
The Columbia

SCIENCE AND TECHNOLOGY LAW REVIEW

www.stlr.org

THE DEVIL IN THE DETAILS:
A CRITIQUE OF KSR'S UNWARRANTED REINTERPRETATION OF "PERSON HAVING
ORDINARY SKILL"

Andrew B. Dzeguze¹

In *KSR International Co. v. Teleflex Inc.*, the Supreme Court took it upon itself to comment on the supposed knowledge and capacities of a "person having ordinary skill in the art" as used in 35 U.S.C. § 103. This phrase is a key component of analyzing whether patents are "obvious" and lack sufficient value to justify the award of a patent. The perspective of a "person of ordinary skill in the art" is also used in virtually every meaningful standard in the field of patent law. Despite this significance, the Court felt no need to engage in any sort of structural or statutory analysis of the phrase. Instead, the Court at several points suggested that a "person having ordinary skill in the art" would have qualities that are not apparent from the plain language of the statute - such as creativity and insight beyond their immediate field.

It may be that the Court did not realize that its statements regarding "persons having ordinary skill in the art" have significant implications both for patent cases involving obviousness and several other areas of the law. Therefore, this article seeks to fill the gaps left by the Court. By way of background, there is a discussion of the origins and evolution of the United States patent system and the development of the concept of "obviousness" over time. An effort at statutory construction of these terms is then made. The meanings so derived are then compared with the Court's statements in *KSR* to determine how (or if) they are consonant with precedent. Finally, as *KSR* is the law of the land, several potential

¹ Visiting Assistant Professor, University of Illinois, Springfield. Adjunct Professor, Indiana University School of Law, Indianapolis. The views expressed are solely those of the author. My thanks to the numerous colleagues who have listened to my thoughts and read drafts of this paper, particularly David Quick of Ice Miller LLP in Indianapolis.

results of a widespread implementation of the Court's views are posited so that the decision's full impact can be appreciated.

I. INTRODUCTION

In the recent case of *KSR International Co. v. Teleflex Inc.*,² the Supreme Court found itself contemplating the realm and scope of the considerations for a “person having ordinary skill in the art.”³ This phrase, which evolved from cases distinguishing between “invention” and “ordinary” or “mechanical” “skill” in the nineteenth century⁴ and was enshrined in statute in the mid-twentieth,⁵ is a key component for determining whether an alleged invention, reflected in a patent claim (or a proposed claim of a patent application), is “obvious” and therefore lacks sufficient value to justify the award of a patent.⁶ As “obviousness” is one of only three fundamental reasons to find a purported invention wanting on the merits,⁷ any change to the “obviousness” standard by the Supreme Court can have significant impact on parties to patent litigations, persons or entities seeking to obtain patent protection, and those whose business interests would be furthered by restricting the numbers of patents granted.

Though not discussed directly by the Supreme Court in *KSR*, the perspective of a “person of ordinary skill in the art” is also used to make a number of other determinations in the field of patents. It is the basis on which a patent specification is analyzed to see if it meets the written description and enablement requirements of 35 U.S.C. § 112.⁸ Furthermore, claim terms are construed based on the understanding of a person of skill in

² *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007).

³ See, e.g., *id.* at 1740-42, 1746 (discussing both factors that support and factors that refute the conclusion that subject matter is not obvious to those skilled in the art).

⁴ *KSR*, 127 S. Ct. at 1734 (citing *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248 (1851)); see, e.g., *Mosler Safe & Lock Co. v. Mosler, Bahmann & Co.*, 127 U.S. 354, 360 (1888) (finding that the use of an old method to create a predictable result was “only what would occur to a mechanic of ordinary skill”).

⁵ See, e.g., 35 U.S.C. § 103(a) (2006) (first passed in 1952).

⁶ *Id.* (codifying “non-obviousness” as a requirement for patentability).

⁷ The other two are utility (reflected in 35 U.S.C. § 101 (2006)) and novelty (found in 35 U.S.C. § 102 (2006)). These are a distinct set of considerations from whether the patent is technically deficient in some manner (such as a failure to comply with aspects of 35 U.S.C. § 112 (2006)) or was acquired through fraud or inequitable conduct.

⁸ Although § 112 in current form speaks to “any person skilled in the art,” the standard of “skill” as shown in case law both before and after the current statute’s enactment is the same “ordinary skill” enshrined in § 103. See *Automotive Techs. Int’l, Inc. v. BMW of North Am., Inc.*, 501 F.3d 1274, 1282-83 (2007) (holding patent invalid for lack of enablement where general description “fail[ed] to apprise one of ordinary skill how to make and use” the claimed invention); *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175-76 (1852) (assessing whether specification was clear enough to be understood by a “mechanic of ordinary skill”); *Woodworth v. Wilson*, 45 U.S. (4 How.) 712, 716 (1846) (same).

the art⁹ and the range of equivalents is established from the perspective of a person of skill in the art.¹⁰ In sum, virtually every meaningful standard in the field is predicated, to some degree, on properly understanding the scope and meaning of the terms “person having ordinary skill in the art” and specifically “ordinary skill.”

Hence, one might think that any statements as to what constitutes “ordinary skill” or the characteristics of a “person having ordinary skill in the art” would begin with a careful analysis of the origins and uses of the terms over time, or at least make some use of the standard tools of statutory construction. In *KSR*, however, the Court felt no need to engage in such an analysis. Rather, with barely a nod to the historical foundation of the obviousness doctrine,¹¹ the Court at several points suggested that a “person having ordinary skill in the art” would have qualities that are not apparent from the plain language of the statute.

In making such statements, the *KSR* court redefined the phrase “person having ordinary skill in the art.” Without citing any authority for the proposition, the Court introduced the idea that such persons would be motivated to take ideas from “one field of endeavor” and make “variations of it, either in the same field *or a different one.*”¹² The Court directed that lower courts, in analyzing the question of obviousness, “take account of the inferences and creative steps that a person of ordinary skill in the art would employ.”¹³ Underscoring this last point, the Court stated that it was a matter of “common sense” that “familiar objects may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.”¹⁴ Indeed, the Court found, this was only logical, since “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.”¹⁵

The Court’s failure to engage in a searching analysis of “ordinary skill” and how it should be applied is understandable. The issue on which certiorari was granted had nothing to do with the scope of this phrase. Instead, the narrower issue was the

⁹ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

¹⁰ *Aquatex Indus., Inc. v. Techniche Solutions*, 479 F.3d 1320, 1329 (Fed. Cir. 2007) (citing *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 609 (1950)).

¹¹ *KSR Int’l Co.*, 127 S. Ct. at 1734, 1739.

¹² *Id.* at 1740 (emphasis added) (“When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.”).

¹³ *Id.* at 1741.

¹⁴ *Id.* at 1742.

¹⁵ *Id.* While arguably not directly challenging the understanding of “ordinary skill,” the Court also expanded the definition of obviousness to embrace results of actions that were “obvious to try” in the sense that a finite number of options existed. *Id.*

appropriateness of the Court of Appeals for the Federal Circuit's requirement of "some motivation or suggestion to combine the prior art teachings" where two or more pieces of prior art allegedly indicate the obviousness of a claimed invention.¹⁶ Hence, it may well be that the Court did not realize that its statements regarding "persons having ordinary skill in the art" have significant implications for patent cases involving obviousness and several other areas of the law.¹⁷

This Article seeks to fill in the gaps left by the Court. By way of background, there is a discussion of the origins and evolution of the United States patent system for insight into the tensions underlying current patent decisions. Similar attention is paid to the development of the concept of "obviousness," beginning with the Court's introduction of an "invention" requirement, discussing Congress' adoption of "obviousness" in § 103 in 1952, and ending with a discussion of subsequent decisions regarding the scope and intent of this section.

Having thus established the significance of "ordinary skill" and "person having ordinary skill in the art," a construction is then made of these terms. This includes looking to the various uses of "ordinary skill" and "person having ordinary skill" within Supreme Court precedent and the 1952 Patent Act, as well as dictionaries, to try to derive potential meanings for the terms and assess the propriety of the same. The meanings so derived are then compared with the Court's statements in *KSR* to determine how (or if) they are consistent with precedent. Finally, as *KSR* is the law of the land, several potential results of a widespread implementation of the Court's views are posited so that the decision's full impact can be appreciated.

II. AN OVERVIEW OF THE EVOLUTION OF THE AMERICAN PATENT SYSTEM

The American patent system is a complex, multi-faceted endeavor which most people have no real desire to understand. It has its own language and its participants are generally specialists. Like tax law, securities regulation, and other technical areas of the law, it can seem incomprehensible and intimidating to outsiders. Moreover, in giving "exclusive" rights for inventions, the patent system has struck and continues to strike many as encouraging frivolous applications and creating improper monopolies. At the same time, though, the present patent system reflects an amazing evolution from historic

¹⁶ *Id.* at 1734 (citing *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323-24 (Fed. Cir. 1999)).

¹⁷ Note that on the actual subject on which the Supreme Court granted certiorari, the holding is facially relatively limited. The Court recognized the value of the test as a means to avoid improper hindsight findings of obviousness, and the importance of an explicit rationale for finding a combination was proper. *Id.* at 1740-41. Indeed, it did not suggest that applying the teaching, suggestion, or motivation test would be improper in all, or even most, cases – simply that it was not appropriate as an absolute requirement every time combinations of art were the basis for obviousness contentions. *Id.* at 1741-42. Based on these aspects of the ruling, the Federal Circuit has already upheld a verdict based explicitly on the teaching, suggestion, and motivation test where the parties had agreed to jury instructions based on this test before the decision in *KSR* was announced. See *Cordis Corp. v. Medtronic Ave., Inc.*, 511 F.3d 1157, 1172 (Fed. Cir. 2008).

practices of privilege and power to something approaching a truly open meritocracy, a fundamentally American concept. From the administration of George Washington to the present day, these contrasting perceptions have created a tension and kept the law in a state of flux in the effort to strike just the right balance.

A. *European Roots*

Having a patent, or an invention being patented, has almost a talismanic property in modern advertising and common thought. It appears to consumers and investors as clear proof of superiority, the government's version of a Good Housekeeping Seal of Approval. However, patents originated as nothing more than a tool in an expansive control and patronage system. The term "letters patent" refers to the concept of a royal grant where the seal is placed in such a way that the grant can be read openly (that is, patently), rather than only by cracking a seal.¹⁸ Along with granting titles, land, charters, and other monopolies, patents were simply one more way to express royal privilege.¹⁹ This was often accompanied by a sizeable donation to the royal coffers.²⁰

It was only with the advent of the Renaissance in Europe that the scope of patents even began to embrace technical innovation. It is acknowledged that the first grant to cover a purported invention was given by Florence in 1421 to Filippo Brunelleschi for a novel form of watercraft.²¹ The grant was explicitly couched in terms of overcoming the inventor's desire to keep the invention secret by giving him the right to exclude all other novel craft from Florentine waters for three years.²² This was notable both due to the lack of any requirement that these craft resemble the inventor's own or even any description of the invention as it would be used.²³ The invention, as it proved, was a notorious disaster, and Florence did not institutionalize the practice.²⁴

There may not have been much reason for Florence's leaders to see this experiment as worthy of widespread implementation. Powerful families and rulers had long standing customs of commissioning military and technical works from engineers and inventors. For example, Leonardo da Vinci routinely submitted military proposals to

¹⁸ Bruce W. Bugbee, *The Genesis of American Patent and Copyright Law* 14 (1967); *see also* Staff of House of Rep. Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the Comm. on the Judiciary 96th Cong., *The History of Private Patent Legislation in the House of Representatives* 4 (1979). [hereinafter *Private Patent Legislation*].

¹⁹ Bugbee, *supra* note 17, at 14-15.

²⁰ *Id.*

²¹ *Id.* at 17-18.

²² *Id.*

²³ *Id.* at 18.

²⁴ *Id.* at 19.

various local rulers and obtained positions with both the Duke of Milan and Cesare Borgia.²⁵ The Florentine grant to Brunelleschi simply changed the patronage equation from a grant of money or position to a grant of exclusivity. This was something only a state could convey and was obviously less draining on the city coffers than a direct payment. To borrow the language of another commercial empire, the difference was being paid on the front end versus the back end. In either case, inventors were trying to ensure they were going to get paid before they turned over their secrets.

The first effort at institutionalizing a system of granting monopolies for purported inventions was undertaken by Venice in 1474.²⁶ Like the grant to Brunelleschi, the statute claimed to be designed to encourage inventions to be used, rather than kept secret.²⁷ However, it did not focus on encouraging what modern times would strictly consider innovation. The only requirement was that the device in question had not been known in Venice itself, rather than any requirement of absolute novelty.²⁸ Hence, while this has been credited as the first “patent statute,” the core value of “novelty” commonly associated with the patent system would be a product of subsequent evolution and change.

The next developments that laid the foundation for the modern American patent system took place in England. There, patent grants had a long history, but without any particular focus on technology. Rather, for hundreds of years they were granted to encourage industry, reward favorites, and replenish the royal coffers.²⁹ At the end of the sixteenth century, Parliament began to assert its power under Elizabeth I and this system of royal prerogative became a source of conflict.³⁰

Still, it took another two decades for the conflict between Crown and Parliament to come fully to a head. Elizabeth, with her normal aplomb for defusing situations, cancelled many of the most abusive patents and agreed to permit legal review of all remaining grants.³¹ James I, Elizabeth’s successor, initially sought to restrain the use of the patent power in keeping with Elizabeth’s concessions and the ruling in the *Darcy* case³² that unduly broad or lengthy grants were improper monopolies.³³ As his

²⁵ See, e.g., *Leonardo - Renaissance Man*, <http://www.mos.org/Leonardo/inventor.html> (last visited Mar. 27, 2008) (describing Leonardo’s inventions for the Duke of Milan and Cesare Borgia).

²⁶ Bugbee, *supra* note 17, at 22; Private Patent Legislation, *supra* note 17, at 4.

²⁷ Bugbee, *supra* note 17, at 22.

²⁸ *Id.* at 22-23.

²⁹ See Private Patent Legislation, *supra* note 17, at 4; Bugbee, *supra* note 17, at 36-37; Floyd L. Vaughan, *The United States Patent System: Legal and Economic Conflicts in American Patent History* 14 (1956).

³⁰ Bugbee, *supra* note 17, at 36-37; Vaughan, *supra* note 28, at 14.

³¹ Bugbee, *supra* note 17, at 37; Vaughan, *supra* note 28, at 14.

³² *Darcy v. Allin*, 74 Eng. Rep. 1131 (K.B. 1602).

relationship with Parliament became increasingly strained and the royal need for independent income grew, however, James reverted to the granting of patents for a broad range of industries and trades.³⁴

This perceived abuse finally led to Parliament's passage of the Statute of Monopolies.³⁵ It is generally described as limiting patents to grants to "the true and first inventor or inventors" of "any manner of new manufacture within this realm."³⁶ Additionally, any such grants were to be for limited times – twenty-one years from grant for existing patents and fourteen years for new ones.³⁷ However, there were less well-known exceptions allowing existing and new grants in particular fields ranging from ordinance to printing.³⁸ The same act also allowed the crown to continue to grant charters and privileges to "corporations" or "companies" for any number of commercial endeavors.³⁹ Hence, while "patents" could no longer be granted on common items of manufacture, monopolies on such items and other concessions could be and were still granted to various corporations, companies, or guilds.⁴⁰

³³ *Id.* at 1140; *see* Bugbee, *supra* note 17, at 37-38; Vaughan, *supra* note 28, at 15.

³⁴ Bugbee, *supra* note 17, at 38; Vaughan, *supra* note 28, at 15.

³⁵ Private Patent Legislation, *supra* note 17, at 4; Bugbee, *supra* note 17, at 38; Vaughan, *supra* note 28, at 15. Notably, the sources alternatively date the act as being passed in 1623 or 1624, but all agree on its text and the citation to it at 21 James 1, cl. 3.

