that the invention in fact produced the results claimed.¹⁵⁴ However, where the skepticism is directed at the enthusiasm with which buyers would be willing to pay for the invention, its value in indicating nonobviousness has been discounted. For example, in the recent case of *Media Technologies Licensing v. Upper Deck Co.*, experts expressed skepticism that consumers would enthusiastically purchase trading cards to which an actual piece of memorabilia (such as a piece of a sports jersey) was adhered.¹⁵⁵ In holding the invention obvious, a divided panel of the Federal Circuit noted that “[c]ommercial success . . . even if unexpected, is not part of the ‘unexpected results’ inquiry,”¹⁵⁶ a statement that reflects the substantial interrelationship of secondary considerations.

Courts have not articulated a clear rationale why skepticism as to profitability, as opposed to technical feasibility, should be ignored as a secondary consideration. If one accepts that the goal of patent law is to incentivize valuable inventions that would not be developed without the patent incentive,¹⁵⁷ the inclusion of skepticism as to profitability as a relevant factor would seem to further this goal.

¹⁵¹ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966) (“Under § 103, [1] the scope and content of the prior art are to be determined; [2] differences between the prior art and the claims at issue are to be ascertained.”); *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1483 (Fed. Cir. 1997) (discussing skepticism and teaching away in separate paragraphs).

¹⁵² See *Ruiz*, 234 F.3d at 668.

¹⁵³ *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1382 (Fed. Cir. 1986).

¹⁵⁴ See *United States v. Adams*, 383 U.S. 39, 44 (1966); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1545 (Fed. Cir. 1983).

¹⁵⁵ *Media Techs. Licensing, LLC v. Upper Deck Co.*, 596 F.3d 1334, 1336–38 (Fed. Cir. 2010).

¹⁵⁶ *Id.* at 1339; see also *Friskit, Inc. v. Real Networks, Inc.*, 306 Fed. App’x 610, 618 (Fed. Cir. 2009) (noting that market forces had created the demand for the product, not overcoming a technical challenge) (citing *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1013 (Fed. Cir. 1983); *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007); *Joy Tech., Inc. v. Manbeck*, 751 F. Supp. 225, 232 (D.D.C. 1990), *aff’d*, 959 F.2d 226 (Fed. Cir. 1992)).

¹⁵⁷ See, e.g., *Kewanee Oil Co. v. Bicron Inc.*, 416 U.S. 470, 480 (1974) (“The patent laws promote this progress by . . . [incentivizing] . . . inventors to risk the often enormous costs in terms of time, research, and development.”); *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1383 (Fed. Cir. 2006) (“[T]he ‘encouragement of investment-based risk is the fundamental purpose of the patent grant.’” (quoting *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 599 (Fed. Cir. 1985))).

Such skepticism would tend to demonstrate that the invention was considered risky by those in a position to introduce it. If an inventor nevertheless undertakes this risk and the investment succeeds with concomitant benefits to the public, it would seem to be incongruent with accepted patent theory to withhold the patent reward.

On the other hand, the reticence to weigh skepticism of consumer acceptance expressed in *Upper Deck* can be explained by distinguishing between objective, enduring benefits on the one hand, and subjective, transitory consumer preferences on the other. Some inventions produce a change that will be recognized as a beneficial improvement long after the invention has been made. For example, 130 years after the Supreme Court upheld the patent in *Webster Loom*,¹⁵⁸ it is still easy to recognize the value to the art of a weaving machine that can weave a greater number of yards per day. In contrast, if an early automobile maker had been able to patent the idea of painting cars black, based purely on a correct estimation that the public of the time would exhibit aesthetic preferences for such a color, it is not clear that later generations would consider this to be an advance. In the words of the Second Circuit, “would the return to the prior art be a retrogression?”¹⁵⁹ The purported advance at issue in *Upper Deck* arguably fell between these two extremes of objective, enduring utility versus subjective, transitory preference, but the court implicitly determined that it was closer to the subjective end of the spectrum. In any event, in order to be a useful indicator, skepticism would have to be expressed in the context of similar conditions. If a recent technical, regulatory, or market development makes the basis for the earlier skepticism no longer relevant, then such skepticism should be given little weight.

Skepticism was only cited in six percent of the cases studied by Professor Mandel.¹⁶⁰ The relatively uncommon reference to this secondary consideration can be explained by the fact that skepticism overlaps, to a great extent, not only with teaching away, but also with unexpected results. Where those skilled in the art were skeptical that an invention would produce beneficial results, the results achieved by the inventor are likely to be unexpected. Mandel categorizes unexpected results separately and finds such

¹⁵⁸ *Loom Co. v. Higgins*, 105 U.S. 580 (1881).

¹⁵⁹ *O'Rourke Eng'g Constr. Co. v. McMullen*, 160 F. 933, 938 (2d Cir. 1908).

¹⁶⁰ Mandel, *Hindsight Bias*, *supra* note 40, at 1463.

results present in thirteen percent of cases.¹⁶¹

Drafter’s Note (Skepticism). Skepticism and teaching away may be more probative of patentability if the skepticism or teaching away (a) originates from those more knowledgeable in the field; (b) is proven to be wrong; (c) is directed at the technical challenge of the invention or to an objective, enduring benefit; and (d) the technical and market context on which the skepticism was based has not changed.

9. Unexpected Results

Whether an invention exhibits unexpected results is thought to demonstrate nonobviousness for the simple reason that results which would have surprised a person of ordinary skill in the art could not have been obvious to that hypothetical person.¹⁶² Despite its commonsense appeal, discussion of unexpected results was found to be present in only thirteen percent of Professor Mandel’s patent cases.¹⁶³

Nevertheless, it is somewhat of a doctrinal oddity to locate “unexpected results” within the framework of secondary considerations. Secondary considerations are generally considered to be objective indicia of nonobviousness that do not require speculation as to the state of mind of a hypothetical PHOSITA.¹⁶⁴ Yet, whether a particular result is unexpected requires just such an inquiry.¹⁶⁵ In addition, secondary considerations are generally described as non-technical indicia,¹⁶⁶ but unexpected results may require comparisons of technical data or require technical judgments. Moreover, unexpected results inherently involve a comparison between the properties of the prior art and those of the claimed invention, an inquiry that falls more naturally within the

¹⁶¹ *Id.*

¹⁶² *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995).

¹⁶³ Mandel, *Hindsight Bias*, *supra* note 40, at 1463.

¹⁶⁴ *Eisai Co. v. Dr. Reddy’s Labs., Ltd.*, 533 F.3d 1353, 1356 (Fed. Cir. 2008) (“secondary factors, also known as objective indicia” (citing *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966))); *Allen v. Standard Crankshaft & Hydraulic*, 323 F.2d 29, 34–35 (4th Cir. 1963) (describing commercial success, recognition, long-felt need, and licensing as “objective indicia”).