³⁶ Vaughan, *supra* note 28, at 15; *accord* Bugbee, *supra* note 17, at 39 (describing the statute almost identically).

³⁷ Bugbee, *supra* note 17, at 39 (describing impact on existing and new grants); Vaughan, *supra* note 28, at 15 (describing the 14 year term for new grants). The choice of terms that were multiples of seven has been ascribed to the requirement in various English patents that the recipient of the grant train one or more apprentices to learn how to make use of the subject of the grant. Bugbee, *supra* note 28, at 34. Notably, fourteen years was also chosen as the initial maximum term for patents granted by the United States. U.S. Dep't of Commerce, Patent and Trademark Office, *The Story of the U.S. Patent and Trademark Office 1* (1988) [hereinafter *The Story of the U.S. Patent and Trademark Office*].

³⁸ Bugbee, *supra* note 17, at 40.

³⁹ *Id.*

⁴⁰ *Id.*

B. *The Early American Experience*

The English scheme of patents and corporations was carried over by many of the American colonies and was retained during and after the American Revolution.⁴¹ Like the English system, early American patents were generally granted according to individual appeals, rather than on a systemic, standardized basis.⁴² Owing to the local focus of these schemes, multiple persons could have claims to the same invention. The most well known example of this phenomenon was the competing claims of John Fitch and James Ramsey to have invented the steamboat.⁴³ In other cases, the same inventor sought multiple patents to ensure enforceable rights in various places.⁴⁴ One of the best-known inventors to do so was Oliver Evans, who sought numerous state patents for his invention of an automated mill system before obtaining the third patent granted by the United States for the same invention.⁴⁵

Despite this history, or perhaps because of it, creating Federal intellectual property rights was essentially an afterthought of what became the Constitutional Convention of 1787. There was no provision for centralized grants under the Articles of Confederation,⁴⁶ nor was there discussion of such a power in the major proposals to revise the Articles submitted after the Convention began in May 1787.⁴⁷ It was only on August 18, 1787, after the major structure of the new Constitution had been agreed on, that two suggestions were made that some form of power to reward innovations should be vested in the Federal government.⁴⁸ One set of suggestions, by James Madison of Virginia, included “encourag[ing] by premiums & provisions, the advancements of useful knowledge and discoveries.”⁴⁹ The other, from Charles Pinckney of South Carolina, explicitly stated that the legislature should have the power “[t]o grant patents for useful

⁴¹ Private Patent Legislation, *supra* note 17, at 4; Bugbee, *supra* note 17, at 57; Vaughan, *supra* note 28, at 15-18; *see also* Silvio A. Bedini, Thomas Jefferson: Statesman of Science 177 (1990) (noting Jefferson’s thoughts on monopolies, or patents, in the United States).

⁴² Bugbee, *supra* note 17, at 82-83; Vaughan, *supra* note 28, at 15-18.

⁴³ Bugbee, *supra* note 17, at 95-98; Vaughan, *supra* note 28, at 17. Ironically, after fighting each other for years before the passage of the Constitution, both lost out to Robert Fulton in the race to create a viable vessel some 20 years later. Bugbee, *supra* note 17, at 98.

⁴⁴ Bugbee, *supra* note 17, at 85-88, 99-101; Bedini, *supra* note 40, at 20; *see also* Vaughan, *supra* note 28, at 17 (describing patents on steam boat and mill technologies in multiple states).

⁴⁵ Bedini, *supra* note 40, at 209; Bugbee, *supra* note 17, at 99-101; Vaughan, *supra* note 28, at 17.

⁴⁶ Bugbee, *supra* note 17, at 128; Vaughan, *supra* note 28, at 18.

⁴⁷ Bedini, *supra* note 40, at 178; Bugbee, *supra* note 17, at 126.

⁴⁸ Bedini, *supra* note 40, at 178; Bugbee, *supra* note 17, at 126.

⁴⁹ Bedini, *supra* note 40, at 178; Bugbee, *supra* note 17, at 126.

inventions.”⁵⁰ Both suggestions contemplated granting authors control over their works for defined times.⁵¹ The motions carried unanimously and were referred to committee for final language.⁵² The resulting language, commonly referred to as the “patent and copyright” clause, actually fails to use either term. Rather, it states that Congress has the power “to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries.”⁵³

The Founders’ underlying intent for giving Congress the power “to promote the progress of science and the useful arts” by granting exclusive rights for limited periods is unclear. There is no direct history of debate to attach to the addition of this clause beyond the suggestions by Pinckney and Madison.⁵⁴ There was no impassioned defense for this proposal, but simply a short passage from Madison in Federalist No. 43 in which these were called out as some of the “miscellaneous powers” of the legislature.⁵⁵ Granting these powers to the legislature may be seen as having no goal beyond stripping traditional royal prerogatives and patronage from the executive branch. There is nothing to suggest that the Founders generally envisioned the breadth or depth of the current system, with its focus on the balance between private benefit and public good and a systematic analysis of every application.

Indeed, the first several applications for patents and copyrights were made directly to Congress, as they would have previously been directed to the Crown or the state legislatures.⁵⁶ It was only after realizing that this system was unworkable that Congress passed the first Patent Act in 1790.⁵⁷ This act, in turn, set the stage for a brief period that established several principles that are reflected in the current patent system.

Despite the constitutional vesting of the power to grant exclusive rights in the legislative branch, the first Patent Act delegated the actual duty of reviewing and granting

⁵⁰ Bedini, *supra* note 40, at 178; Bugbee, *supra* note 17, at 126.

⁵¹ Bedini, *supra* note 40, at 178; Bugbee, *supra* note 17, at 126.

⁵² Bugbee, *supra* note 17, at 126.

⁵³ U.S. Const. art. I, §8, cl. 8.

⁵⁴ Bugbee, *supra* note 17, at 126, 129.

⁵⁵ The Federalist No. 43 at 268 (James Madison) (Clinton Rossiter ed. 2003). The only arguments to be found in favor of the clause in this document are that the powers themselves are well founded and a claim that “States cannot separately make effectual provision for either” copyrights or granting inventors some form of rights. *Id.* Note that even here, Madison did not state whether the rights given inventors would be in the form of patents or some other consideration.

⁵⁶ See Private Patent Legislation, *supra* note 17, at 5; Bugbee, *supra* note 17, at 131-135.

⁵⁷ Private Patent Legislation, *supra* note 17, at 5; Bugbee, *supra* note 17, at 133-144.

particular requests to the executive branch.⁵⁸ Specifically, the Attorney General, Secretary of War, and Secretary of State were designated as a committee to analyze and pass judgment on patent applications.⁵⁹ The ultimate responsibility for issuing any patents lay with the Secretary of State – who at the time was Thomas Jefferson.⁶⁰

C. *The Jeffersonian Experiment*

Jefferson seemed an unlikely candidate to create a robust patent system. Jefferson had been on assignment as America's minister to France during the Constitutional Convention.⁶¹ From his correspondence with James Madison it is clear Jefferson would not have supported the passage of Article I §8 clause 8 as written.⁶² While recognizing that a patent provision might be an "incitement[] to ingenuity," he nonetheless stated that "the benefit of even limited monopolies is too doubtful to be opposed to that of their general suppression."⁶³ As late as 1789, he urged Madison to clarify the limits of Congress' power to grant monopolies in the proposal that led to enactment of the Bill of Rights.⁶⁴ Under Jefferson's proposal, monopolies would be allowed "to persons for their own productions in literature, and their own inventions in the arts, for a term not exceeding—years, but for no longer term and for no other purpose."⁶⁵ Rather than a form of property like a patent, from these and later writings it appears Jefferson viewed the ideal intellectual property grant as more akin to a bonus or award of profits in recognition of the inventor's contribution to society.⁶⁶

Despite his personal dubiousness about the propriety of patents,⁶⁷ Jefferson refrained from killing the patent system even though he had been given a golden opportunity. Rather than simply rejecting all applications on principle, Jefferson threw

⁵⁸ Bedini, *supra* note 40, at 206; Bugbee, *supra* note 17, at 144.

⁵⁹ Bedini, *supra* note 40, at 206; Bugbee, *supra* note 17, at 144.

⁶⁰ Bedini, *supra* note 40, at 207.

⁶¹ *Id.* at 129, 177.

⁶² *Id.* at 177.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.* at 177, 441-442. It would seem, therefore, that Jefferson would have been philosophically opposed to the widespread practice of assigning patent rights from inventors to corporations, venture capitalists, and others.

⁶⁷ *Id.* at 207.

himself into the task of devising a system of analysis in reviewing applications.⁶⁸ He ensured that every application was examined by the members of the committee, conducted practical trials as necessary, and ultimately granted sixty-seven patents before his resignation on December 31, 1793.⁶⁹ Jefferson also chose not to take a narrow view of the scope of the “useful arts” for which patents could be granted, such as munitions and other items of direct governmental interest. Instead, items of general societal value, such as Oliver Evans’ automated mill,⁷⁰ Eli Whitney’s cotton gin,⁷¹ and an allegedly improved method for desalinating seawater,⁷² represented the breadth of Jefferson’s inquiries. This set the stage for the wide range of materials that can be patented today.

Jefferson’s close scrutiny and skepticism of many applications also foretold of a major facet of the current patent system. His experience highlights a tension that persists to this day. Within months of undertaking his duties, Jefferson noted the huge impact the possibility of obtaining patents was having on the public.⁷³ As he put it, “[a]n Act of Congress authorizing the issuing of patents for new discoveries has given a spring of invention beyond my conception.”⁷⁴ Still, Jefferson set an exacting standard. From the outset, he felt that minor alterations or new uses of existing technology should not be patented.⁷⁵ He also spoke of the danger of “frivolous” applications and patents during the very infancy of the system, a concern that is still expressed today.⁷⁶ Nonetheless, there is

⁶⁸ *Id.* at 207-211; *see* Bugbee, *supra* note 17, at 150.

⁶⁹ Bedini, *supra* note 40, at 207-211.

⁷⁰ *Id.* at 209.

⁷¹ *Id.* at 247-248.

⁷² *Id.* at 210-11. While the experiments did not demonstrate any improvement over the known technique of distillation, Jefferson considered them valuable since they brought the ability to render sea water potable to the notice of the public.

⁷³ *Id.* at 207.

⁷⁴ *Id.* (quoting Letter from Thomas Jefferson to Benjamin Vaughan (June 27, 1790), in 6 *The Papers of Thomas Jefferson* 578 (Julian P. Boyd ed., 1943)); Bugbee, *supra* note 17, at 148 (same).

⁷⁵ Bedini, *supra* note 40, at 208-209. Specifically, Jefferson created rules that changing the application, material, and form by themselves would not give rise to patent rights.

⁷⁶ *Id.* at 209. Despite stating while in office that “any new combination of the mechanical powers already known” should be entitled to protection, later incidents suggest Jefferson would not have countenanced the widespread existence of combination and improvement patents in the modern era. *Id.* at 209, 441-42. For example, he resented to some degree paying royalties under Evans’s second federal automated mill patent for works constructed by a workman on his property. *Id.* at 442. The objection stemmed from Jefferson’s conclusion that the patent covered a combination of known elements, no matter the uniqueness of the resulting machine. *Id.* Still, he ultimately paid the price asked rather than engage in litigation.

no doubt that Jefferson helped to firmly establish patents as a key incentive to ingenuity in America at a critical time.

D. Pendulum Swings to the Present Day

The tensions and contradictions Jefferson exhibited have persisted in the American system to the present day. On the one hand, inventors who signed up for the benefits of the system almost immediately began complaining about its shortcomings.⁷⁷ Jefferson, out of office, found that the system under a revised Patent Act was too lax in its examination.⁷⁸ Over time, judicial rulings and public sentiment have caused the pendulum of patent law to swing periodically between skepticism and generosity. This reactionary cycle seems unlikely to change in the absence of a tectonic shift in the intellectual property system worldwide.

Inventors have never been satisfied with the system, likely owing to its limited nature. One of the first inventors to take full use of the system was Oliver Evans, seeking protection for his automated mill and later improvements to the same.⁷⁹ He was also one of the first to be dissatisfied with the system, seeking by Congressional petition to extend the 14 year term of his early patent based on the claim it was too short to receive adequate remuneration for his invention.⁸⁰ In the short term, this led to a period in which inventors repeatedly sought the very sort of individual Congressional attention that the Patent Act had sought to avoid.⁸¹ In the long term, this sense of the patent system as a necessary evil persists with most inventors and companies who invest significant capital in intellectual property.

There has also been a near constant sense that patentees are seeking to abuse the system and that too often the system is complicit in granting undeserving applications. After the passage of the second Patent Act in 1794, the system began a lurching progression towards the independent patent office of modern practice. However, the start seemed like a step backward to Jefferson.⁸² The system was effectively shifted from an examination system to one of registration, with an emphasis on bureaucratic compliance rather than novelty.⁸³ Jefferson himself viewed the result with disappointment, fearing that the grant of patents had become too automatic, leaving only the courts as a potential

⁷⁷ See Private Patent Legislation, *supra* note 17, at 6.

⁷⁸ Bedini, *supra* note 40, at 210.

⁷⁹ *Id.* at 209.

⁸⁰ Private Patent Legislation, *supra* note 17, at 6-7.

⁸¹ *Id.* at 7.

⁸² Bedini, *supra* note 40, at 210.

⁸³ *Id.*; Private Patent Legislation, *supra* note 17, at 7; The Story of the U.S. Patent and Trademark Office, *supra* note 36, at 2-3; Bugbee, *supra* note 17, at 150.

means to weed out frivolous patents.⁸⁴ Congress would eventually come to agree, but not until 1836.⁸⁵

Again, this skepticism has been a constant feature of the patent system to this day, even though registration was supplanted by a renewed focus on examination under the 1836 law.⁸⁶ Many individuals, like Jefferson's first impulse, find the very concept of granting anything approaching a monopoly fundamentally troubling. Many businesses, particularly those who do not wish to invest in research and development, would much rather do away with the system in its entirety.

Tracing the arc of the pendulum of patent protection between the pull of inventors and skeptics over the last two hundred years is beyond the scope of this Article. However, the dynamic nature of patent law can be illustrated by comparing the rulings of the Federal Circuit soon after its founding twenty-five years ago with the trends of today. It suggests that the pendulum, with perhaps a boost from Congress, swung heavily in favor of patentees, only to retreat and perhaps move to the opposite end of the arc today.

The legislation authorizing the creation of a unified appellate court with jurisdiction over patent disputes was first introduced in 1979 as part of an omnibus Federal Court Improvement Act.⁸⁷ Rather than create a specialized patent court to hear cases in the first instance, this new court merged the dockets of the pre-existing Circuit Court of Patent Appeals (which had jurisdiction over appeals from Patent and Trademark Office proceedings such as interferences and appeals of rejections) with the Court of Claims (which had jurisdiction over claims against the Federal Government under a number of statutory provisions) and vested it with appellate jurisdiction over patent cases.⁸⁸ Despite passage by the Senate unanimously in 1979, and passage of a parallel bill in the House of Representatives in 1980, final passage was delayed until 1982.⁸⁹

As stated in the legislative history, the goal of this act was to bring stability and uniformity to the area of patent law.⁹⁰ There was a general sense that the value of patents was being eroded by their treatment in the various circuit courts.⁹¹ Intriguingly, the

⁸⁴ Bedini, *supra* note 40, at 210.

⁸⁵ The Story of the U.S. Patent and Trademark Office, *supra* note 36, at 5-7; Bugbee, *supra* note 17, at 151.

⁸⁶ The Story of the U.S. Patent and Trademark Office, *supra* note 36, at 6; Bugbee, *supra* note 17, at 151.

⁸⁷ S. Rep. No. 97-275, at 1-2 (1981), as reprinted in 1982 U.S.C.C.A.N. 11-12.

⁸⁸ *Id.* at 2-3, as reprinted in 1982 U.S.C.C.A.N. 11, 12-13.

⁸⁹ *Id.* at 1-2, as reprinted in 1982 U.S.C.C.A.N. 11, 11-12.

⁹⁰ *Id.* at 5-6, as reprinted in 1982 U.S.C.C.A.N. 11, 15-16.

⁹¹ *Id.* at 3, as reprinted in 1982 U.S.C.C.A.N. 11, 13. As later observers would comment, this was a time "when widespread disregard of patent rights was undermining the national innovation incentive." *Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.*, 383 F.3d 1337,

Senate Judiciary Committee Report noted that “[t]he committee found particularly persuasive the testimony of the users of the patent system.”⁹² While it may not have been overtly stated, it is apparent that these users – patent prosecutors, patentees, and the corporations obtaining patents at great cost – would not support a court which they thought would make patents more difficult to obtain or more likely to be invalidated.

The early returns from the Federal Circuit suggested that the new court would meet the expectations of users. One of the first significant cases the Federal Circuit dealt with was *Underwater Devices*.⁹³ In that case, the only defense to a claim of willful infringement (that is, intentional, purposeful infringement supporting judicial enhancement of damages) was the opinion of the defendant’s in-house counsel that the patent would probably be held invalid.⁹⁴ That opinion was not based on any meaningful analysis, but rather on two conclusory (and incorrect) statements about the impact of an article on the patent and a comment that “[c]ourts, in recent years, have in patent infringement cases found the patents claimed to be infringed upon invalid in approximately 80% of the cases.”⁹⁵ This “advice” was found to be inadequate (although no one challenged the statistics) and led to the recognition of a “duty” not to infringe patents and to seek opinions of qualified patent counsel.⁹⁶

In its first decade, the Federal Circuit railed against the rampant, baseless claims of inequitable conduct,⁹⁷ making it clear that injunctive relief would be presumptively available upon the finding that a patent was valid and infringed.⁹⁸ The Federal Circuit also generally fulfilled the Congressional goal that patent law would become more uniform and consistent,⁹⁹ hence leading to greater certainty as to the value of patents. Reaching back to nineteenth century precedent, the Federal Circuit also announced its

1343 (Fed. Cir. 2004) (en banc) (citing Advisory Comm. on Indus. Innovation Final Rep., Dep’t of Commerce (Sep. 1979)).

⁹² S. Rep. No. 97-275 at 5, as reprinted in 1982 U.S.C.C.A.N. 11, 15.

⁹³ *Underwater Devices v. Morrison-Knudsen Co.*, 717 F.2d 1380 (Fed. Cir. 1983), overruled on other grounds by *In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007).

⁹⁴ *Id.* at 1385, 1389-90.

⁹⁵ *Id.* at 1385.

⁹⁶ *Id.* at 1389-90.

⁹⁷ See *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 876 n.15 (Fed. Cir. 1988) (decrying “absolute plague” of “charging inequitable conduct in almost every major patent case”) (quoting *Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988)); see also *id.* at 876-77 (en banc finding that gross negligence would not suffice to establish the intent to deceive necessary to support inequitable conduct).

⁹⁸ See *Richardson v. Suzuki Motor Co., Ltd.*, 868 F.2d 1226, 1247 (Fed. Cir. 1989) (“It is the general rule that an injunction will issue when infringement has been adjudged, absent a sound reason for denying it.”).

⁹⁹ S. Rep. No. 97-275 at 5-6, as reprinted in 1982 U.S.C.C.A.N. 11, 15-16.

intent to interpret patents to preserve their validity wherever possible.¹⁰⁰ The Federal Circuit also adopted the precedent of the Court of Claims and Patent Appeals as binding.¹⁰¹ This included the holding that any effort to combine different pieces of prior art to invalidate a patent had to be accompanied by a showing of something, such as a suggestion, that would lead a person of “ordinary skill” to make the combination in the absence of the teachings of the patent.¹⁰²

Over the last several years, though, these strong statements have been weakened tremendously or simply condemned to the dustbin of history. Claim construction, while considered exclusively a question of law,¹⁰³ remains a vexing and uncertain process for patentees, attorneys, district court judges, and accused infringers.¹⁰⁴ Inequitable conduct still plagues court proceedings and is arguably easier to find than ever.¹⁰⁵ The Court has rejected the presumption of injunctive relief, requiring that “ordinary principles of equity” be used instead.¹⁰⁶ The promise that patents would be interpreted to preserve validity has all but disappeared, as claim construction has been divorced from validity

¹⁰⁰ *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 & n.11 (Fed. Cir. 1984) (“claims should be so construed, if possible, as to sustain their validity”) (citing *Klein v. Russell*, 86 U.S. (19 Wall) 433, 466 (1874); *Turrill v. Michigan S. & N. Ind. R.R.*, 68 U.S. (1 Wall) 491, 510 (1864)).

¹⁰¹ *See South Corp. v. United States*, 690 F.2d 1368, 1370 (Fed. Cir. 1982) (en banc).

¹⁰² *See In re McKenna*, 203 F.2d 717, 721 (C.C.P.A. 1953) (noting the lack of any suggestion to combine in the prior art, one leg of the “teaching, suggestion, or motivation” test later overruled by *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007)).

¹⁰³ *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388-89 (1996) (*Markman II*).

¹⁰⁴ For a fuller discussion of the current state of claim construction, the reader is referred to Andrew B. Dzeguze, *Did Markman and Phillips Answer the Right Question? A Review of the Fractured State of Claim Construction and the Potential Use of Equity to Unify it*, 15 Tex. Intel. Prop. L.J. 457 (2007).

¹⁰⁵ *See Hoffman-La Roche, Inc. v. Promega Corp.*, 323 F.3d 1354, 1363-66 (Fed. Cir. 2003) (affirming finding that writing prophetic example in past tense was inequitable conduct); *see also Ferring B.V. v. Barr Labs., Inc.*, 437 F.3d 1181, 1193-95 (Fed. Cir. 2006) (affirming summary judgment of inequitable conduct based on failure to disclose connections of affiants as to meaning of term in patent application to company prosecuting application); *cf.* 437 F.3d at 1196-98 (Newman, J., dissenting) (noting unchallenged accuracy of affidavits as to meaning of term, minimal nature of contacts, compliance of affidavits with terms of patent examiner request, and again noting that this appears to resurrect the “plague” of baseless assertions of inequitable conduct in pre-*Kingsdown* litigation; 323 F.3d at 1374-75, 1381 (Newman, J., dissenting) (noting predictive, accurate nature of example and “new plague” of inequitable conduct).

¹⁰⁶ *See eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391-94 (2006).

challenges.¹⁰⁷ At most, it is a principle that applies to resolve the meaning of ambiguous terms as a matter of last resort.¹⁰⁸ The Federal Circuit, in its wisdom, has decided to repeal the concept of a duty of care to avoid infringement in its entirety.¹⁰⁹ And the Court's ruling in *KSR* made clear that the "teaching, suggestion, or motivation" test is at most a benchmark of obviousness and not any sort of hard and fast requirement.¹¹⁰ In a very real sense, one could question if the existence of the Federal Circuit has, in fact, substantially improved the certainty and uniformity of patent law and thus enhanced the value of patents.

III. THE PATH FROM THE COMMON LAW REQUIREMENT OF "INVENTION" TO THE STATUTORY REQUIREMENT OF "NONOBVIOUSNESS"

From the foregoing, it is evident that a pendulum is an apt analogy for the perpetual flux of patent law, and the current swing seems to be towards a more skeptical view of patent protection. Now, the agent of the next change may be something that no one seriously contemplated or analyzed leading up to that moment. For example, the statements in *KSR* regarding the scope of the talents and knowledge of a person of ordinary skill in the art may simply be viewed as colorful dicta applicable at most to combination patents. They may be viewed as a narrow, natural clarification. Or they may result in a wholesale overhaul of how patents are written, interpreted, and enforced, and essentially signal the exclusion of entire categories of science from patent protection. A further analysis of the origins and evolution of the doctrine of obviousness, the likely meaning of the terms "ordinary skill" and "person having ordinary skill" and the impact of *KSR* on those meanings follows.

A. *Obviousness Enters the American Patent System as "Invention"*

Jefferson's misgivings that the grant of patents had become "too automatic" did not lead to a systemic change for the first 40 years of the American patent system. Despite the fact that the 1793 Patent Act authorized courts to test and adjudge the validity of patents, there was no appreciable effort in this regard. Even after the restoration of examination procedures in 1836, examination was limited to pure questions of novelty

¹⁰⁷ See *Saunders Group, Inc. v. Comfortrac, Inc.*, 492 F.3d 1326, 1335 (Fed. Cir. 2007) (citing *Liebel-Flarsheim v. Medrad, Inc.*, 358 F.3d 898, 911 (Fed. Cir. 2004) (*Liebel-Flarsheim I*) and *Phillips v. AWH Corp.*, 415 F.3d 1303, 1326 (Fed. Cir. 2005) (en banc)).

¹⁰⁸ See *Phillips*, 415 F.3d at 1326-27 (quoting *Liebel-Flarsheim I*, 358 F.3d at 908).

¹⁰⁹ See *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc).

¹¹⁰ See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739, 1741 (2007).

and utility.¹¹¹ There is no indication, moreover, that Jefferson's careful rules regarding applications of old materials to new applications were being heeded.

The subject matter at issue in *Hotchkiss* indicates that, under the revived examination system, patents were being granted for applications that Jefferson would have deemed "frivolous." The patent at issue in *Hotchkiss* was granted in 1841, a full five years after the restoration of examination.¹¹² On its face, the patent asserted that an "improvement in making door and other knobs, of all kinds of clay used in pottery, and of porcelain" had been invented.¹¹³ However, upon a subsequent trial it became apparent that the "improvement" consisted of adapting potter's clay – a well known substance which could and had been shaped into knobs – to replace wood or metal in knobs of a particular, known design.¹¹⁴ Based on that evidence, the trial court instructed the jury that if the asserted invention amounted to a substitution of one known material for another, with "no more ingenuity or skill required to construct the knob in this way than that possessed by an ordinary mechanic acquainted with the business, the patent was invalid" and the jury should find for the defendants.¹¹⁵ The plaintiffs appealed from the resulting verdict claiming error in the jury instruction.¹¹⁶

Before the Court, both sides turned to English precedent and hornbooks more than direct American precedent. The plaintiffs put great weight on cases suggesting that manufacturing items from one material over another could create a patentable distinction.¹¹⁷ While acknowledging that the principle of obviousness had been used to bar certain improvement patents in English practice, the plaintiffs sought to minimize the doctrine.¹¹⁸ The defendants' arguments noted the problem of not requiring some greater level of invention, such as never ending patents for each known material applied to a known product.¹¹⁹ Notably, however, neither side cited the writings of Jefferson on the unavailability of patents for new uses of old materials.

In weighing these arguments, the Court ultimately sided with the defendants.¹²⁰ The majority noted that this was not a situation where a new material had been created, or

¹¹¹ The Story of the U.S. Patent and Trademark Office, *supra* note 36, at 6.

¹¹² *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 249 (1850).

¹¹³ *Id.* at 248-49.

¹¹⁴ *Id.* at 265.

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ *See Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 255-56 (1850).

¹¹⁸ *See id.* at 257.

¹¹⁹ *Id.* at 257, 259-60.

¹²⁰ *Id.* at 267.

even where it had been adapted for the first time to a particular use.¹²¹ The Court suggested that if the patentees could have shown any part of the claimed combination was novel, down to making a knob from potter's clay, a patent may have been available for the resulting "new composition of matter."¹²² Lacking any such evidence, the Court found that any reduction in costs or other manufacturing advantages were insufficient, as it at most showed "judgment and skill" in selecting materials, not invention.¹²³ As a result, there was no error in the instructions,

for unless more ingenuity and skill in applying the old method of fastening the shank and the knob were required in the application of it to the clay or porcelain knob than were possessed by an ordinary mechanic acquainted with the business, *there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention*. In other words, the improvement is the work of the *skilful [sic] mechanic*, not that of the *inventor*.¹²⁴

Like the parties, the Court was apparently unaware of Jefferson's simple rule on the use of old materials, or chose to ignore it. While the ultimate conclusion on this particular case was the same as Jefferson's view, it might have saved countless time and effort if the Court had simply applied such a rule, confined to the narrow issue of adapting known materials to new uses. Instead, the *Hotchkiss* Court ushered in what would ultimately become known as obviousness onto the American legal scene, and set the stage for a century of frustration and inconsistency as courts grappled with the problem of separating mere mechanics from inventors.

B. Requiring "Invention" Leads to Uncertainty, Frustration, and Flashes of Insight

As *Hotchkiss* suggested, determining whether a patent reflected merely mechanical skill or true invention is a fact-intensive analysis.¹²⁵ This, in turn, led to a period of uncertainty over both how to conduct this analysis and whether it was even appropriate to review patents on this basis, as it was a challenge to the findings of the Commissioner of Patents in awarding the grant in the first instance.¹²⁶ Having decided that reviewing the inventive nature of patents was within the purview of courts, cases diverged on how to assess invention. Some nineteenth century case law essentially

¹²¹ *Id.* at 265.

¹²² *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 265 (1850).

¹²³ *Id.* at 266.

¹²⁴ *Id.* at 267 (emphasis added).

¹²⁵ *See id.* at 265-67.

¹²⁶ *See Reckendorfer v. Faber*, 92 U.S. 347, 350-55 (1875).

rejected an all inclusive examination in favor of a bright line threshold for invention divorced from consideration of the marketplace impact of the purported invention, particularly in the case of combinations of known elements.¹²⁷ Other cases, while recognizing the difficulties of the process envisioned by *Hotchkiss*, nonetheless embraced that complexity and suggested a fair degree of generosity in finding invention where market success was shown.¹²⁸

Over twenty years after *Hotchkiss*, a facial challenge was made to the entire process of court review for inventiveness.¹²⁹ In *Reckendorfer*, the holder of an improvement patent on combining an eraser tip with a lead pencil challenged the ability of the Court, in this regard, by arguing that the Commissioner of Patent's ruling was determinative.¹³⁰ The Court reviewed a series of cases, including *Hotchkiss* and its progeny, and concluded that it was apparent the Court had the same right to review conclusions as to usefulness and invention as it did over novelty.¹³¹

Having confirmed its jurisdiction, the court announced a litmus test that would have to be met for any object that combined old structures. The classic design of a lead pencil tipped with a small amount of eraser is well-known to anyone acquainted with standardized testing. The convenience of having a portable, compact device that meets the needs of two tools and ensures that both of these key tools are at hand together was

¹²⁷ See, e.g., *id.* at 355-57 (holding that the combination of a piece of rubber applied to one end of a lead pencil is not patentable, as a combination must produce a different result by its union, notwithstanding any market success demonstrated by the erasure-tipped pencil).

¹²⁸ See, e.g., *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486, 495-96 (1876) ("We do not say the single fact that a device has gone into general use, and has displaced other devices which had previously been employed for analogous uses, establishes in all cases that the later device involves a patentable invention. It may, however, always be considered; and, when the other facts in the case leave the question in doubt, it is sufficient to turn the scale."); see also *Krementz v. S. Cottle Co.*, 148 U.S. 556, 560-61 (1893) ("[W]hen the other facts in the case leave the question of invention in doubt, the fact that the device has gone into general use, and has displaced other devices which had previously been employed for analogous uses, is sufficient to turn the scale in favor of the existence of invention.") (internal citations omitted).

¹²⁹ *Reckendorfer*, 92 U.S. at 350.