¹⁶⁵ *See Soni*, 54 F.3d at 754 (Michel, C.J., dissenting) (disagreeing, as did the PTO, with majority’s conclusion that the plaintiff had adequately demonstrated unexpected results).

¹⁶⁶ *Gen. Motors Corp. v. Toyota Motor Co.*, 467 F. Supp. 1142, 1176 (S.D. Ohio 1979) (“[S]econdary considerations are nontechnical signals.”); *Graham*, 383 U.S. at 35–36 (1966) (“These legal inferences or subtests do focus attention on economic and motivational rather than technical issues.”).

second *Graham* inquiry which requires a comparison of “the prior art and the claims at issue.”¹⁶⁷ This may be why most scholars do not discuss unexpected results in their treatment of secondary considerations.¹⁶⁸

Nonetheless, evidence of unexpected results is closely related to other secondary considerations. For example, it overlaps with the concept of industry acclaim, according to one commentator, “since it is often presented by way of the affidavits or testimony of persons skilled in the art.”¹⁶⁹ Unexpected beneficial results, in comparison to the prior art, may also account for any observed commercial success.¹⁷⁰ Finally, the doctrine of unexpected results overlaps with teaching away and pre-invention skepticism, since the success of an invention in the face of adverse prior art teachings or skepticism is necessarily unexpected.¹⁷¹

Courts should be careful regarding the baseline of comparison from which the determination of unexpectedness is made. In *In re Soni*, the Federal Circuit appeared to compare the activity of the claimed invention to the activity level of a chemical compound in the prior art.¹⁷² Such a comparison sets the baseline too low and can result in patents being granted for obvious inventions. Whether or not the results of an invention are unexpected depends, by definition, on the results that a skilled artisan would have expected *that invention* to produce if it were reduced to practice.¹⁷³ It does not depend on the activity level of the prior art.

Drafter’s Note (Unexpected Results). Unexpected results may be more probative of patentability if the degree of unexpected benefit is large. The comparison to be made is

¹⁶⁷ *Graham*, 383 U.S. at 17 (1966). See also Rebecca S. Eisenberg, *Pharma’s Nonobvious Problem*, 12 LEWIS & CLARK L. REV. 375, 418 (2008) (categorizing unexpected results along with other secondary considerations seems “fundamentally confused”).

¹⁶⁸ See, e.g., CHISUM, *supra* note 14, § 5.05.

¹⁶⁹ Walker, *Elusive Nexus Requirement (Part II)*, *supra* note 140, at 244.

¹⁷⁰ *Id.* at 245.

¹⁷¹ See *Alza Corp. v. Mylan Labs., Inc.*, 388 F. Supp. 2d 717, 740 n.13 (N.D. W. Va. 2005) (“The analysis . . . overlaps the earlier discussion . . . of . . . teach[ing] away . . . and the later discussion of unexpected results.”). The converse is not necessarily true, however. For example, in the pharmaceutical industry, the prior art might not teach away from a particular compound, but the compound’s combination of beneficial properties could nevertheless constitute unexpected results. See *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 348 F. Supp. 2d 713 (N.D. W. Va. 2004) (finding unexpected results despite no teaching away).

¹⁷² *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995).

¹⁷³ See Jonathan J. Darrow, *The Patentability of Enantiomers: Implications for the Pharmaceutical Industry*, 2007 STAN. TECH. L. REV. 2, ¶ 49 (2007).

between the results that would have been expected from the invention and those that were exhibited by the invention, and *not* between the results of the closest prior art and the results exhibited by the invention.

10. Professional Approval

Professional approval is the converse of skepticism.¹⁷⁴ It tends to show nonobviousness by reference to the opinions of those skilled in the art, who are presumed to be less biased than expert trial witnesses.¹⁷⁵ The evidence may come in the form of trade publications, which “hail a product as a boon to consumers,” or from the statements of competitors not parties to the lawsuit.¹⁷⁶ Professional approval can take the form of praise or acclaim, prizes and awards, and even advertisements of competitors. It may blur with copying, licensing, and acquiescence, which can be considered forms of professional approval.¹⁷⁷ Mandel notes that only five percent of the cases in his study included evidence of “acclamation.”¹⁷⁸

Drafter’s Note (Professional Approval). Professional approval includes (1) prizes and awards and (2) praise and acclaim, and may be more probative of patentability if those conferring professional approval are (a) unbiased; (b) knowledgeable; (c) authoritative; and (d) selective.

B. Five Under-Acknowledged or Proposed Secondary Considerations

While a number of additional secondary considerations might be proposed, four under-acknowledged secondary considerations are worthy of special note. The first two, utility and the amount of time since the arrival of relevant prior art, are noteworthy because of their critical importance to the patentability inquiry. The third, the award of patents on the invention in other countries, deserves discussion because it is rarely utilized, or even mentioned, and yet,

¹⁷⁴ Robbins and Whelan, in fact, group these two categories together. See Robbins, *supra* note 9, at 1181–82; Whelan, *supra* note 68, at 373.

¹⁷⁵ Walker, *Elusive Nexus Requirement (Part II)*, *supra* note 140, at 240.

¹⁷⁶ Robbins, *supra* note 9, at 1182.

¹⁷⁷ Walker and Merges, for example, each group professional approval with acquiescence. Walker, *Elusive Nexus Requirement (Part II)*, *supra* note 140, at 236 (grouping “Acclaim by the Industry” with licensing); Merges, *supra* note 58, at 871 (grouping praise with licensing).

¹⁷⁸ Mandel, *Hindsight Bias*, *supra* note 40, at 1463. Mandel’s study considered acclamation separately from licensing, skepticism, and copying. *Id.*

calls attention to the opinions of legal experts who have addressed very nearly the same question of patentability. The fourth factor, the market power conferred by the patent, will be commented upon briefly as it reflects a recent proposal in the patent literature.