¹³⁰ The patentee admitted that the Commissioner's word was not final on novelty or the actual fact of inventorship, presumably because new art could be introduced in a later case. *Id.* at 351. The argument on appeal was couched in terms of not overruling or usurping the Commissioner's judgment as to whether the device is sufficiently useful and important to justify a patent. *Id.* at 351-52. While going too far in saying this judgment is absolute, the argument does foreshadow the creation of a statutory presumption of validity, the requirement of proof by clear and convincing evidence to invalidate a patent, and the heightened deference afforded when the only art forming the basis of a challenge has already been considered and rejected by a patent examiner. See 35 U.S.C. §282 (2006); *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359-60 (Fed. Cir. 1984).

¹³¹ *Reckendorfer*, 92 U.S. at 353-55.

insufficient, in the Court's estimation, to constitute an invention.¹³² Rather, the majority saw it as merely an "an aggregation of separate elements," with no "new result produced by their union."¹³³ The opinion argued that allowing patentability of this device would also require grants any time two somewhat related items, such as a hoe and a rake, or a pen and a pencil, were located at opposite ends of a common axis.¹³⁴ Rather than analyze whether the value of this particular combination perhaps merited protection owing to its acceptance and market impact, the majority held that such devices could never be patented, as "[p]erfection of workmanship, however much it may increase the convenience, extend the use, or diminish expense, is not patentable."¹³⁵ Rather, "[t]he combination, to be patentable, must produce a different force or effect, or result in the combined forces or processes, from that given by their separate parts."¹³⁶

Not every contemporary case seemed to endorse such bright lines, though. In *Goodyear Dental*,¹³⁷ the Court again confronted the question of whether a combination of known elements – the use of vulcanized rubber¹³⁸ as a molded base for artificial teeth – was sufficiently inventive to support a patent. In that case, the Court reached the opposite holding of *Reckendorfer*, finding that there was in fact an invention present.¹³⁹ It also explicitly limited *Hotchkiss* to a rule "that employing one known material in place of another is not invention, if the result be only greater cheapness and durability of the

¹³² *Reckendorfer v. Faber*, 92 U.S. 347, 358 (1875).

¹³³ *Id.* at 357.

¹³⁴ *Id.* at 356.

¹³⁵ *Id.* at 356-57.

¹³⁶ *Id.* at 357. In setting forth this requirement, the *Reckendorfer* Court presaged the "synergy" requirement discussed in *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 60-61 (1969) and re-emphasized in *KSR*. See *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007). Indeed, in the description of *Anderson's-Black Rock* and quotes from the same in *KSR*, one could substitute the terms "pencil" and "eraser" for "radiant-heat burner" and "paving machine" and be describing *Reckendorfer*. See *KSR*, 127 S. Ct. at 1740; cf. *Reckendorfer*, 92 U.S. at 356-58. Unlike its modern counterparts, *Reckendorfer* at least provided a litany of examples of joint action which suggested the requirement, while creating a threshold for invention, would not deny patent protection so long as "parts co-operate in producing the final effect, sometimes simultaneously, sometimes successively." *Reckendorfer*, 92 U.S. at 357. Whether *KSR's* resurrection of "synergy" will be so benign is perhaps more debatable, but at least one commentator suggested as much about the true nature of *Anderson's-Black Rock* while *KSR* was pending before the Court. See S. Jafar Ali, Note, *You Suggest What?: How KSR Returned Bite to Obviousness*, 16 Fed. Cir. B. J. 247, 265-66 (2006).

¹³⁷ *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486 (1876).

¹³⁸ A compound which is actually cited in *Reckendorfer* as an example of a patentable, jointly acting combination. *Reckendorfer v. Faber*, 92 U.S. 347, 357 (1875).

¹³⁹ *Goodyear Dental*, 93 U.S. at 494-96.

product.”¹⁴⁰ By comparison, the Court here found a new composition, to use the language of *Reckendorfer*, in the combination of the plate and teeth.¹⁴¹

The analysis of *Goodyear Dental* was multi-faceted. The conclusion of patentability was partially driven by the view that vulcanized rubber created superior molding and fitting than prior base materials.¹⁴² At least as significant to the Court’s holding, however, were considerations that *Graham* chose to label (or mislabel) “secondary”:¹⁴³ long felt need, commercial success, and industry acceptance.¹⁴⁴ As the Court put it:

We do not say the single fact that a device has gone into general use, and has displaced other devices which had previously been employed for analogous uses, establishes in all cases that the later device involves a patentable invention. It may, however, always be considered; and, when the other facts in the case leave the question in doubt, it is sufficient to turn the scale.¹⁴⁵

The Supreme Court embraced a similarly broad approach in the *Krementz* decision.¹⁴⁶ The patent at issue referred to making buttons from a single piece of metal, alleged to be an improvement over soldered two piece buttons.¹⁴⁷ Initially, the Court noted the difficulties of their task:

It is not easy to draw the line that separates the ordinary skill of a mechanic, versed in his art, from the exercise of patentable invention, and the difficulty is specially great in the mechanic arts, where the successive

¹⁴⁰ *Id.* at 496.

¹⁴¹ *Id.* at 492-93.

¹⁴² *Id.* at 494.

¹⁴³ *Graham v. John Deere of Kan. City*, 383 U.S. 1, 17-18 (1966). Specifically, *Graham* found that such considerations are useful to inform the background of the invention, can help guard against hindsight, and “may have relevancy” as “indicia of obviousness or nonobviousness.” *Id.* at 18, 35-36.

¹⁴⁴ *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486, 495-96 (1876).

¹⁴⁵ *Id.* Intriguingly, *Graham* did not cite or discuss *Goodyear Dental*, despite its central holding that the enactment of § 103 in the 1952 Patent Act’s “was intended merely as a codification of judicial precedents embracing the Hotchkiss condition, with congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability.” *Graham*, 383 U.S. at 17.

¹⁴⁶ *Krementz v. S. Cottle Co.*, 148 U.S. 556 (1893).

¹⁴⁷ *Id.* at 557-58.

steps in improvements are numerous, and where the changes and modifications are introduced by practical mechanics.¹⁴⁸

The Court then analyzed the patented device both for direct and indirect evidence of invention. As to the former, it found there was a measure of advantage in eliminating the need for soldering and thus the resulting weak spots in the prior art, thus meeting the only ‘test’ suggested by *Reckendorfer*.¹⁴⁹ Instead of stopping there, though, the Court went on to analyze the failure of others in the field (including the accused infringer) to achieve the use of a single piece design before the patent’s grant and the commercial success of the new buttons.¹⁵⁰ As in *Goodyear Dental*, these latter indicia were the focus of much of the analysis and suggested that these types of evidence were critical to a full understanding of whether a patent reflected an “invention.”¹⁵¹ Thus, from some of the earliest cases, there were divergent tests and standards for “inventiveness” that in some form or another have plagued this aspect of the law to the current day.

The subsequent decades did reflect one sort of progress, as the “invention” analysis began to be placed in a common context. The Supreme Court eventually settled on analyzing the question in terms of what would be “obvious” to a person of “ordinary skill.”¹⁵² The “ordinary skill” standard should have brought some clarity, as courts used it both in other patent issues and in non-patent cases.¹⁵³ Similarly, patent applications began to be rejected as obvious,¹⁵⁴ despite the lack of clear statutory authority to cite this as an official basis for rejection.¹⁵⁵

In terms of substance, though, the case law continued to be muddled and highly subjective. The Court actually embraced this subjectivity, stating that it was essentially impossible to define the term “invention” in a way that would help create a standard for

¹⁴⁸ *Id.* at 559.

¹⁴⁹ *Id.* at 560.

¹⁵⁰ *Id.* at 560-61.

¹⁵¹ *Id.*

¹⁵² *Mosler Safe & Lock Co. v. Mosler, Bahmann & Co.*, 127 U.S. 354, 360 (1888).

¹⁵³ See *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 176 (1852) (using “ordinary skill” as standard for evaluating enablement); cf. *Smith v. Condry*, 42 U.S. (1 How.) 28, 36 (1843) (using “ordinary skill” as part of the standard for determining liability in a maritime accident case).

¹⁵⁴ See *Watson v. Cincinnati, I., St. L & C Ry. Co.*, 132 U.S. 161, 163 (1889) (noting that application for patent in suit had initially been rejected as obvious).

¹⁵⁵ See Gustavus A. Weber, *The Patent Office: Its History, Activities and Organization* 35-38 (Serv. Monographs of the U.S. Gov’t. No. 31, 1924) (describing examination bases and procedure without explicit discussion of obviousness).

analysis.¹⁵⁶ Rather than any sort of clarity, time added layer upon layer of “tests” and indicators of inventiveness, each with exceptions and counter-rules.¹⁵⁷ To contemporary practitioners, such as Judge Rich, it appeared that judges and other decision makers were essentially determining the outcome then choosing from the menu of available tests and indicators to justify the result.¹⁵⁸

This seemingly untenable situation began to reach critical mass in 1941. In that year, the Court declared the patent for a soon to be ubiquitous device – the automatic pop-up cigarette lighter for automobiles – invalid for want of invention.¹⁵⁹ In some ways, the invention was like those discussed at length in *Reckendorfer* – a combination of two known systems (a wireless lighter and a thermostatic control) where both work together to create a new result (a lighter which indicates automatically when it is ready).¹⁶⁰ Despite acknowledging the novelty of the result, however, the Court still rejected the patent for failing to demonstrate more than “skill.”¹⁶¹ Whether out of spite,¹⁶² inadvertence,¹⁶³ or reasons known only to itself, the Court instead announced that to be patentable, “the new device, however useful it may be, must reveal the *flash of creative genius* not merely the skill of the calling.”¹⁶⁴

¹⁵⁶ See *McClain v. Ortmayer*, 141 U.S. 419, 427 (1891); see also Giles Rich, *Why & How Section 103 Came to Be*, 14 Fed. Cir. B.J. 181, 187 (2004) (paper originally prepared for delivery at Bureau of National Affairs conference commemorating the 25th anniversary of 35 U.S.C. § 103 (September 1977) and published in *Nonobviousness--the Ultimate Condition of Patentability*, 1:201-1:213 (John F. Witherspoon ed., The Bureau of Nat'l Affairs, Inc. 1980)) (quoting *McClain* as part of his critique of the “invention” test).

¹⁵⁷ Rich, *supra* note 155, at 187-88.

¹⁵⁸ *Id.* at 187.

¹⁵⁹ *Cuno Eng'g Corp. v. Automatic Dev. Corp.*, 314 U.S. 84, 89-91 (1941).

¹⁶⁰ *Id.* at 89-90; cf. *Reckendorfer v. Faber*, 92 U.S. 347, 357 (1875) (describing such items as combination of india rubber and sulfur to make vulcanized rubber, combination of advancing frame and saw producing joint action in saw mill, and “stemwinding watch-key” as demonstrating joint action and hence inventiveness).

¹⁶¹ *Cuno*, 314 U.S. at 90-91.

¹⁶² See Rich, *supra* note 155, at 186 (suggesting that the unreasonable position of the patentee’s attorney that there were no requirements beyond utility and novelty – again, shades of *Reckendorfer* – led to the controversial “flash of genius” comment).

¹⁶³ See *Graham v. John Deere of Kan. City*, 383 U.S. 1, 15 & n.7 (1966) (asserting that use of the phrase “flash of genius,” rather than demonstrating a new, more restrictive standard, “was but a rhetorical embellishment of language going back to 1833”).

¹⁶⁴ *Cuno*, 314 U.S. at 91 (emphasis added).

This holding led to an increase of articles suggesting the *Cuno* case was beyond the pale.¹⁶⁵ Coupled with an underlying sense of antagonism towards patents based in part on the wave of cases finding a lack of “invention,” this decision is credited as beginning a groundswell towards patent reform.¹⁶⁶ Furthering this movement was the 1948 report of the National Patent Planning Commission (coincidentally created by the Roosevelt administration in 1941), which criticized a number of areas of patent law, but was particularly hard on the confusing and seemingly endlessly shifting requirement of “invention.”¹⁶⁷ This prompted Congress to begin to take actions that ultimately resulted in the 1952 Patent Act, and specifically the creation of a formal enshrinement of “non-obviousness,” rather than “invention,” as a requirement of patentability.¹⁶⁸ Before any legislation was passed, though, the ridiculous nature of the “invention test” was enough to drive no less a legal authority than Learned Hand to despair. His contention was aimed at being unable to meaningfully determine the line between skill and invention, stating “[t]hat issue is as fugitive, impalpable, wayward, and vague a phantom as exits in the whole paraphernalia of legal concepts.”¹⁶⁹ Thus, the stage was set for an attempt at sorting out this material and attempting to bring a more orderly system for analyzing patentability.

C. The Codification of Obviousness Rejects Flashes and Embraces the “Person of Ordinary Skill” – but “Invention” Lingers

According to Judge Rich, the lion’s share of credit for crafting the original § 103, now § 103(a), belongs to P.J. Federico, the former Chief Patent Examiner at the United States Patent and Trademark Office (“PTO”) (although Judge Rich was willing to give himself the second most important role in the process).¹⁷⁰ This new law fulfilled at least three distinct purposes: 1) it avoided any confusion lingering about ‘flashes of genius’ by

¹⁶⁵ See *Graham*, 383 U.S. at 15 n.7; Rich, *supra* note 155, at 186 (“As usual, the patent bar overreacted with a flood of articles condemning the new ‘flash of genius’ requirement, which it assumed to be a more stringent test than mere ‘invention.’”).

¹⁶⁶ Rich, *supra* note 155, at 186. For an illustration of the sense of pessimism about patent law, see also *Jungerson v. Ostby & Barton Co.*, 335 U.S. 560, 571-72 (1949) (Jackson, J., dissenting) (noting that while patents had surely been granted improperly, “I doubt that the remedy for such Patent Office passion for granting patents is an equally strong passion in this Court for striking them down so that the only patent that is valid is one which this Court has not been able to get its hands on”).

¹⁶⁷ Rich, *supra* note 155, at 186-87.

¹⁶⁸ See *id.* at 188-90.

¹⁶⁹ *Harries v. Air King Prods. Co.*, 183 F.2d 158, 162 (1950); Rich, *supra* note 155, at 186 (quoting *Harries*).

¹⁷⁰ Rich, *supra* note 155, at 181.

stating that “[p]atentability shall not be negated by the manner in which the invention was made”; 2) it dropped any reference to invention, framing the question solely in terms of “obviousness”; and 3) most significantly to this Article, it enshrined in statute the use of “a person having ordinary skill in the art” as the proper frame of reference for analyzing obviousness.¹⁷¹

Despite the goals of the authors, the passage of § 103 did not eliminate the use of the term “invention” in patent cases.¹⁷² Rather, until *Graham*, debate raged as to whether § 103 simply reflected the same “invention” standard,¹⁷³ a substantially similar standard to that of “invention” but without the subjectivity of the prior law (Judge Rich’s own stated goal),¹⁷⁴ or something less than the old *Hotchkiss* standard.¹⁷⁵ In part, this confusion can be attributed to the official Committee Notes, which explicitly stated that “it is immaterial whether it [the invention] resulted from long toil and experimentation or from a flash of genius” and put to rest the uproar over *Cuno*, but lacked clarity on the goal of the rest of the provision.¹⁷⁶ The drafters opened themselves up to the charge that no change was intended by alluding to the long history of holding patents invalid for lack of invention and stating that “[t]his paragraph 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,”¹⁷⁷ This was probably exacerbated by Judge Rich’s public remarks in which the test was still referred to as one of “invention.”¹⁷⁸

During the next fourteen years, the circuit courts split over what the statute meant. The Third Circuit, acknowledging the concerns Judge Hand had in prior cases, took the passage of § 103 as an opportunity to reflect and seek to minimize any subjectivity or

¹⁷¹ 35 U.S.C. § 103(a) (2006).

¹⁷² Rich, *supra* note 155, at 188-91.

¹⁷³ See *Wasserman v. Burgess & Blacher Co.*, 217 F.2d 402, 403-04 (1st Cir. 1954) (labeling § 103 a “codification” and explicitly invoking prior “invention” case law); see also *Gen. Motors Corp. v. Estate Stove Co.*, 203 F.2d 912, 914-15 (6th Cir. 1953) (flatly rejecting any concept of change or modification to prior law).

¹⁷⁴ Rich, *supra* note 155, at 188-90; see also *R.M. Palmer Co. v. Luden’s, Inc.*, 236 F.2d 496, 499-500 (3d Cir. 1956) (labeling § 103 a codification, but at the same time recognizing an attempt at stabilizing the law and trying to minimize prior subjectivity and prejudice against patents).

¹⁷⁵ See *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 16 (1966) (“It is contended, however, by some of the parties and by several of the *amici* that the first sentence of § 103 was intended to sweep away judicial precedents and to lower the level of patentability.”).

¹⁷⁶ 35 U.S.C.A. § 103 (2000) (1952 Revision Notes).

¹⁷⁷ *Id.*

¹⁷⁸ Rich, *supra* note 155, at 191.

anti-patent sentiment in their judgments.¹⁷⁹ For his own part, Judge Hand considered the section a restoration of the *Hotchkiss* principle, which he noted had never been abjured but had essentially received only lip service from judges who would then invalidate patents on any conceivable basis.¹⁸⁰ The First Circuit, reflecting what it saw as the general authority, persisted in using the very same “invention” standard and refused to use the statutory term of “obviousness.”¹⁸¹ The Sixth Circuit, while not quite as explicit, showed its skepticism of the value of the provision by insisting it altered nothing and referring to it as “so-called ‘obviousness.’”¹⁸² Perhaps with a slightly hyperbolic note, Judge Rich described the early years of the provision thusly:

This child of unknown parentage but many ancestors, was rejected, in its early days, by court after court with a passion akin to old-fashioned abhorrence of illegitimacy, especially of infants not of their own creation, and, with rather poor prospects of survival, was taken in and nourished by a kindly CCPA.¹⁸³

As late as 1966, the true effect of §103 was still unclear. Finally, the Supreme Court was forced to undertake a comprehensive review.¹⁸⁴ Whereas *Graham* is generally cited today for its framework for assessing obviousness,¹⁸⁵ the scope of the Court’s analysis was truly sweeping. The Court chose to begin with the Congressional grant of patent power in the Constitution.¹⁸⁶ It noted the intent of the section was to avoid granting undue monopolies as had occurred in English practice.¹⁸⁷ As the Court found, this concern resulted in the limits that Congress could grant patents only in reward of “[i]nnovation, advancement, and things which add to the sum of useful knowledge” that

¹⁷⁹ *R.M. Palmer Co.*, 236 F.2d at 499-500.

¹⁸⁰ *Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530, 536-37 (2d Cir. 1955).

¹⁸¹ *Wasserman v. Burgess & Blacher Co.*, 217 F.2d 402, 403-04 (1st Cir. 1954).

¹⁸² *Gen. Motors Corp. v. Estate Stove Co.*, 203 F.2d 912, 915 (6th Cir. 1953).

¹⁸³ Rich, *supra* note 155, at 182.

¹⁸⁴ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 3 (1966).

¹⁸⁵ *Id.* at 17-18 (“Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. . . . 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.”).

¹⁸⁶ *Id.* at 5.

¹⁸⁷ *Id.*

did not “remove existent knowledge from the public domain, or to restrict free access to materials already available.”¹⁸⁸

The Court also reviewed the history of patent developments in the United States at some length. It presented both the official statements of Jefferson and his later thoughts on the patent system, including his rules for assessing what inventions merited protection.¹⁸⁹ It then turned its attention to *Hotchkiss*.¹⁹⁰ The Court found that in essence *Hotchkiss* created a functional approach of comparing the subject matter that was patented (or sought to be patented in the case of applications) with the background skill in the art to determine if the subject matter is worthy of patent protection – that is, whether it was inventive in the Constitutionally authorized sense.¹⁹¹

Having thus set the framework for examining the (relatively) new law, the Court made a detailed analysis of § 103. Examining the structure and entire legislative history of the statutory provision, the court stated:

that the revision was not intended by Congress to change the general level of patentable invention. We conclude that the section was intended merely as a codification of judicial precedents embracing the *Hotchkiss* condition, with congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability.¹⁹²

Despite this holding that § 103 did not change the general standard for patentability, *Graham* sought to close the door on the varied and confusing “invention” formulations. The Court found that “the § 103 additional condition, when followed realistically, will permit a more practical test of patentability. The emphasis on non-obviousness is one of inquiry, not quality, and, as such, comports with the constitutional strictures.”¹⁹³ In other words, the PTO and courts were still tasked with determining if a patent (or application) reflected inventive effort, but with a less cumbersome and subjective analytical framework. Thus, as Judge Rich put it, “[a]t the tender age of 14 [nonobviousness] was adopted by a kindly Supreme Court.”¹⁹⁴

Despite this seemingly clear statement, doubt still seemed to exist as to the shift away from “invention” as the framework of legal analysis. As Rich noted in 1977, casebooks still spoke in terms of this discarded standard, with all of its conflicted

¹⁸⁸ *Id.* at 6.

¹⁸⁹ *Id.* at 7-11.

¹⁹⁰ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 11-12 (1966).

¹⁹¹ *Id.*

¹⁹² *Id.* at 17.

¹⁹³ *Id.*

¹⁹⁴ Rich, *supra* note 155, at 182.

statements, rather than the statutory term of nonobviousness.¹⁹⁵ As noted, the Court's post-*Graham* cases could be seen as trying to turn back to earlier "invention" standards as well, albeit using the term "synergy" for the test.¹⁹⁶ Judge Rich, for his part, had a fairly wry take on this development. Continuing his analogy of § 103 as a parentless child, he described these cases thusly:

A few years later, upon discovering that it was a bastard, the Court decided it would at least have to change the name of the child, if it was to stay in the family, from unobviousness to synergism, thus covering up its natural origins with a pretense of legitimacy. (I wonder if there is a Freudian connection between sin and synergism.) But this nonsense has afflicted the child with schizophrenia.¹⁹⁷

Given Judge Rich's view of synergy's value (or lack thereof) it should not be a surprise that he and the other early members of the Federal Circuit chose not to embrace the "synergy" line of cases. Rather, the focus was on two guiding principles. The bedrock was *Graham*, albeit with greater value given to "secondary considerations" of non-obviousness.¹⁹⁸ The framework erected on *Graham*, though, was the CCPA precedent of requiring some teaching, suggestion, motivation, or other basis to combine references so as to further ensure a systematic, non-hindsight driven analysis of obviousness.¹⁹⁹

The impact of *KSR*'s rejection of this second part of the Federal Circuit's fundamental jurisprudence, at least as an absolute requirement, has yet to be truly assessed. On the one hand, when coupled with the suggestion that any analysis of a combination should be made explicit and cannot be hindsight driven, *KSR* may ultimately have little effect.²⁰⁰ It may be nothing more than a simple clarification that this fact-

¹⁹⁵ *Id.* at 181, 192.

¹⁹⁶ See *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007); *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 60-62 (1969); *Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486, 494 (1876).

¹⁹⁷ Rich, *supra* note 155, at 183.

¹⁹⁸ See *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535-39 (Fed. Cir. 1983). As to the issue of "secondary considerations," the Federal Circuit stated "[i]t is jurisprudentially inappropriate to disregard any relevant evidence on any issue in any case, patent cases included. Thus evidence rising out of the so-called 'secondary considerations' must always when present be considered en route to a determination of obviousness. Indeed, evidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decisionmaker remains in doubt after reviewing the art." *Id.* at 1538-39 (citations omitted).

¹⁹⁹ See *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323-24 (Fed. Cir. 1999); *Lindemann Maschinenfabrik GmbH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1462 (Fed. Cir. 1984).

²⁰⁰ See *supra* note 16.

intensive field sometimes requires a more flexible approach to avoid what are seen as improper results.²⁰¹ On the other hand, coupled with a resurrection of synergy and the overall tenor of recent Court cases²⁰² and the tenor of certain Court comments about the nature of the patent bar and patent office,²⁰³ patent practitioners can be forgiven for

²⁰¹ *Id.*

²⁰² *See supra* Part II.D.

²⁰³ The following exchanges from two recent cases are enlightening. First, on the subject of the patent bar, consider this exchange from *KSR*:

JUSTICE SCALIA: It is -- I agree with the Chief Justice. It is misleading to say that the whole world is embraced within these three nouns, teaching, suggestion, or motivation, and then you define teaching, suggestion, or motivation to mean anything that renders it nonobvious. This is gobbledygook. It really is, it's irrational.

MR. GOLDSTEIN: Justice Scalia, I this [sic] it would be surprising for this experienced Court and all of the patent bar -- remember, every single major patent bar association in the country has filed on our side --

CHIEF JUSTICE ROBERTS: Well, which way does that cut? That just indicates that this is profitable for the patent bar.

(Laughter.)

MR. GOLDSTEIN: Mr. Chief Justice, it turns out that actually is not accurate.

JUSTICE SCALIA: It produces more patents, which is what the patent bar gets paid for, to acquire patents, not to get patent applications denied but to get them granted. And the more you narrow the obviousness standard to these three imponderable nouns, the more likely it is that the patent will be granted.

Transcript of Oral Argument, at 41-42, *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) (No. 04-1350) ("*KSR Trans.*"), 2006 WL 3422210.

As to the nature and competency of the Patent and Trademark Office, consider the following from *Quanta Computer, Inc.* in debating an issue related to the exhaustion doctrine:

MR. PHILLIPS: Well, I think that clearly understates the role of the PTO in granting a separate patent. I mean, this is not -- these are not things you pick up at the corner drugstore. You have to justify them. And if you look at Section 282, "a patent shall be presumed valid," each claim shall be presumed valid independently of the validity of other claims. And there's an independence that's embedded in this entire scheme. If it's true that the PTO has in fact granted patent rights on something that's fundamentally not different from the other -- from some other patent, the solution to that is a validity challenge. And candidly, I think that's exactly what all of those arguments are --

CHIEF JUSTICE ROBERTS: Well, then --

thinking *KSR* may have a substantial, negative impact on patent practice. Specifically, one must wonder how the current state of affairs serves to foster the legal stability and patent value sought with the passage of § 103 and the creation of the Federal Circuit.²⁰⁴

IV. WHAT DOES “PERSON HAVING ORDINARY SKILL IN THE ART” MEAN?

As noted above, the concept of a person or mechanic of “ordinary skill” had a long history as a legal standard before the adoption of § 103.²⁰⁵ The use of the particular phrase “person having ordinary skill in the art” in the section was, according to Judge Rich, largely the idea of Federico, and had no single source.²⁰⁶ Despite this lengthy history and its centrality to § 103, there is a sparse record of attempts at defining either “ordinary skill” or the phrase “person having ordinary skill” in any context. There appears to be no direct Supreme Court precedent on the issue of just what constitutes a “person having ordinary skill.” For example, no precedent was cited in support of *KSR*’s conclusion that such persons are necessarily endowed with creativity, originality in problem solving, and the ability to combine the prior art like jigsaw puzzles.²⁰⁷

This section will attempt to fill that gap in legal scholarship. First, there is a review of the limited discussion in the case law about this aspect of a § 103 analysis, although most do not actually address the meaning of “ordinary skill” or “person having ordinary skill.” Next, standard rules of statutory interpretation are applied to try and discern what “person having ordinary skill” is meant to convey at its root. Finally, the definition arising from this analysis is compared with the Court’s statements in *KSR* to determine what support, if any, they have.

MR. PHILLIPS: -- is patent validity challenges.

CHIEF JUSTICE ROBERTS: That argument didn't prevail last year in the *KSR* case, right? I mean, we're -- we've had experience with the Patent Office where it tends to grant patents a lot more liberally than we would enforce under the patent law.

Transcript of Oral Argument at 48-49, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008) (No. 06-937), 2008 WL 143658.

²⁰⁴ See *supra* Parts II.D, III.C.

²⁰⁵ See *supra* notes 156-58.

²⁰⁶ See Rich, *supra* note 155, at 190 (quoting P.J. Federico, *The Origins of Section 103*, 5 APLA Q.J. 87 (1977)).

²⁰⁷ See *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-42 (2007).

A. Legal Constructions of the “Person Having Ordinary Skill” and “Ordinary” – a Hodgepodge of Minimal Explanation

Patent law is replete with attempts at construing terms and phrases. In the context of claim construction, there is no term too mundane to avoid intense analysis. Such terms as “about,”²⁰⁸ “permanently,”²⁰⁹ “baffles”²¹⁰ and “inventory”²¹¹ have been at the heart of disputes. And yet, there has been no systematic attempt to construe the phrase “person of ordinary skill” as used in § 103. The Supreme Court has provided little meaningful interpretation, beyond a direction to assess “ordinary skill.”²¹² Courts of appeals, including the Federal Circuit, have similarly failed to interpret these terms in a systematic way. Instead, there are a handful of accepted axioms and metaphors, almost all of which fail to explain what “ordinary skill” truly is or who possesses it.

Graham, for all of its vital importance as an interpretation of § 103, teaches almost nothing about the legal meaning of the component parts of the statute. Rather, the vast majority of the case is concerned with placing the section in the evolution of the patent system.²¹³ As to the component parts of the statute itself, the decision simply provides a roadmap for an obviousness analysis, rather than any interpretation of the terms involved.²¹⁴ Hence, the only statement relating to a “person having ordinary skill in the art” is that “the level of ordinary skill in the pertinent art [must be] resolved.”²¹⁵ While instructive on the need to make an assessment, it lends no insight as to what “ordinary skill” really is, much less what constitutes a “person having ordinary skill in the art.”

The one other insight stated in passing by *Graham* was the substitution of “reasonably skilled” for the phrase “ordinary skill” in the last sentence of the substantive

²⁰⁸ *Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1369-72 (Fed. Cir. 2005).

²⁰⁹ *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1363-66 (Fed. Cir. 1999).

²¹⁰ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324-28 (Fed. Cir. 2005) (en banc).

²¹¹ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 972-74 (Fed. Cir. 1995) (en banc) (*Markman I*), *aff'd on other grounds*, 517 U.S. 370 (1996).

²¹² *See Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966).

²¹³ *See id.* at 7-12.

²¹⁴ *Id.* at 17.

²¹⁵ *Id.* Courts have duly undertaken to create a list of factors to consider when analyzing the level of ordinary skill. *See, e.g., Env'tl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696 (Fed. Cir. 1983) (listing factors such as the education level of the inventor and of others working in the field, problems found in the art, prior art solutions to these problems, the rate of innovation, and the nature of the technology).

discussion.²¹⁶ This language, which may have simply been a rhetorical choice to avoid the inelegance of incorporating the phrase “person having ordinary skill in the art” into the passage, is used repeatedly in the *Dann*²¹⁷ case, which is one of only three Supreme Court cases to address obviousness between *Graham* and *KSR*. Again, the Court provides no discussion of what would amount to a “reasonable” quantum of skill. Rather, the term is used primarily to underscore the point that the “reasonably skilled” artisan, rather than a lay person, is the relevant audience for assessing obviousness.²¹⁸ Hence, *Graham* and *Dann* arguably confuse the issue by substituting the general term “reasonably” for the term “ordinary,” which at least had historical roots in patent law.