1. Utility

Although utility is usually assumed to be a minimal and distinct threshold under modern patent doctrine, significant authority demonstrates that this is not the case. The degree of utility present in an invention was once widely considered an indication of patentability, both by commentators¹⁷⁹ and the Supreme Court,¹⁸⁰ and even recent commentators¹⁸¹ and courts¹⁸² have endorsed its use as a secondary consideration. The centrality of utility to the patentability determination is manifestly evident from the Framers' decision to establish federal authority to promote the "*useful Arts*."¹⁸³ It is also evident from Congress's decision to include, as patentable subject matter, "any new and useful process, machine,

¹⁷⁹ See *DELLER 1*, *supra* note 28, at 120 ("Utility, though itself not invention nor conclusive evidence thereof, has, as a practical matter, been accorded the greatest weight in determining invention."); L.B. Mann, *Testing for Invention*, 15 J. PAT. OFF. SOC'Y 6 (1933); Richard Eyre, *Why Patent Protection is Needlessly Uncertain*, 6 J. PAT. OFF. SOC'Y 259, 262 (1924); ROBINSON, *supra* note 30, at 173 ("When this difference between the old and new conditions is not evident upon their face, it may be inferred from their comparative utility."); GEORGE TICKNOR CURTIS, A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS 30 (4th ed. 1873); GEORGE TICKNOR CURTIS, A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS 37 (2d ed. 1854) ("[I]t is said, that whenever utility is proved to exist in a very great degree a sufficiency of invention to support a patent must be presumed."); EDWARD HOLROYD, A PRACTICAL TREATISE OF THE LAW OF PATENTS FOR INVENTIONS 46 (1830) (Where invention has "new and salutary effect . . . intimately connected . . . with the trade and manufacture of this country," a technical reading of the statute to preclude patentability is improper.).

¹⁸⁰ *Eibel Process Co. v. Minn. & Ont. Paper Co.*, 261 U.S. 45 (1923) ("The fact that the Eibel pitch has thus been generally adopted . . . and that the daily product . . . has thus been increased at least twenty per cent. over that which had been achieved before Eibel, is very weighty evidence to sustain the presumption . . . that what he . . . invented was new and useful."); *Kremetz v. S. Cottle Co.*, 148 U.S. 556, 560–61 (1893); *Gandy v. Main Belting Co.*, 143 U.S. 587, 593 (1892) ("The questions of novelty and utility may properly be considered together."); *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486, 495–96 (1876); *see also O'Rourke Eng'g Constr. Co. v. McMullen*, 160 F. 933, 939 (2d Cir. 1908) ("The keynote of all the [Supreme Court patentability] decisions is the extent of the benefit conferred upon mankind."); *Hoe v. Cottrell*, 1 F. 597, 603 (C.C.D. Conn. 1880) (less exacting invention standard where invention accomplishes beneficial results).

¹⁸¹ See *McClung & Bliss*, *supra* note 146, at 105 (listing the invention's "greater efficiency, greater economy, or other advantages" over the prior art as a secondary consideration).

¹⁸² See *Cont'l Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1273 (Fed. Cir. 1991) ("[W]hen differences that may appear technologically minor nonetheless have a practical impact, . . . the decision-maker must consider . . . obviousness . . . in this light.").

¹⁸³ U.S. CONST. art. I, § 8, cl. 8 (emphasis added).

manufacture, or composition of matter, or *any new and useful improvement thereof*.”¹⁸⁴ Although jurists rarely pause to consider the significance of this clause, the word “improvement” would clearly seem to imply that the degree of utility, as compared to that provided in the prior art, is relevant to the patentability inquiry.¹⁸⁵ The secondary consideration of unexpected results lends further support to the importance of utility in the patentability determination. Unexpected results must not only be present in order to demonstrate nonobviousness, but must also be *beneficial* in comparison to the prior art.¹⁸⁶

Utility alone, of course, cannot confer patentability; otherwise, old inventions could be withdrawn from the public domain by a commercially successful product launch. Yet, neither should technical merit alone limit the patentability inquiry. If technical merit alone determined patentability, then extraordinarily complex inventions, possessing utility only marginally above that of mere curiosities, would have a greater right to a patent than inventions of more modest technical merit that, say, cure cancer. Such a doctrinal construction is inconsistent with the goal of the patent system, which is not “invention in the air” nor bare scientific advancement,¹⁸⁷ but the promotion of inventions that are socially useful.¹⁸⁸ In addition, long-felt need would make little sense as a

¹⁸⁴ 35 U.S.C. § 101 (2006) (emphasis added).

¹⁸⁵ See John Hogg Austin, *The Patentable Invention*, 18 J. PAT. OFF. SOC'Y 738, 747 (1936) (“[U]tility is the advantage or benefit of the change over the prior art.”).

¹⁸⁶ *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984) (“unexpected (i.e. superior) results” (citing *In re Swentzel*, 219 F.2d 216, 220 (C.C.P.A. 1955))); *Lee Blacksmith, Inc. v. Lindsay Bros.*, 605 F.2d 341, 345 (7th Cir. 1979) (“unexpected and beneficial results”); *PTS Labs L.L.C. v. Abbott Labs.*, No. 99 C 2402, 2000 WL 521722, at *3 (N.D. Ill. Mar. 17, 2000) (“unexpected beneficial” tolerance).

¹⁸⁷ See Karl B. Lutz, *A Clarification of the Patent Clause of the U.S. Constitution*, 32 J. PAT. OFF. SOC'Y 83, 87–88 (1950) (urging a “return to a practical standard of invention” that emphasizes the phrase “useful arts” rather than “science”).

¹⁸⁸ See *In re Ruschig*, 343 F.2d 965, 970 (C.C.P.A. 1965) (“[I]s it not also evident that a patent system must be related to the world of commerce rather than to the realm of philosophy?”); *Gross v. Frank*, 293 F. 702, 705 (4th Cir. 1923) (“[T]he making of something useful and beneficial out of something theretofore crude and inoperative, however much the original model may appear to be like the perfected design, is at least what the public is interested in, and is what the monopoly of the patent is granted for.”); *Naylor v. Alsop Process Co.*, 168 F. 911, 917 (8th Cir. 1909) (“The patent law . . . has its proper place in the realm of actual industrial life, and not in the limboes of parchment casuistry.”); *Gould Coupler Co. v. Pratt*, 70 F. 622, 624 (C.C.N.D.N.Y. 1895) (“The test [of patentability] should be not whether the mechanism is simple or complex, but whether . . . the public is richer for his contribution to the art.”). If bare scientific advancement were the goal, then abstract ideas and laws of nature, such as $E=MC^2$, would not be excluded as unpatentable. See *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 116 (1853) (“[T]he discovery of a principle in natural philosophy or physical science, is not patentable.”); *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010) (“The Court’s precedents provide three specific exceptions to § 101’s broad patent-eligibility principles: ‘laws

secondary consideration in the absence of considerations of utility, because there would rarely be a long-felt need for a technically challenging invention that performs no better than the prior art.¹⁸⁹ In short, ignoring utility in the obviousness determination is inconsistent with theoretical goals, historical practice, and modern doctrine.