On one other point, *Dann* is clear – the “person” referred to is both hypothetical and charged with knowledge of the relevant art.²¹⁹ In this, it echoes the sentiments of Judge Hand as to the only meaningful way to apply § 103:

The test laid down [in § 103] is indeed misty enough. It directs us to surmise what was the range of ingenuity of a person “having ordinary skill” in an “art” with which we are totally unfamiliar; and we do not see how such a standard can be applied at all except by recourse to the earlier work in the art, and to the general history of the means available at the time. To judge on our own that this or that new assemblage of old factors was, or was not, “obvious” is to substitute our ignorance for the acquaintance with the subject of those who were familiar with it.²²⁰

The hypothetical nature of this person and their inquiry had also been emphasized in one of the best known metaphors in patent law. Judge Rich, the co-author of § 103, stated

²¹⁶ *Graham*, 383 U.S. at 37 (“We conclude that the claims in issue in the Scoggin patent must fall . . . since the differences between them and the pertinent prior art would have been obvious to a person reasonably skilled in that art.”).

²¹⁷ *Dann v. Johnston*, 425 U.S. 219, 229-30 (1976). Intriguingly, *Dann* appears to be the only post *Graham* Court precedent on obviousness not cited or discussed in *KSR*.

²¹⁸ *Id.* It took longer for courts to clarify that “ordinary” also had an upper bound – namely, not extraordinary, such as what an inventor may be. See *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1538 (Fed. Cir. 1983) (“As an aid in determining obviousness, that requirement precludes consideration of whether the invention would have been obvious (as a whole and just before it was made) to the rare genius in the art, or to a judge or other layman after learning all about the invention.”).

²¹⁹ *Dann*, 425 U.S. at 229. This knowledge aspect of *Dann* properly originates in the phrase “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious . . .” rather than in the phrase “person having ordinary skill in the art.” 35 U.S.C. § 103(a) (2006). After all, the comparison of subject matter and prior art cannot be from the perspective of a “person having ordinary skill in the art” unless the entire relevant art was available for that hypothetical person to analyze.

²²⁰ *Reiner v. I. Leon Co.*, 289 F.2d 501, 503-04 (2d Cir. 1960).

just months after *Graham* in *Winslow*²²¹ that “[w]e think the proper way to apply the 103 obviousness test to a case like this is to first picture the inventor as working in his shop with the prior art references – which he is presumed to know – hanging on the walls around him.”²²² Judge Rich later clarified that the walls in his metaphor were meant only to contain the relevant art, rather than non-analogous art.²²³ While it still does not directly address what constitutes “ordinary skill,” this has become the pervasive approach for analyzing obviousness.²²⁴

Indirectly, *Winslow* also led to one of the very few significant attempts at explaining what is meant by the term “person having ordinary skill in the art” as a whole. Yet again, the author of this attempt was Judge Rich, this time as a member of the nascent Federal Circuit. In *Standard Oil*,²²⁵ he sought to both minimize the future use of the *Winslow* metaphor and explain the true nature of “ordinary skill.” In the case below, the trial court found a patent invalid after referencing the *Winslow* metaphor (although crediting only a District of Delaware case), but then found the patent invalid based on an analysis of the qualifications and purported knowledge of the actual inventor, rather than a hypothetical person.²²⁶ Judge Rich pointed out that the metaphor was really the creation of the CCPA (albeit without mentioning his own role).²²⁷ He noted that “[i]t has attained an unfortunate popularity with the judiciary,” seeking to clarify that it was the creation of a particular set of circumstances and that other courts should have paid attention to the intervening changes in the views of the Federal Circuit and CCPA.²²⁸

²²¹ *In re Winslow*, 365 F.2d 1017 (C.C.P.A. 1966) (handed down September 22, 1966, whereas *Graham* was announced on February 21st of the same year).

²²² *Id.* at 1020. Intriguingly, while the *Winslow* metaphor was specifically discussed in the oral argument of *KSR*, no reference is made to it in the final decision. See Transcript of Oral Argument at 9, *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007) (No. 04-1350), 2006 WL 3422210 [hereinafter *KSR Oral Arg. Transcript*]; cf. *KSR*, 127 S. Ct. 1727. Its absence may owe to the Court’s perception that this metaphor was intertwined with the concept of requiring a teaching, suggestion, or motivation, although by its terms *Winslow* is not so limited and at least one major textbook labels it as preceding the “modern suggestion test.” See *KSR Oral Arg. Transcript*, *supra* note 221; cf. Robert Patrick Merges & John Fitzgerald Duffy, *Patent Law and Policy: Cases and Materials* 762-63 (3rd ed. 2002).

²²³ *In re Antle*, 444 F.2d 1168, 1171-72 (C.C.P.A. 1971).

²²⁴ See, e.g., *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448 (Fed. Cir. 1986) (finding error in the district court’s reliance on the knowledge and testimony of the inventor, rather than conducting an analysis from the perspective of a hypothetical person).

²²⁵ *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448 (Fed. Cir. 1985).

²²⁶ *Id.* at 454.

²²⁷ *Id.* at 454 n. 3.

²²⁸ *Id.*

Having made his view of the enduring nature of *Winslow* clear, Judge Rich proceeded to point out that the court below erred in straying from the use of a hypothetical person of “ordinary skill.”²²⁹ Consistent with *Dann*, he pointed out the convention that this hypothetical person, and only such a person, was charged with the knowledge of the art.²³⁰ He then proceeded to note the critical distinction between a person of ordinary skill under § 103 and that of an inventor:

The statutory emphasis is on a person of *ordinary* skill. Inventors, as a class, according to the concepts underlying the Constitution and the statutes that have created the patent system, possess something—call it what you will—which sets them apart from the workers of *ordinary* skill, and one should not go about determining obviousness under § 103 by inquiring into what *patentees* (i.e., inventors) would have known or would likely have done, faced with the revelations of references.²³¹

By themselves, this aspect of Judge Rich’s statements have value as a clear recognition that under § 103 there remains a critical distinction between skill and invention that should be central to any understanding of the legal meaning of “ordinary skill.” This should not be controversial – it was the central holding of *Hotchkiss*,²³² retained in § 103 in view of *Graham*.²³³ But Judge Rich went beyond this and added a critical insight into what is “ordinary skill,” namely:

A person of ordinary skill in the art is also presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patient, and often expensive, systematic research or by extraordinary insights, it makes no difference which.²³⁴

Unfortunately for the legal community, *Standard Oil* has not received the attention or acclaim of *Winslow*. The Federal Circuit has only discussed this aspect of *Standard Oil* once, and then it was in an unpublished decision addressing an assertion that it had been

²²⁹ *Id.* at 454.

²³⁰ *Id.*; cf. *Dann v. Johnston*, 425 U.S. 219, 229 (1976) (explaining that obviousness is measured with respect to a hypothetical person “reasonably” skilled in the relevant art).

²³¹ *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

²³² *Hotchkiss v. Greenwood*, 52 U.S. (1 How.) 248, 267 (1851).

²³³ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966).

²³⁴ *Standard Oil*, 774 F.2d at 454.

misapplied to exclude workers in certain categories of technical disciplines from ever being considered “persons of ordinary skill in the art.”²³⁵

Chief Judge Markey made a similar, if less clear, statement in the earlier *W.L. Gore* case.²³⁶ There, Judge Markey stated the burden on a district court conducting an analysis of obviousness:

It is difficult but necessary that the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and *who is normally guided by the then-accepted wisdom in the art.*²³⁷

While *W.L. Gore* has been cited for this proposition more often than the similar statement in *Standard Oil*, it has had a somewhat confusing evolution. On its face it appears to be suggesting, like *Standard Oil*, that a “person having ordinary skill” is generally not innovative, i.e. they are “normally guided by the then accepted wisdom.” In later cases, though, this has been recast as the judge trying “to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field.”²³⁸ This tends to divorce the “accepted wisdom” from being a limitation on the skill and innovative tendencies of the person of “ordinary skill” and rather being an aspect of “prior art” that such a person might consider. Still, this gloss on *W.L. Gore* and the statement in *Standard Oil* are the most comprehensive attempts to construe the phrase “person having ordinary skill in the art” appearing in the case law before *KSR*. This state of affairs both underscores the need for a comprehensive application of normal rules of statutory construction and a meaningful comparison for the results of that analysis.

²³⁵ *Schneider (Eur.) AG v. SciMed Life Sys., Inc.*, Nos. 94-1317, 94-1410, 94-1456, 1995 WL 375949, at *1-2 (Fed. Cir. April 26, 1995).

²³⁶ *W.L. Gore & Assoc., Inc. v. Garlock*, 721 F.2d 1540 (Fed. Cir. 1983).

²³⁷ *Id.* at 1553 (emphasis added).

²³⁸ *In re Kotzab*, 217 F.3d 1365, 1369 (Fed. Cir. 2000) (quoting *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999)).

B. Trying to Find Defensible Meanings for “Ordinary Skill” and “Person Having Ordinary Skill”

A striking feature of the foregoing discussion is the lack of any orderly attempt at statutory construction. First, as the term is not defined in the statute itself,²³⁹ we consult dictionary definitions, including Black’s Law Dictionary, for the phrases “ordinary skill” and “person having ordinary skill” and the common usages of the individual terms “ordinary” and “skill”²⁴⁰ as a starting point to analyze this phrase within the overall statutory framework.²⁴¹ Then, uses of the phrase “ordinary skill” before enactment of the statute, whether in the context of patent law “mechanics” or non-patent “persons,” are examined to see if they provide a “judicial definition” that might trump this meaning to the extent this aspect of § 103 is truly a codification of this pre-existing law.²⁴² Finally, the result of this review is compared with statements in *KSR* to assess if there is support for the Court’s actions.

1. The Dictionary Meaning of the Terms “Ordinary” and “Skill” Suggest Appropriate Definitions for “Ordinary Skill” and “Person Having Ordinary Skill”

The phrase “ordinary skill” is of such common use in the law, that one might expect to find a general meaning for it in *Black’s Law Dictionary*. No such entry is to be found. Rather, *Black’s* only defines it in the specific context of patents, and then with less than impressive specificity. The phrase “ordinary skill in the art” simply says:

²³⁹ See 35 U.S.C. § 100 (2006) (“Definitions” section, not including anything related to a person having ordinary skill); 35 U.S.C. § 103(b)(3) (2006) (defining “biotechnological process”); 35 U.S.C. § 103(c)(3) (2006) (defining “joint research agreement”).

²⁴⁰ “Person” is not analyzed separately because of the Court’s clarification that, as used in § 103, the term refers to a hypothetical entity charged with knowledge of the relevant prior art, rather than any individual living or corporate entity. See *Dann v. Johnston*, 425 U.S. 219, 229 (1976); discussion *supra* pp. 38-40.

²⁴¹ *Asgrow Seed Co. v. Winterboer*, 513 U.S. 179, 187 (1995) (interpreting the term “marketing” in the Plant Variety Protection Act based primarily on the dictionary definition, reversing the Federal Circuit’s definition, and stating “[w]hen terms used in a statute are undefined, we give them their ordinary meaning”); see *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132-33 (2000) (noting the need to place terms in the context of the overall statutory scheme).

²⁴² *Davis v. Mich. Dep’t of Treasury*, 489 U.S. 803, 813 (1989) (“When Congress codifies a judicially defined concept, it is presumed, absent an express statement to the contrary, that Congress intended to adopt the interpretation placed on that concept by the courts.”).

ordinary skill in the art. *Patents.* The level of technical knowledge, experience, and expertise possessed by a typical engineer, scientist, designer, etc. in a technology that is relevant to an invention.²⁴³

The phrase “person with ordinary skill in the art” is similarly defined as:

person with ordinary skill in the art. *Patents.* A fictional construct of the patent laws, denoting someone who has reasonably developed abilities in the field of the invention at issue. The patent application must be clear and complete enough to teach a person skilled in the art how to make and use the invention without undue experimentation. The term ‘person skilled in the art’ . . . has been interpreted to mean a person having ordinary or fair information in that particular line, not necessarily a person of high scientific attainments. The skill or knowledge to be imputed to such a person will vary with the complexity of the art to which the invention relates.²⁴⁴

Unfortunately, these definitions, while no doubt combined from the study of many cases, do not get to the core of the phrase as used in § 103. As interpreted in *Graham*, the phrase is intended to preserve the function of *Hotchkiss* in separating the patentable wheat of invention from the unpatentable chaff of skill.²⁴⁵ These definitions do not speak to that delineation and hence are not of much use on their own.

The definition of “ordinary” as “typical” in *Black’s* is also circular. Is the obviousness inquiry to focus on the median level of skill in the art, a sort of lowest common denominator? Or a mean pulled from the entire field of practitioners, which may be tilted by the presence of a few outstanding individuals? If the latter, how can a court ever be certain that it has not crossed the line and found a patentable invention obvious?

General dictionary definitions of “ordinary” aid our interpretation of § 103, but consideration of these definitions points out a need for further context in our analysis. On the one hand, it is defined in the *Oxford English Dictionary (OED)*²⁴⁶ as relating to people as “typical of a particular group; average; without exceptional experience or expert knowledge,”²⁴⁷ which suggests that either a mean or median person within a group might be “ordinary.”²⁴⁸ However, it can also suggest “[n]ot distinguished by rank or position; belonging to the commonality; of low degree; pertaining to, or characteristic of,

²⁴³ *Black’s Law Dictionary* 1132 (8th ed. 2004).

²⁴⁴ *Id.* at 1181 (quoting Archie R. McCrady, *Patent Office Practice* 61 (2d ed. 1946)).

²⁴⁵ See *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 11-12 (1966).

²⁴⁶ As used herein, “OED” refers to *The Oxford English Dictionary* (2d ed. 1989).

²⁴⁷ See 10 *The Oxford English Dictionary* 912 (2d ed. 1989).

²⁴⁸ *Id.*

the common people.”²⁴⁹ In this same vein are the definitions “[c]ommonly practised or experienced; common, customary, usual” and “[o]f the usual kind, such as is commonly met with, not singular or exceptional.”²⁵⁰ These meanings would seem to favor a lowest common denominator rather than a median level of skill. Interestingly, as to language, the *OED* suggests just such an approach, defining ordinary as “that most commonly found or attested, *spec.* as contrasted with logical symbolism or a specialized terminology.”²⁵¹ So, if nothing else, we can say the “ordinary” meaning of “ordinary skill” should be that most commonly embraced by the appropriate sources, even if the resulting “ordinary skill” were an average.

However, not all sources are so split. *Webster’s Dictionary*²⁵² is more consistently on the side of finding a lowest common denominator. It does not speak to things that are average, but rather common and routine.²⁵³ For example, the first listing is “occurring or encountered in the usual course of events: not uncommon or exceptional: not remarkable: Routine, Normal.”²⁵⁴ To similar effect are the definitions of “characterized by common quality, merit, rank or ability: lacking in excellence, superior merit, uncommon appeal, or distinctive characteristics.”²⁵⁵ Hence, barring some indication in the law to the contrary, it would seem that the definition in *Black’s* should be read as the most common level of skill in the art, rather than a median or average, consistent with the *OED* and *Webster’s* on interpretation of “ordinary” language.

Black’s definition of “skill” also requires some clarification. By defining “skill” solely in terms of “knowledge, experience and expertise,” it suggests a near impossible set of conditions for analyzing obviousness. These are personal traits, not readily subject to aggregation. Expertise, for example, is not merely something learned, but a reflection of the judgment and particular experiences of an individual. Gaining expertise in a field suggests that one is superior to the remainder of the field – which in turn, suggests that there is no way of determining “typical” expertise.

Once again, turning to more general sources provides some improvement on how to view “skill,” although not an absolutely definitive answer. While the *OED* has a lengthy entry on skill,²⁵⁶ little of it applies to the usage in § 103. The only obviously applicable definition is “[c]apability of accomplishing something with precision and

²⁴⁹ *Id.*

²⁵⁰ *Id.*

²⁵¹ *Id.*

²⁵² As used hereinafter, “*Webster’s*” refers to *Webster’s Third New International Dictionary* (3d ed. 1993).

²⁵³ See *Webster’s Third New International Dictionary* 1589 (3d ed. 1993).

²⁵⁴ *Id.*

²⁵⁵ *Id.*

²⁵⁶ See 15 *The Oxford English Dictionary* 603-04 (2d ed. 1989).

certainty; practical knowledge in combination with ability; cleverness, expertness. Also, an ability to perform a function, acquired or learnt with practice.”²⁵⁷ The inclusion of “cleverness” and “expertness” is troubling for the same reason as the *Black’s* definition, but otherwise this seems to point to a more objective framework.

Webster’s is also suggestive of a less subjective understanding of “skill.” It does speak to knowledge, but does so as applied knowledge rather than general information (“knowledge of the means or methods of accomplishing a task”).²⁵⁸ Similarly, it notes that this term can connote “expertness,” but in the sense of proficiency rather than ingeniousness (“the ability to use one’s knowledge effectively and readily in execution or performance: technical expertness: Proficiency”).²⁵⁹ Furthermore, it stresses the learned nature of “skill,” defining it as “dexterity, fluency, or coordination in the execution of learned physical or mental tasks.”²⁶⁰ A “skill” is defined as “a learned power of doing a thing competently: a developed or acquired aptitude or ability” as well as “a coordinated set of actions become smooth and integrated through practice.”²⁶¹

Webster’s also provides one entry that affords significant insight on why and how nineteenth century courts may have seen a clear line existing between “skill” or “workmanship” and “invention.” This lies in the definition of “skill” as “technical competence without insight or understanding or the ability for further elaboration or development.”²⁶² The uses in this sense are also enlightening: “a volume of verses which show some [skill] in versification, but little originality in thought or form – H.E. Starr”; “frequently a person acquires certain reading [skill]s but never understands what he has read – John Haverstick.”²⁶³ This meaning reflects the truth that with sufficient practice and the right education, most people can achieve a modicum of skill in a given field. Far fewer will ever have the insight or creativity to add to the fundamental knowledge of that field. To analogize, the distinction is that between a cook who can competently follow a recipe and make basic substitutions as necessary, and a chef who can create new dishes. It is that essential distinction between a pianist who knows all the keys to strike and a maestro who knows how to evoke emotion and feeling in a piece. The former is skilled, the latter, something far rarer.

Pulling all of these terms together suggests more objective, consistent definitions of “ordinary skill” and “person having ordinary skill in the art” than those in *Black’s*. “Ordinary skill” would, in this view, be defined as “the common level of technical competence of workers in a given field.” Coupled with the clear definition of “person” in

²⁵⁷ *Id.* at 603.

²⁵⁸ *Webster’s*, *supra* note 251, at 2133.

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ *Id.*

²⁶² *Id.*

²⁶³ *Id.*

Court precedent on obviousness, “person having ordinary skill in the art” would therefore be “a hypothetical construct charged with knowledge of the relevant prior art and having the common level of technical competence of workers in a given field.” These definitions do not seek to define that minimal level of competence, thus retaining the flexible, art specific approach to determining what is “ordinary skill” related to a particular patent.

These proposals are admittedly similar to the second entry in *Black’s* (“reasonably developed abilities”), but avoid the question of what is encompassed within one’s “abilities.” Rather, these standards recognize proficiency as a quality of “skill,” and even the ability to make independent use of existing knowledge, but essentially presume that the basic or “ordinary” workers in any field are not actively innovating, but rather following accepted norms of the field. Including innovation as an element of “ordinary skill” in a particular case would depend on a finding that it was a requirement to successfully work in that field. In stressing a common level of skill, rather than a median value, these definitions seek to minimize any risk of skewing the level too high to reflect the skill of the most talented and/or most experienced members of a field, who are apt to have “extraordinary,” rather than “ordinary,” skill and may well be more capable of innovating and disregarding the norms of the field. These present viable working definitions of “ordinary skill” and “person having ordinary skill” that will provide practitioners, judges, and even jurors with significant guidance in framing the inquiry into the particular level of “ordinary skill” required by *Graham*.

2. Prior Supreme Court uses of the term “Ordinary Skill” in and out of Patent Law Support Finding it Refers to a Level of Minimal Competence

A review of the case law preceding the enactment of § 103 confirms Federico’s account that “person having ordinary skill in the art” is new to the law in this section.²⁶⁴ Hence, there is no literal codification of a judicially defined term from which to take the statutory construction.²⁶⁵ Still, as *Graham* determined that § 103 was meant to codify the principle of *Hotchkiss* rather than changing the standard for patentability,²⁶⁶ it is worthwhile to trace the Court’s various uses of “ordinary skill” before 1952 in an effort to understand how the judicial uses compare to the proposed definitions of “ordinary skill” as “the common level of technical competence of workers in a given field” and “person having ordinary skill in the art” as “a hypothetical construct charged with knowledge of the relevant prior art and having the common level of technical competence of workers in a given field.”

²⁶⁴ See Rich, *supra* note 155, at 190.

²⁶⁵ See *Davis v. Mich. Dep’t of Treasury*, 489 U.S. 803, 813 (1989).

²⁶⁶ See *Graham v. John Deere of Kan. City*, 383 U.S. 1, 17 (1966).

The earliest cases, such as *Hotchkiss* and *Reckendorfer*, do not speak of “ordinary skill” at all, but instead speak of “mechanical skill”²⁶⁷ or a “skilful [sic] mechanic.”²⁶⁸ Even as “ordinary skill” was introduced into this analysis, the focus remained on the distinction between “mechanics” or “workmen in the trade” on the one hand and “inventors” on the other. For example, in *Mosler*, the components and techniques of making fire proof safes were all found in the prior art.²⁶⁹ In finding a want of invention, the Court stated that using the techniques and old materials were “only what would occur to a *mechanic of ordinary skill*.”²⁷⁰ The Court, in analyzing the one piece button construction patent of *Krementz*, analyzed whether it demonstrated more than the “ordinary skill of a *mechanic*.”²⁷¹ In passing on the validity of the patent that enhanced the direct casting of steel by adding a tempering reservoir, the Court similarly stated that the fundamental question was whether it was an improvement that any “*mechanic of ordinary skill and intelligence*” would recognize.²⁷² Finally, in *Whitman Saddle Co.*,²⁷³ the Court analyzed a patent for a saddletree both for validity and infringement. It found that given the wide variety of styles in the prior art and the evidence that it was customary to vary styles in almost every style, the primary features shown were simply the act of combining two halves of different designs, an “exercise of the ordinary skill of workmen of the trade.”²⁷⁴ As a result, the validity of the patent had to rest in other details, which in turn prohibited a finding of infringement.²⁷⁵

The repeated use of the terms “mechanic” and “workmen” further buttresses the idea that the concern in assessing “ordinary skill” is with establishing a baseline of expected competence. Then, the inquiry of obviousness requires assessing whether something more is reflected in the purported invention. There are several applicable definitions of “mechanic” in the *OED*, all of which suggest the difference between skill and invention lies in the level of ingenuity and creativity employed. They include “[h]aving a manual occupation; working at a trade;” “[o]ne who is employed in a manual occupation; a handicraftsman;” and “[a] skilled workman, esp. one who is concerned with

²⁶⁷ *Reckendorfer v. Faber*, 92 U.S. 347, 356 (1875).

²⁶⁸ *Hotchkiss v. Greenwood*, 52 U.S. (1 How.) 248, 267 (1851).

²⁶⁹ *Mosler Safe & Lock Co. v. Mosler, Bahmann & Co.*, 127 U.S. 354, 356-57 (1888).

²⁷⁰ *Id.* at 360 (emphasis added).

²⁷¹ *Krementz v. S. Cottle Co.*, 148 U.S. 556, 559 (1893) (emphasis added).

²⁷² *Carnegie Steel Co. v. Cambria Iron Co.*, 185 U.S. 403, 427 (1902) (emphasis added) (finding that process, even if it arguably was an adaptation of prior art techniques, nonetheless required inventive skill and hence was patentable).

²⁷³ *Smith v. Whitman Saddle Co.*, 148 U.S. 674 (1893).

²⁷⁴ *Id.* at 681.

²⁷⁵ *Id.* at 682.

the making or use of machinery.”²⁷⁶ Similarly, *Webster’s* defines “mechanic” as “manual labor or employment,” “Handicraft,” “a manual worker: Artisan,” and “a man skilled in the construction or operation of machines or vehicles run by machines: Machinist.”²⁷⁷

The inference from these cases that there is a distinction between physical dexterity or competence and invention was made explicit in the *Hobbs* case.²⁷⁸ There, the patentee had conceived of a significant improvement in the process of reinforcing the corners of boxes by automatically dispensing and attaching tape.²⁷⁹ The defendants claimed actual technical innovations were simple mechanical improvements to machines for creating labels that were affixed to boxes and hence not inventive.²⁸⁰ Even crediting the simplicity of the changes, the Court found that the initial conception was a “a creative thought whose presence would convert the mechanic into an inventor.”²⁸¹

Thus, the case law from which § 103 was crafted seems to support defining “ordinary skill” or a “person having ordinary skill” as reflecting “technical competence,” but presumably not innovation. It aptly fits *Reckendorfer’s* line between “mechanical skill,” which through the application of the teachings of the prior art can create an aggregation reflecting “[p]erfection of workmanship” which is still not patentable, and “inventive genius,” which builds upon the prior art to create a new, jointly acting composition.²⁸² It similarly honors the *Hotchkiss* distinction between the “skilful [sic] mechanic” and “inventor.”²⁸³

Further buttressing this understanding of “ordinary skill” as a lowest common denominator of competence are the uses of the term outside of the area of obviousness or invention before the enactment of § 103. The term first appears in Supreme Court precedent in a case regarding the liability of a ship owner for damages from an accident.²⁸⁴ This body of law appears to be a forerunner of modern negligence and

²⁷⁶ 9 *The Oxford English Dictionary* 534 (2d ed. 1989).

²⁷⁷ *Webster’s*, *supra* note 251, at 1400.

²⁷⁸ *Hobbs v. Beach*, 180 U.S. 383, 391-93 (1901).

²⁷⁹ *See id.* at 391-92.

²⁸⁰ *See id.*

²⁸¹ *Id.* at 393 (quoting *Beach v. Am. Box-Mach. Co.*, 63 F. 597, 601 (C.C.N.Y. 1894) (Judge Coxe, in writing the *Beach* opinion, also put the distinction this way: “The ability to conceive and carry out such changes as were here necessary is not found in the mere routine plodder no matter how skillfully he may handle his tools.”).

²⁸² *Reckendorfer v. Faber*, 92 U.S. 347, 356-57 (1875).

²⁸³ *Hotchkiss v. Greenwood*, 52 U.S. (1 How.) 248, 267 (1851).

²⁸⁴ *See Smith v. Condry*, 42 U.S. (1 How.) 28, 36 (noting that if the cause of the accident was caused by weather conditions which “ordinary skill and care could not have guarded,” the ship’s owner was not liable).

mitigation obligations.²⁸⁵ While it appears mainly in admiralty²⁸⁶ and transportation²⁸⁷ matters, it suggests something akin to the “reasonable man” standard of modern parlance. Like the suggested definition of “common level of technical competence” in a patent context, it is normative in character. There is no suggestion that sea captains or railroad engineers exercising “ordinary skill” would be expected to be innovative or clever in any fashion. Instead, they simply act in accordance with the accepted norms of their professions in light of a given set of circumstances.

The other significant use of the term “ordinary skill” prior to the enactment of § 103 was assessing the compliance of patent specifications with the enablement requirement.²⁸⁸ For example, in upholding Alexander Graham Bell’s fundamental patent on the process underlying the telephone, the Court stated that, in addition to setting forth the process employed in telephonic transmission,”

he also described, with sufficient precision to enable one of ordinary skill in such matters to make it, a form of apparatus which, if used in the way pointed out, would produce the required effect, receive the words, and carry them to and deliver them at the appointed place.²⁸⁹

The ultimate measure of enablement of Bell’s patent was the success of others in actually constructing and using the disclosed device, though Bell’s own prototype had not achieved the clarity he had sought.²⁹⁰ Based on this evidence, the Court stated that:

a good mechanic, of proper skill in matters of the kind, can take the patent, and, by following the specification strictly, can, without more, construct

²⁸⁵ See *In re the Baltimore*, 75 U.S. (1 Wall.) 377, 387 (1869) (“Persons injured in their property by collision are entitled to full indemnity for their loss, but the respondents are not liable for such damages as might have been reasonably avoided by the exercise of ordinary skill and diligence, after the collision, on the part of those in charge of the injured ship.”).

²⁸⁶ *Id.*; see also *Smith v. Burnett*, 173 U.S. 430, 437 (1899); *In re the Webb*, 81 U.S. (14 Wall.) 406, 416 (1871).

²⁸⁷ See *Gleeson v. Va. Midland Ry. Co.*, 140 U.S. 435, 440 (1891) (rejecting assertion that landslide on railroad cut that caused accident was “Act of God” and imposing duty of maintenance for such conditions on carrier, stating “[o]rdinary skill would enable the engineers to foresee the result, and ordinary prudence should lead the company to guard against it”).

²⁸⁸ See, e.g., *Brooks v. Fiske*, 56 U.S. (1 How.) 212, 224 (1853) (quoting prior case as stating “the specifications . . . are sufficiently full to enable a mechanic with ordinary skill to build a machine”).

²⁸⁹ *Dolbear v. Am. Bell Tel. Co.*, 126 U.S. 1, 535 (1888).

²⁹⁰ See *id.* at 535-36.

an apparatus which, when used in the way pointed out, will do all that it is claimed the method or process will do.²⁹¹

Note that the Court did not hold that any person with a modicum of skill had to achieve success. In fact, the Court rejected a challenge based on claims of failure by some of alleged skill. At the same time, the Court made it clear the specification was valid because it did not require innovation or ingenuity on the part of those of skill in the art to succeed.²⁹² Yet again, the context and usage indicates that the target audience of a “mechanic” of “ordinary skill” is one who can follow, but does not lead or seek to blaze a new trail.

Similarly indicative of “ordinary skill” as a lower threshold of competence are the Court’s statements in *Expanded Metal*.²⁹³ In this case, the Court resolved conflicting rulings on the validity of a patent to an improved method of forming “open or reticulated metal work” in favor of patentability. Quoting the prior ruling of the Sixth Circuit, the Court noted that “[i]t is not stated just what the form shall be, but *only* ordinary skill in mechanics would suggest that the outer side of the cutter might be beveled or a shoulder might be formed thereon to carry down the strand when severed.”²⁹⁴ The gap between the specification and any undisclosed apparatus necessary to carry out the process was bridged not by the ingenuity of persons of skill in the art, but rather from the fact the necessary mechanism “was common in the mechanical arts.”²⁹⁵ It was not just that the more skillful persons in the art could carry out this technique, but that it “could be arranged by *any* skilful [sic] mechanic.”²⁹⁶

From the foregoing, it appears that “ordinary skill” has consistently been used as a common denominator or lower threshold of competence. While the level of “ordinary skill” clearly varies with circumstance, there is nothing suggestive of requiring persons of “ordinary skill” to do any more than exercise the common competence of their callings. Indeed, any higher burden on such persons would appear to be at odds with the policies underlying these cases – establishing negligence liability on the one hand and ensuring that patents are clear enough to be used by others of skill in the art without undue experimentation on the other. As a result, this law as a whole appears to support the

²⁹¹ *Id.* at 536.

²⁹² *See id.* at 535-36 (This is the source of the maxim “[t]he law does not require that a discoverer or inventor, in order to get a patent for a process, must have succeeded in bringing his art to the highest degree of perfection; it is enough if he describes his method with sufficient clearness and precision to enable those skilled in the matter to understand what the process is, and if he points out some practicable way of putting it into operation.”).