Nevertheless, the idea of considering utility as part of obviousness may strike modern judges and patent scholars as heretical. In the current legal environment, novelty, utility, and obviousness comprise the accepted canon of patentability criteria. They are generally perceived as distinct requirements, and are often analyzed as such by courts.¹⁹⁰ Yet, a rigid focus on the somewhat arbitrary labels qua components of patentability can result in a rigid analysis that, as criticized by the Supreme Court in *KSR International Co. v. Teleflex Inc.*¹⁹¹ and *Bilski v. Kappos*,¹⁹² misses the forest for the trees. The important question is patentability, not obviousness. Obviousness is simply a means to an end.¹⁹³

of nature, physical phenomena, and abstract ideas.” (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980)); see also Joseph P. Meara, Note, *Just Who Is the Person Having Ordinary Skill in the Art? Patent Law’s Mysterious Personage*, 77 WASH. L. REV. 267, 283 (2002) (“While commentary predating the Federal Circuit noted a tendency in the courts to equate technological complexity with nonobviousness and simplicity with obviousness, the Federal Circuit has rejected such a straightforward connection.” (quoting James B. Gambrell & John H. Dodge II, *Ordinary Skill in the Art—An Enemy of the Inventor or a Friend of the People*, in NONOBVIOUSNESS—THE ULTIMATE CONDITION OF PATENTABILITY 5:301, 5:309 (J. Witherspoon ed., 1980))).

¹⁸⁹ See *Aventis Pharma Deutschland GmbH v. Lupin Ltd.*, No. 2:05CV421, 2006 WL 2008962, at *45 (E.D. Va. July 17, 2006) (other ACE-inhibitors already on the market prevented a finding of long-felt need (citing *Monarch Knitting Mach. Corp. v. Fukuhara Indus. & Trading Co.*, 139 F.3d 877, 884 (Fed. Cir. 1998))). In general, there can be no long-felt need if the invention has utility that is no greater than existing prior art.

¹⁹⁰ *Jones v. Hardy*, 727 F.2d 1524, 1529 (Fed. Cir. 1984) (Novelty and obviousness “are separate and distinct concepts.” (citing *In re Pearson*, 484 F.2d 1399 (C.C.P.A. 1974); *In re Oelrich*, 666 F.2d 578 (C.C.P.A. 1981)); *In re Bergy*, 596 F.2d 952, 960 (C.C.P.A. 1979) (“[N]ovelty, utility and statutory subject matter . . . [a]re separate and distinct.”).

¹⁹¹ *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.”).

¹⁹² *Bilski v. Kappos*, 130 S. Ct. 3218, 3226–28 (2010) (limiting the narrow “machine or transformation” test in favor of the broader “abstract ideas” test).

¹⁹³ While the analytical distinction between novelty, utility, and nonobviousness may promote an orderly analysis of patentability in a given case, it tends to cloud the theoretical underpinnings of the patent law. The frequent characterization of obviousness as the “ultimate condition of patentability” threatens to divert judicial analysis away from the foundational purposes of patent law, and toward technical criteria that may bear little relation to an invention’s real-world value. See, e.g., NONOBVIOUSNESS: THE ULTIMATE CONDITION OF PATENTABILITY vii–viii (J. Witherspoon ed. 1980). A search of the Westlaw “jlr” database on September 21, 2010 revealed no fewer than 106 articles that contain the

Drafter's Note (Utility). Utility may be more probative of patentability where the invention's utility is substantially greater than that of the prior art.

2. Efforts and Expenses of the Inventor

There is no reason why prior failures of the inventor, or long, expensive efforts of the inventor to arrive at the claimed invention, should not be considered as part of the relevant context within which patentability determinations are made.¹⁹⁴ So long as the inventor has the skill level of a PHOSITA or greater, such failures or efforts constitute direct evidence that the invention was not obvious. If an inventor (or the inventor's company) devotes several years and millions of dollars to developing an invention, this is relevant evidence that a PHOSITA could not have produced that invention "upon the suggestion being made."¹⁹⁵

Although treating the failures of the inventor as a secondary consideration could theoretically incentivize intentional delay and inflated research spending, these potential concerns are mitigated by the countervailing pressure to be the first to invent, as well as the significant uncertainty that would be created by intentionally engaging in excessive spending based on nothing more than the possibility of some future patent.

Drafter's Note (Efforts of Inventor). The efforts and expenses of the inventor may be more probative of patentability where: (a) the efforts are of long duration;¹⁹⁶ (b) the expenses are large; (c) the financial, technical, and institutional resources available to the inventor are large; and (d) the number of people engaged in the efforts is large.

phrase "ultimate condition of patentability."

¹⁹⁴ See *Carter-Wallace, Inc. v. Otte*, 474 F.2d 529, 543 (2d Cir. 1973) ("[T]he inspiration-perspiration process of the laboratory' . . . is as deserving of reward as the flash of genius." (quoting *Eli Lilly & Co. v. Generix Drug Sales, Inc.*, 460 F.2d 1096, 1103 (5th Cir. 1972))). Failing to provide an adequate "reward for costly and painstaking research would discourage both the inspiration-perspiration process of the laboratory and the incentive to publicly disclose products of value to mankind." *Generix*, 460 F.2d at 1103; see also *Locomotive Stocker Co. v. Hanna Stoker Co.*, 18 F.2d 257, 264 (6th Cir. 1927) (patentability "evidenced . . . by [the patentee's] frequent experiments before the desired result was accomplished").

¹⁹⁵ See *Earle v. Sawyer*, 8 F. Cas. 254, 255 (C.C.D. Mass. 1825) (No. 4247).

¹⁹⁶ *Pelton Water Wheel Co. v. Doble*, 190 F. 760, 764 (9th Cir. 1911) ("After a period of some three years of experiment and investigation, [the patentee] solved the problem.").

3. Amount of Time Since Arrival of Relevant Prior Art

Professor John Duffy advocated a promising approach to the patentability inquiry in his 2009 article, *A Timing Approach to Patentability*.¹⁹⁷ As a secondary consideration, a timing approach would focus attention on the time between the appearance of the relevant prior art and emergence of the invention. The greater the time lapse, the greater the likelihood that the invention merits a patent.¹⁹⁸ Where an invention follows closely on the heels of newly arrived prior art that is contributed by another, and that facilitates the invention, patentability would tend to be negated even if the need had otherwise been long-felt.¹⁹⁹ Moreover, where individuals simultaneously invent shortly after the arrival of relevant prior art, this could constitute strong evidence against patentability.²⁰⁰ In effect, a timing approach to patentability serves as a refinement of long-felt need and failure of others, and supports increased reliance on simultaneous invention when combined with evidence of a recent critical addition to the prior art.

Drafter's Note: (Timing). The time since arrival of relevant prior art may be more probative of patentability where: (a) the time period is long;²⁰¹ and (b) the average time between the arrival of relevant prior art and innovations in the relevant industry is short.

4. Patents Granted in Other Countries

Secondary considerations as a group can be thought of as reflecting the opinions of other relevant parties regarding the issue of patentability. For example, skepticism or professional approval can provide insight into the opinions of those knowledgeable in the technical field of the invention, commercial success can reflect the opinions of consumers, and licensing or copying can reflect the opinions of competitors.

An obvious group omitted from most discussions of secondary

¹⁹⁷ See Duffy, *supra* note 49, at 344.

¹⁹⁸ *Id.* at 346.

¹⁹⁹ *Chi. Rawhide Mfg. Co. v. Crane Packing Co.*, 523 F.2d 452, 459 (7th Cir. 1975) (Stevens, J.) (“If the critical reference came into existence, or was discovered, only a short time before the patented conception, commercial success [may be discounted].”).

²⁰⁰ 2 DONALD S. CHISUM, CHISUM ON PATENTS § 5.05[7] (2010).

²⁰¹ See *H. C. White Co. v. Morton E. Converse & Son Co.*, 20 F.2d 311, 313 (2d Cir. 1927) (“The end and the means having therefore been for long available,” the patent is valid.).

considerations includes those who have previously considered the patentability of the invention, namely, patent examiners or courts in other countries.²⁰² The opinions of judges and patent examiners in other countries regarding patentability deserve particular attention given their expert legal knowledge, which has already been brought to bear upon the very same question now under consideration, albeit under another country's laws.²⁰³

As with all secondary considerations, the weight accorded to a patentability determination of another country's legal experts would depend on the circumstances.²⁰⁴ For example, it would probably be improper to accord any weight to the fact that a patent issued in a country with a registration system, where patents are issued upon the simple payment of an application fee without rigorous examination. Similarly, where a patentability determination was made based upon a provision of foreign law with no counterpart in United States law, it would be proper to give that determination little or no weight. However, in many cases the applicable law may be similar enough to provide useful information, and in fact some countries already look to patentability determinations of other countries either formally²⁰⁵ or informally.²⁰⁶

Drafter's Note (Patents Granted in Other Countries).

The determinations by a court or patent office of another country that an invention is patentable may be more probative of patentability in the United States where: (a) the foreign country utilizes a patent examination system at least as rigorous as that of the United States; and (b) the patentability determination was based upon provisions of law that have a counterpart in United States law.

²⁰² See Edward Lee, *The New Canon: Using or Misusing Foreign Law to Decide Domestic Intellectual Property Claims*, 46 HARV. INT'L L. J. 1, 1–2 (2009).

²⁰³ See *id.* at 17.

²⁰⁴ *Id.* at 5.

²⁰⁵ See, e.g., Alexandre Lyrio, *The Development of IP Law in Brazil*, in IP CLIENT STRATEGIES IN CENTRAL AND SOUTH AMERICA 7, 9–10 (Eddie Fournier ed., 2009) (noting that, under a Brazilian statute, certain pharmaceutical patents may be granted in Brazil based upon the previous grant of a patent in another country).

²⁰⁶ See, e.g., Amy Kapczynski, *Harmonization and Its Discontents: A Case Study of TRIPS Implementation in India's Pharmaceutical Sector*, 97 CAL. L. REV. 1571, 1625–26 (2009) (noting that Indian patent examiners may defer to the patentability determinations of other countries or to the opinions contained in the Patent Cooperation Treaty (PCT) preliminary search reports).

5. Market Power

Recently, Andrew Blair-Stanek proposed that courts look to the increased market power conferred by a patented invention as a new secondary consideration.²⁰⁷ This approach would allow courts to leverage a large body of antitrust law and economic theory in an attempt to bring additional context to the patent determination.²⁰⁸ Although Blair-Stanek is to be commended for his novel, interdisciplinary approach, and his attempt to integrate widely understood economic concepts with patent doctrine, there are several reasons why courts may be unlikely to adopt the new secondary consideration he advocates.

First, market power is closely related to commercial success, and courts may be more likely to consider market power, if at all, as a refinement of this existing secondary consideration.²⁰⁹ Second, and more significantly, measuring market power can be difficult. Although the Lerner Index provides a widely accepted theoretical measure of market power, applying the Lerner index in the real-world is “often beyond practical feasibility”²¹⁰ as Blair-Stanek himself admits.²¹¹ Third, the use of market power assumes a ratio of one-to-one between products and patents.²¹² Where a given product is covered by multiple patents, teasing out the contribution of any given patent to the market power enjoyed by the product’s sponsor may be impossible.²¹³ In short, market power is a challenging measure of patentability because it layers one indeterminate concept onto another.²¹⁴ For these reasons, market power has been omitted from the proposed statutory framework in

²⁰⁷ Andrew Blair-Stanek, *Increased Market Power as a New Secondary Consideration in Patent Law*, 58 AM. U. L. REV. 707, 709 (2009) [hereinafter Blair-Stanek, *Increased Market Power*].

²⁰⁸ *Id.* at 717–19.

²⁰⁹ *Id.* at 716.

²¹⁰ MASSIMO MOTTA, COMPETITION POLICY: THEORY AND PRACTICE 116 (2004); *see also* DON E. WALDMAN & ELIZABETH JANE JENSON, INDUSTRIAL ORGANIZATION: THEORY AND PRACTICE 168 (2007) (“The Lerner Index . . . is theoretically appealing [but] . . . is difficult to estimate.”).

²¹¹ Blair-Stanek, *Increased Market Power*, *supra* note 207, at 718.

²¹² *See* Graeme B. Dinwoodie & Rochelle C. Dreyfuss, 13 MICH. TELECOMM. & TECH. L. REV. 445, 445 (2007) (noting that, in many fields, the ratio of products to patents is “vastly higher or lower” than one).

²¹³ *See* Polaroid Corp. v. Eastman Kodak Co., 641 F.Supp. 828, 833 (D. Mass. 1986). In addition, market power may also be due to non-product factors, such as branding (e.g., Coke).

²¹⁴ *See* Thomas G. Krattenmaker et al., *Monopoly Power and Market Power in Antitrust Law*, in REVITALIZING ANTITRUST IN ITS SECOND CENTURY 175 (Harry First et al. eds., 1991) (“Examination of key antitrust law opinions . . . shows that courts define market power . . . in ways that are both vague and inconsistent.”).

this article.

IV. ADDRESSING COUNTERARGUMENTS TO SECONDARY CONSIDERATIONS

The seminal modern paper on secondary considerations was written by Richard Robbins and published in 1964, two years prior to the *Graham* decision.²¹⁵ Although the Robbins article was not the first scholarly evaluation of secondary considerations,²¹⁶ it is particularly noteworthy because it did so in a systematic manner and, more importantly, was cited by the Supreme Court in explicitly legitimizing the potential relevance of secondary considerations. Ironically, the Supreme Court's formal recognition of secondary considerations in *Graham* provoked a line of scholarly criticism of secondary considerations that persists to this day.

The intensity of scholarly criticism of secondary considerations that followed *Graham* is somewhat curious given that numerous judges over the course of two centuries have found them to be helpful indicators of patentability. Prior to *Graham*, secondary considerations had been embraced, albeit with some caveats, by scholars,²¹⁷ by prominent judges such as Hand,²¹⁸ Coxe,²¹⁹ and Story,²²⁰ by at least one Commissioner of Patents,²²¹ and, at times, by the Supreme Court.²²² Since *Graham*, they have been embraced

²¹⁵ See Robbins, *supra* note 9.

²¹⁶ See, e.g., ROBINSON, *supra* note 30, at 174–75, 467–68 (patentability indicated where invention supersedes prior art, solves a problem that has been subject to unsuccessful attempts of others, is “extensive[ly] use[d] and s[old],” and satisfies an “ancient and well-recognized necessity”); DELLER 1, *supra* note 28, at 119–35 (discussing long-felt want, utility, long experimentation, prompt and general adoption, acquiescence, and failure of others); Robert Starr Allyn, *Patentable Yardsticks*, 25 J. PAT. OFF. SOC'Y 791, 800 (1943); Carl A. Castellan, *The Shifting Sands of Skill and Ingenuity*, 28 J. PAT. OFF. SOC'Y 416, (1946); Lawrence C. Kingsland, *The Statutes and Decisions Presenting the Better Tests of Inventions*, 34 J. PAT. OFF. SOC'Y 473 (1952) (discussing progress through the PTO, long-felt want, commercial success, licensing, copying, and competitor's advertising of the same advantages as claimed by the patent in suit).

²¹⁷ E.g., Robbins, *supra* note 9.

²¹⁸ Learned Hand, arguably the most celebrated judge in American patent law jurisprudence, enthusiastically endorsed secondary considerations as indicators of patentability in over twenty opinions. See Kingsland, *supra* note 216, at 472 n.480 (Kingsland, a former Commissioner of Patents, noted that Hand was “recognized as one of the most learned of all patent judges.”); Duffy, *supra* note 49, at 369 n.110 (noting Hand's endorsement of secondary considerations).

²¹⁹ See, e.g., *David v. Harris*, 206 F. 902, 903 (2d Cir. 1913) (failure of others, commercial success).

²²⁰ E.g., *Earle v. Sawyer*, 8 F. Cas. 254 (C.C.D. Mass. 1825) (No. 4247).

²²¹ See Kingsland, *supra* note 216, at 472.

²²² E.g., *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486 (1876).

by the Federal Circuit, a specialized court, the principal function of which is to develop sound and consistent patent policy.²²³ The major criticisms of secondary considerations are explored and addressed below.

A. Secondary Considerations Depend on a Chain of Inferences

No sooner had the ink dried on the *Graham v. John Deere Co. of Kansas City* opinion when Edmund Kitch attacked Robbins's argument that commercial success was indicative of nonobviousness.²²⁴ According to Kitch, the link between commercial success and nonobviousness involves four inferences, each of which is tenuous.²²⁵ The first inference that must be made is that the product's success is due to the innovation.²²⁶ Because many other factors may affect commercial success, Kitch argues that this inference is weak.²²⁷ Second, commercial success, as envisioned by Robbins, involves recognition of the potential for commercial success prior to undertaking the task of invention.²²⁸ According to Kitch, there is simply no basis for assuming that the inventor perceived the potential for commercial success ahead of time.²²⁹ Moreover, Kitch objects to the inferences that others tried (third inference), but failed (fourth inference), as having no basis in the simple fact of commercial success.²³⁰

In effect, Kitch is arguing that Robbins has conflated commercial success with long-felt need and failure of others, without requiring independent evidence of either. This could allow the existence of commercial success to falsely convey the impression that three secondary considerations are present and favorable to patentability, when in fact none deserves weight. The most pernicious effect of relying on commercial success as a secondary consideration, according to Kitch, is that it results in a rule that all litigated

²²³ See S. REP. NO. 97-275, at 5 (1981), *reprinted in* 1982 U.S.C.C.A.N. 11, 15 (noting that the establishment of the Federal Circuit "will increase doctrinal stability"); see also Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 14 (1989) (praising the Federal Circuit's success in "developing a patent law that accurately responds to the national goal of encouraging technological advances and inventiveness").

²²⁴ Edmund Kitch, *Graham v. John Deere Co. New Standards for Patents*, 1966 SUP. CT. REV. 293, 331-34 (1966).

²²⁵ *Id.* at 332.

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ *Id.*

²²⁹ *Id.*

²³⁰ *Id.*

patents should be held valid, since only commercially valuable patents are likely to be litigated.²³¹ Other scholars have echoed Kitch's objections.²³²

However, there are two competing rationales by which commercial success might be relevant to the patentability analysis. The first rationale, generally held by critics of secondary considerations, is that commercial success is indicative of nonobviousness only because of the insights it provides into the minds of the innovator and those who failed to innovate.²³³ The problem, as correctly noted by these critics, is that commercial success is at best an indirect indicator of mental state.

There is an alternate rationale, however, by which commercial success reflects patentability that does not depend on any inferences. Commercial success provides direct evidence, not of the state of mind of the inventor, but of the social value present in the invention.²³⁴ Significant sales in a given market, particularly those that displace previous products, provide evidence that the invention is perceived by consumers as a significant improvement over the prior art. This is particularly true where the invention is sold at a higher price than existing products since, all else equal, a consumer would not spend more to purchase a product of equal or lesser value.²³⁵ Similarly, copying and professional approval provides direct (though not conclusive) evidence that the invention is perceived by competitors and experts, respectively, as a significant contribution. The alternate rationales for the significance of

²³¹ *Id.* at 333. By similar reasoning, one might object to reliance on the secondary considerations of copying, long-felt need, and failure of others. Except in cases of independent invention, copying will always be present in patent infringement suits, and evidence of commercial success may be asserted as demonstrating long-felt need or failure of others.

²³² *E.g.*, Whelan, *supra* note 68, at 365–66 (explaining that secondary considerations are “secondary” because “they are relevant to the question of obviousness [only] through a series of inferences”).

²³³ *E.g.*, Blair-Stanek, *Profits as Commercial Success*, *supra* note 88, at 650 (citing WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 305 (2003)).

²³⁴ *Cont'l Can Co., USA v. Monsanto Co.*, 948 F.2d 1264 (Fed. Cir. 1991) (“The significance of a new structure [that is simply a variation on known themes] is often better measured in the marketplace than in the courtroom.”); *H. D. Smith & Co. v. Peck*, 262 F. 415, 417 (2d Cir. 1919) (“Th[e] willingness of the purchasing public to pay is a practical demonstration of its substantial value.”); *Gandy v. Main Belting Co.*, 143 U.S. 587, 595 (1892) (finding that an invention that has gone into “general use both in this country and in Europe” is “sufficient evidence of its utility”); *Austin*, *supra* note 185, at 766 (“Commercial success is evidence of utility.”).

²³⁵ *See Magowan v. N.Y. Belting & Packing Co.*, 141 U.S. 332, 343 (1891) (noting that the invention “was put upon the market at a price from 15 to 20 per cent higher than the old packings, although it cost 10 per cent less to produce it”).

commercial success tacitly explain why some courts embrace commercial success as a particularly valuable indicator of patentability, while others condemn it as unreliable.²³⁶

If the relevance of commercial success lies in its revelations of the degree of socially valuable advance over the prior art, and not the state of mind of the hypothetical inventor, then three of Kitch's four objections become irrelevant. There is no need to assume that competitors perceived the potential commercial success (second objection), and tried but failed to achieve the same result (third and fourth objections). Kitch's first objection is addressed *infra*.²³⁷

The Janus-faced nature of commercial success also provides support for the inclusion of utility as a secondary consideration, as explored above.²³⁸ If commercial success is primarily a valuable indicator of patentability because it reflects the social value (i.e., utility) present in an invention, examining utility directly can avoid the need for making inferences and directly corroborate the relevance of any findings of commercial success.²³⁹

B. Secondary Considerations May Be Due to Nontechnical, Market-Related Factors

Robert Merges echoes Kitch's objections and adds that secondary considerations shift the focus of the patent system from an invention's technical merits to "market-related factors."²⁴⁰ Merges objects that such a shift "undermine[s] the patent system's key economic goal of encouraging technological advance" by rewarding "such nontechnical achievements as superior distribution systems, marketing decisions, and service networks."²⁴¹ He is particularly critical of commercial success which, he argues, could be due to a number of factors other than the claimed invention, such as "extensive advertising . . . superior distribution and marketing, [or] general business acumen."²⁴²

Other secondary considerations, according to Merges, are

²³⁶ See Spencer H. Boyer, *Commercial Success as Evidence of Patentability*, 37 *FORDHAM L. REV.* 573, 595 (1969) ("The probative value of commercial success has been praised as the weightiest proof available indicative of patentable invention and it has been equally damned as an unsafe criterion.").

²³⁷ See *infra* Part IV.B.

²³⁸ See *supra* Part III.B.1.

²³⁹ See, e.g., *Regent Mfg. Co. v. Penn. Elec. & Mfg. Co.*, 121 F. 80, 83 (7th Cir. 1902) ("Its utility, apparent on its face, is reaffirmed by its great success.").

²⁴⁰ Merges, *supra* note 58, at 846.

²⁴¹ *Id.* at 806.

²⁴² *Id.* at 826–27.

similarly flawed. A firm may license from the patentee, not out of respect for the patent, but out of a desire to avoid litigation.²⁴³ A rational business person will opt for a license where the anticipated costs of the license are less than the expected costs of litigation, even if the licensee is doubtful of the patent's validity.²⁴⁴ The secondary consideration of long-felt need is only probative of nonobviousness if it is assumed that the need would have been fulfilled earlier if the invention had been obvious. This assumption may be false if, for whatever reason, no one attempted to solve the need during that period.²⁴⁵ One might extend *Merges's* concerns to copying, where firms may copy for regulatory reasons (as in the pharmaceutical industry), or simply as latecomers to a bandwagon fad (as occurred with Beanie Babies a decade ago).²⁴⁶

All of these concerns, however, can be mitigated by a rigorous application of the nexus requirement.²⁴⁷ Under Federal Circuit precedent, secondary considerations will not be accorded substantial weight in the obviousness analysis unless a nexus can be established between the secondary considerations and the merits of the claimed invention.²⁴⁸ The requirement is responsive to Kitch's first objection which, unlike his other three objections, is not directly addressed by the "utility theory" of commercial success described above.²⁴⁹ Recall that Kitch's first objection was that one must infer that the commercial success was due to the patented invention.²⁵⁰ The nexus requirement, however, obviates this objection by requiring *proof* of such a relationship. No inference is

²⁴³ *Id.* at 829; see also Anthony Baldo, *Juries Love the Patent Holder*, FORBES, June 17, 1985, at 147 (Drug giants Hoffmann-La Roche Inc. and Schering-Plough Corp. . . . agreed to cross-license each other's interferon patents in order to avert the possibility of a nasty and lengthy court fight.).

²⁴⁴ See *EWP Corp. v. Reliance Universal, Inc.*, 755 F.2d 898, 907–08 (Fed. Cir. 1985).

²⁴⁵ *Merges*, *supra* note 58, at 850 (“[S]ometimes firms *decide* not to innovate; they do not always try and fail.”).

²⁴⁶ *Ty Inc. v. Perryman*, 306 F.3d 509, 510 (7th Cir. 2002).

²⁴⁷ The Federal Trade Commission similarly recommended a more rigorous application of the nexus requirement in a 2003 report. FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 11 (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> (recommending that the burden be placed “on the patent holder to prove the claimed invention caused the commercial success”).

²⁴⁸ *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) (“For objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention.”); *Simmons Fastener Corp. v. Ill. Tool Works, Inc.*, 739 F.2d 1573, 1575 (Fed. Cir. 1984); see generally Walker, *Elusive Nexus Requirement (Part I)*, *supra* note 121, at 177 (noting that “the Federal Circuit has reconfirmed the nexus requirement”); Walker, *Elusive Nexus Requirement (Part II)*, *supra* note 140, at 243.

²⁴⁹ See *supra* Part IV.A.

²⁵⁰ *Id.*

needed.

It may be that the current nexus doctrine is not sufficiently rigorous to ensure an appropriate causal relationship between the secondary consideration and the merits of the invention. If this is the case, the appropriate response would seem to be to fortify the doctrine,²⁵¹ not ignore relevant secondary consideration evidence altogether.²⁵² More generally, concerns that secondary considerations may be merely the result of market-related factors can be mitigated by recalling that secondary factors serve as a checklist to help the decision maker reconstruct the broad history of the art. They are not rigid categories with discrete “point values” to be simply added together. Commercial success, for example, is not a binary proposition, but can be evaluated and weighted in light of: the amount spent on advertising; the character of the advertising (e.g., informative versus persuasive); the sophistication of customers in selecting products; and the complexity of the invention.²⁵³

C. Section 103 Makes No Mention of Secondary Considerations

The desire to confine secondary considerations within the nonobviousness inquiry likely underlies one commentator’s discomfort with the use of those secondary considerations that provide no indication of the mental state of the inventor,²⁵⁴ and accounts for Merges’s assertion that secondary considerations are insufficiently related to “technical advance.” It explains why another commentator is troubled that secondary considerations are not mentioned at all within § 103,²⁵⁵ and underlies the concerns, expressed by Kitch and others, that secondary considerations are only tenuously related to nonobviousness through a series of inferences.

These are sensible criticisms if one cabins secondary

²⁵¹ Some scholars have advocated doing just that. See, e.g., Blair-Stanek, *Profits as Commercial Success*, *supra* note 88, at 649.

²⁵² *Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (1983) (“It is jurisprudentially inappropriate to disregard any relevant evidence on any issue in any case.”).

²⁵³ Greater weight should be accorded to commercial success in light of: less spent on advertising; more informative advertising; the simpler the invention; and the greater the sophistication of buyers. Many other factors might also be considered. For example, the level of consumer care in selecting among products would likely be a very important factor in weighing the probative value of commercial success. See Thomas R. Lee et al., *Trademarks, Consumer Psychology, and the Sophisticated Consumer*, 57 EMORY L. J. 575, 583–601 (2008) (discussing consumer sophistication and cognitive effort in selecting among products).

²⁵⁴ See Whelan, *supra* note 68, at 379.

²⁵⁵ See Harris, *supra* note 30, at 196.

considerations inside the § 103 obviousness inquiry. However, each of the concerns is significantly diminished if secondary considerations are viewed as indicia of *patentability*, rather than merely of obviousness. The assumption that secondary considerations pertain only to the nonobviousness analysis, as opposed to the patentability analysis, is a relatively recent phenomenon that appears to have taken root based on *Graham*'s description of them as indicators of "obviousness or nonobviousness."²⁵⁶ However, secondary considerations have played a role in patentability determinations since at least the early 1800s, before even the seminal obviousness case of *Hotchkiss v. Greenwood*,²⁵⁷ and long before the enactment of § 103. If secondary considerations were only relevant to "obviousness" as such, their appearance in the pre-obviousness case law would be perplexing.²⁵⁸ Moreover, the rigid confinement of secondary considerations within the § 103 framework fragments the patentability analysis and diverts attention from the underlying purposes of patent law—the promotion of useful inventions.

D. Secondary Considerations Do Not Apply Equally Across Industries

A more recent critical observation of secondary considerations was introduced by Professors Dan Burk and Mark Lemley, who noted that, although secondary considerations nominally apply to all inventions, they are likely to favor inventions in the pharmaceutical and biotechnology industries more than inventions in other industries.²⁵⁹ According to Burk and Lemley, this is because the observance of secondary considerations generally requires that the invention be embodied in a product, rather than being sold as a component, or useful only as upstream research tools.²⁶⁰

However, simply because secondary considerations may provide more useful information for inventions in some industries than others does not mean that secondary evidence should be ignored in

²⁵⁶ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966).

²⁵⁷ *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248 (1850).

²⁵⁸ It is curious that obviousness, which did not exist at all during the early years of the nation's patent policy, is now frequently described as the "ultimate condition of patentability." See *generally* NONOBVIOUSNESS: THE ULTIMATE CONDITION OF PATENTABILITY (J. Witherspoon ed. 1980).

²⁵⁹ Burk & Lemley, *supra* note 63, at 1652.

²⁶⁰ *Id.*

those cases in which it is helpful. Moreover, although it may be true that secondary considerations have been applied by some courts in a rigid and narrow manner that favors some industries over others, this does not mean that secondary considerations cannot provide insight into inventions in most industries if applied properly. For example, if sales figures are unavailable for upstream research tools or intermediary products, commercial success might instead be evidenced by wide use or displacement of the relevant prior art.²⁶¹

V. CONCLUSION

Although patentability determinations will always require courts to exercise some subjective judgment, secondary considerations can provide additional relevant contextual information. The formal recognition of secondary considerations has increased dramatically over the last fifty years, and is likely to continue to do so for the foreseeable future. As the subject matter of inventions becomes ever more removed from the common experience of lay judges, the importance of non-technical criteria as aids to patentability determinations will only escalate. This is all the more true in light of the recent Supreme Court pronouncements in *Bilski v. Kappos* and *KSR International Co. v. Teleflex Inc.*, in which the Court has continued to insist on a flexible approach to patentability.

The ultimate goal of the patent system is the promotion of the “useful Arts” for the public benefit.²⁶² This goal is not served by incentivizing only those inventions that are technically challenging, but also those inventions that are the most socially useful. Although secondary considerations are imperfect proxies for patentable merit, if analyzed appropriately they can provide useful information about the blended concept of an invention’s value together with its technical complexity. This type of information accords remarkably well with the goal of patent law—to “promote the Progress of Science and useful Arts”²⁶³—and provides important contextual information for determining whether that degree of invention is present and sufficient to merit the patent reward. The relevance of secondary considerations to the patentability inquiry

²⁶¹ See, e.g., *Topliff v. Topliff*, 145 U.S. 156, 164 (1892) (“[W]e are inclined, in view of the extensive use to which these springs have been put by manufacturers of wagons, to resolve that doubt in favor of the patentees.”).

²⁶² U.S. Const. art. I, § 8, cl. 8.

²⁶³ *Id.*

explains why long-felt need, failure of others, simultaneous invention, teaching away, and skepticism have long been embraced by scholars and courts.

By amending title 35 to include § 103A (“Secondary Considerations”), both litigants and courts will have a consistent framework to facilitate the methodical presentation and analysis of relevant considerations. This framework is neither exclusive nor rigid; the placement of the secondary considerations statutory language in a separate subsection of title 35 serves to emphasize that the question of patentability requires a flexible approach that cannot be analyzed solely by reference to the statutory silos of novelty, utility, and nonobviousness. Patentability, not obviousness, is the ultimate issue to be resolved in the context of patent law’s overarching policy goals.

Although secondary considerations have generally been endorsed herein, no suggestion is made that more patents should issue than currently do. Placing the appropriate emphasis on secondary considerations may or may not increase the number of patents that issue or are held nonobvious. The inclusion of utility, simultaneous invention, timing of entry of relevant prior art, and rejection of inventions by patent offices or courts in other countries as secondary considerations—combined with an increased level of awareness of the limitations of secondary considerations, such as commercial success, copying, and licensing—may well lead to fewer issued or nonobvious patents.

Providing a consistent, robust, and transparent framework for the evaluation of secondary considerations is ultimately beneficial, not because it increases or decreases the number of patents that issue, but because a more thorough understanding of the history of the art will help to more accurately determine *which* patents should issue. Ensuring that appropriate inventions—and only appropriate inventions—receive the patent reward is essential to safeguarding the integrity of an innovation policy designed to “promote the Progress of Science and useful Arts.”²⁶⁴

²⁶⁴ *Id.*