²⁹³ *Expanded Metal Co. v. Bradford*, 214 U.S. 366 (1909).

²⁹⁴ *Id.* at 380 (quoting *Expanded Metal Co. v. Gen. Fireproofing Co.*, 164 F. 849, 853 (6th Cir. 1908)) (emphasis added).

²⁹⁵ *Id.* at 380 (quoting *Expanded Metal Co.*, 164 F. at 853).

²⁹⁶ *Id.* (emphasis added).

proposed definitions of “ordinary skill” as “the common level of technical competence of workers in a given field” and “person having ordinary skill in the art” as “a hypothetical construct charged with knowledge of the relevant prior art and having the common level of technical competence of workers in a given field.”

C. KSR’s Changes to the Nature of “Persons Having Ordinary Skill” Contradict Controlling Precedent and the Intent of § 103

As noted at the outset of this analysis, the central issue in *KSR* was whether or not a “teaching, suggestion, or motivation” had to be found as an absolute predicate to combining references in support of a claim of obviousness.²⁹⁷ It was only after dealing with this issue that the Court felt it necessary to comment on the nature and talents of “a person having ordinary skill in the art.”²⁹⁸ Unfortunately, the Court’s statements about persons of skill in the art in *KSR* reflect a fundamental contradiction with its own precedent, including *Hotchkiss*, *Graham*, and cases in between. Individually and collectively, they effectively (and improperly) overturn *Graham*’s finding that § 103 embodied, rather than altered, the “*Hotchkiss* condition” of inventiveness and raise the bar for patentability beyond that intended by Congress.²⁹⁹ As such, they are improper, and either the Court or Congress should correct them.

As *Graham* itself found, as long as the Congressional framework is within constitutional bounds (and it found § 103 was), it is not the place of the courts to interfere with the intent expressed in statutes such as § 103.³⁰⁰ That, though, is precisely what the Court did in *KSR* when it repeatedly asserted that “persons having ordinary skill” are necessarily imbued with “creativity” and are apt to solve “puzzles” from multiple pieces of prior art.³⁰¹ From the plain language of the statute, and consistent with *Graham*, the

²⁹⁷ *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

²⁹⁸ *Id.* at 1734, 1740-42.

²⁹⁹ *Graham v. John Deere of Kan. City*, 383 U.S. 1, 17 (1966) (“We believe that this legislative history, as well as other sources, shows that the revision *was not intended by Congress to change the general level of patentable invention*. We conclude that the section was intended *merely as a codification of judicial precedents embracing the Hotchkiss condition*, with congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability.”) (emphasis added).

³⁰⁰ *Id.* at 6 (“Within the limits of the constitutional grant, the Congress may, of course, implement the stated purpose of the Framers by selecting the policy which in its judgment best effectuates the constitutional aim. . . . It is the duty of the Commissioner of Patents and of the courts in the administration of the patent system to give effect to the constitutional standard by appropriate application, in each case, of the statutory scheme of the Congress.”).

³⁰¹ *KSR*, 127 S. Ct. at 1741-42 (instructing courts to “take account of the inferences and creative steps that a person of ordinary skill in the art would employ”; stating that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton,” and that “in many cases a

focus of § 103 is on differentiating between expressions of skill on the one hand and inventions on the other.³⁰² It does not say anything about skillful persons having creativity, and the Court could find no support for its various pronouncements beyond “common sense.”³⁰³

The reason that the Court could not find any more compelling support for its conclusion is because, at its root, “creativity” has no necessary relationship to “skill.” As discussed above, the term “skill” refers to the application of knowledge, dexterity and competence.³⁰⁴ As such, a minimal level of necessary or “ordinary” skill can be assessed fairly objectively in a given art. “Creativity,” on the other hand, is defined as “the quality of being creative: ability to create.”³⁰⁵ “Creative,” in turn, refers to “the power or quality of creating: given to creation.”³⁰⁶ “Create,” “creating,” and “creation” all refer to the ability to invent, imagine, or otherwise bring forth new matter, rather than imitating or following the known art or standards.³⁰⁷ Creativity is an individual mental capacity, not a learned ability. It will necessarily vary significantly among individuals, even those with the same level of skill in a given art. As a result, assessing an “ordinary” level of “creativity” seems to be a matter of conjecture rather than objectivity. Fundamentally, there is no logical overlap in possessing skill and possessing creativity. It is entirely possible for a person to be highly skilled – that is, proficient in a given trade or skill – without ever diverging from established norms or creating anything of note.

Additionally, *KSR*’s inclusion of creativity as an element of skill blurs the line between skill and invention that § 103 seeks to create. If “persons having ordinary skill” are necessarily creative, they are also necessarily inventive. The impropriety of including a creative or inventive capability in the qualities of a “person having ordinary skill,” when that hypothetical person is the benchmark for determining whether a patent demonstrates invention, should be self-evident. If any further evidence is necessary, though, it is shown in the most applicable definition for the term “invention” in

person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle”).

³⁰² See 35 U.S.C. § 103(a) (2006); *Graham*, 383 U.S. at 17-18.

³⁰³ See *KSR*, 127 S. Ct. at 1741-42.

³⁰⁴ See discussion *supra* Part III.B.a.

³⁰⁵ *Webster’s Third New International Dictionary* 532 (3d ed. 2002).

³⁰⁶ *Id.*

³⁰⁷ *Id.* (defining “create” as “to bring into existence : make out of nothing and for the first time,” “to cause to be or to produce by . . . mental . . . action,” and “to make or bring into existence something new (as something of an imaginative or artistic character) : Invent <quick to imitate but powerless to [create]>”; defining “creation” as “the act or practice of making, inventing, devising, fashioning, or producing”).

Webster's, which in relevant part states it is “a device or process that is not only novel and useful but also reflects *creative genius*.”³⁰⁸

Following *KSR's* inclusion of “ordinary” creativity and inventiveness within the scope of a “person having ordinary skill” would thus require the patent to demonstrate some level of “extraordinary inventiveness” or creativity. This is not what the case law or § 103 requires. *Hotchkiss* clearly states that the requirement for demonstrating patentability is that it reflects invention rather than skill, not that it exceed some indeterminate threshold of “ordinary” creativity or inventiveness.³⁰⁹ Similarly, *Reckendorfer* noted that any co-action or new composition would be inventive, rather than skillful, because the necessary modicum of creativity is shown.³¹⁰ *Kremenz* stressed the importance, despite the difficult nature of the task, of finding the line between skill and invention³¹¹ – a near impossibility if inventiveness lies on both sides of the equation and a greater than ordinary level of creativity or inventiveness must be shown. Such a new requirement is plainly inconsistent with *Graham's* finding that § 103 was not meant to change the standard of patentability from pre-existing law.³¹² It is an inappropriate alteration of Congressional intent, and should be disregarded.

There also seems to be a lack of support for the Court's view that persons of “ordinary skill” can or would routinely create puzzles from multiple patents with no external motivation to do so, thus suggesting most combinations are obvious.³¹³ In fact, it is contrary to many leading cases analyzing the question of invention or non-obviousness. *Reckendorfer* noted that where two prior art inventions are combined in a novel way to create a new function or outcome, the resulting structure is patentable.³¹⁴ *Goodyear Dental* found the combination of rubber plates and artificial teeth was patentable because it resulted in a novel, improved method, despite combining prior art.³¹⁵ *Anderson's-Black Rock*, while requiring “synergy,” limited that to a requirement that a combination be more than the sum of its parts.³¹⁶ Similarly, while *Sakraida*³¹⁷ held a dairy barn flushing system obvious, it was not because of any sort of arts and crafts with the prior art. To the contrary, it reflected an aggregation of old elements with no

³⁰⁸ *Id.* at 1188 (emphasis added).

³⁰⁹ *Hotchkiss v. Greenwood*, 52 U.S. 248, 267 (1850).

³¹⁰ *See Reckendorfer v. Faber*, 92 U.S. 347, 357 (1875).

³¹¹ *See Kremenz v. S. Cottle Co.*, 148 U.S. 556, 559-61 (1893).

³¹² *Graham v. John Deere of Kan. City*, 383 U.S. 1, 17 (1966).

³¹³ *See KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007).

³¹⁴ *See Reckendorfer*, 92 U.S. at 357.

³¹⁵ *See Smith v. Goodyear Dental Vulcanite Co.*, 93 U.S. 486, 492-93 (1876).

³¹⁶ *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 60-62 (1969).

³¹⁷ *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 280 n.6, 281-82 (1976).

new function,³¹⁸ and thus is nothing more than an update of *Hotchkiss* and *Reckendorfer*. None of these cases suggest the prior art would be routinely raided and re-arranged by persons of skill in the art to produce ranges of supposedly obvious combinations.³¹⁹ This is an unfounded extension of the law, and it appears designed to thwart the balance Congress struck in passing §103.

Finally, the notion that the presence of a device in one art will somehow lead to “predictable,” presumptively obvious “variations of it, either in the same field or a different one,”³²⁰ is at odds with both precedent and the structure of the statute. This assertion suggests that “persons having ordinary skill” in one art would somehow possess knowledge of other, non-analogous fields in order to make use of developments in those fields. There is no statutory or legal predicate for this idea. The statute requires an analysis of the “differences between the subject matter sought to be patented and the prior art” from the perspective of a “person having ordinary skill in the art to which said subject matter pertains,” not against the perspective of artisans in other arts.³²¹ The fictional person of skill in the art, in keeping with *Dann*, is only charged with knowledge of the art within the relevant field.³²² Hence, non-analogous art – art from distinct fields – is not within the scope of a proper consideration of obviousness, nor is it a basis for presuming variations of such art in a different field are obvious.

The Court derives this proposition from cases such as *Great Atlantic & Pacific Tea*,³²³ *Sakraida*, and *Anderson’s-Black Rock*, but it ignores the primary limitation of all of those cases. In each one, the concern was with using combinations of materials as they were known in the same field without alteration of their function.³²⁴ In none did someone

³¹⁸ *Id.*

³¹⁹ Even the suggestive tableau of *Winslow*, with the relevant art on the wall, does not go this far. See *In re Winslow*, 365 F.2d 1017, 1020-21 (C.C.P.A. 1966). Rather, it presents the more likely result that when a person of skill in the art comes up against a narrow problem not addressed by any existing art, they would look to the art for a way to improve the basic design. *Id.* This is not what would typically be thought of as a puzzle, as all the second reference supplied was a single piece.

³²⁰ *Id.*; *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007) (emphasis added) (“When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability.”).

³²¹ 35 U.S.C. §103(a) (2006).

³²² *Dann v. Johnston*, 425 U.S. 219, 229 (1976).

³²³ *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152-53 (1950).

³²⁴ *Id.* at 152 (describing combination of existing merchant counter, three sided rack and rails as “[t]wo and two have been added together, and still they make only four”); *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 280 n.6, 281-82 (1976) (all elements were admitted to be old in the field of dairy barn cleaning); *Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 60-62

combine art previously unknown to a field, which would necessarily have created a function previously unknown in that field.

Moreover, even within the same field, this statement raises more questions than it answers. There would not seem to be a means for accurately assessing when a “variation” is “predictable.” The very fact a court or the Patent Office is engaging in an obviousness analysis indicates that no party has made the variation before the patentee/applicant, so the only way to assess its “predictability” would appear to be improper hindsight.³²⁵ *Hobbs* also illustrates the inconsistency of this approach with the historic standards for patentability.³²⁶ There, the patent was asserted to lack invention owing to the mechanical simplicity of adapting prior art carton labeling devices to the claimed, prior art function of reinforcing boxes with tape.³²⁷ To put it in *KSR*’s framework, the use of stamping devices would seem to be a fairly evident or predictable variation. The *Hobbs* Court, however, held that the adaptation reflected “a creative thought whose presence would convert the mechanic into an inventor.”³²⁸ Once more, the Court’s statements reflect an alteration of Congressional intent, to the extent § 103 was meant to codify case law such as *Hobbs*.

In sum, the Court’s statements in *KSR* discussing the talents, knowledge, and nature of “persons having ordinary skill” are in conflict with its own precedent as well as the text and settled intent of § 103. These comments were not necessary to resolving the central issue on which certiorari was granted. While they may therefore ultimately be cast aside as colorful dicta, they create a substantial risk that *KSR* will be used to erect a higher bar for patentability than Congress ever intended in passing § 103. This would devalue patents and otherwise return courts to the skepticism towards patents that this section was meant to address. Given Congress’ failure to pass comprehensive patent reform since 1952, a Congressional repeal of these comments seems unlikely. Therefore, challenging the validity of these statements will likely have to remain the obligation of practitioners.

V. THE POTENTIAL IMPACT OF *KSR*

As troubling as the implications of *KSR* are for most patents and applicants facing obviousness challenges, the severity of the consequences vary by field. While the case dealt with a mechanical combination patent, several of the statements in the case suggest the most severe questions may surround the continuing availability of patents for biological and chemical compounds. Additionally, the concept of imbuing “persons of

(1969) (invalidating combination of heater and paving machine both known in the asphalt paving business).

³²⁵ See, e.g., *KSR*, 127 S. Ct. at 1740-41.

³²⁶ *Hobbs v. Beach*, 180 U.S. 383, 391-93 (1901).

³²⁷ *Id.*

³²⁸ *Id.* at 393 (quoting *Beach v. Am.-Box Mach. Co.*, 63 F. 597, 601 (C.C.N.Y. 1894)).

ordinary skill” with creativity and inquisitiveness beyond their immediate field could have wide reaching impacts in other areas of patent law. The following analysis looks at a few such issues to illustrate the potential implications of this case. While it is by no means comprehensive, it is hoped that illustrating the (potentially) unintentional but logical consequences of the Court’s statements might motivate the Court or Congress to take action to restore the prior understanding of obviousness and establish an appropriate meaning for “ordinary skill.”

A. Are DNA Sequences Generally Obvious?

It may seem odd to claim that *KSR*’s holding will impact the chemical arts, such as patenting genetic DNA sequences.³²⁹ After all, *KSR* dealt directly with a mechanical combination patent. However, the Court’s comments on the doctrines of “predictable variations,” applying known techniques,³³⁰ and “obvious to try”³³¹ may have their greatest impact in the life sciences. This owes to the fact that many of the patents in this field approximate discoveries of new territory, rather than creations. That is, they are often the result of applying known and somewhat predictable techniques repeatedly to

³²⁹ See *Amgen v. Chugai*, 927 F.2d 1200, 1206 (Fed. Cir. 1991) (“A gene is a chemical compound, albeit a complex one, and it is well established in our law that conception of a chemical compound requires that the inventor be able to define it so as to distinguish it from other materials, and to describe how to obtain it.”).

³³⁰ *KSR*, 127 S. Ct. at 1740 (“If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

³³¹ *Id.* at 1742 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.”). Although “obvious to try” was not at issue in *KSR*, and this discussion on its face broadly rejects the concept of “obvious to try” as insufficient proof of obviousness, the Federal Circuit has subsequently sought to modify the phrase “finite number” and hence limit its application in the chemical arts. See *Ortho-McNeil Pharms., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008) (“The passage above in *KSR* posits a situation with a finite, and in the context of the art, small or easily traversed, number of options that would convince an ordinarily skilled artisan of obviousness.”); see also *Eisai Co. v. Dr. Reddy’s Labs.*, 533 F.3d 1353, 1359 (Fed. Cir. 2008) (quoting *Ortho-McNeil* while omitting “context of the art” language, noting perceived unpredictability of chemical arts). This modification is not only uncalled for in light of the plain language of the Court in *KSR*, it does not seem to square with the idea expressed in *Enzo Biochem* that in the correct circumstances a biological deposit can suffice as a written description of all potential mutations and combinations of that deposited material, despite their potentially vast numbers. See, e.g., *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 966 (Fed. Cir. 2002).

explore unknown areas of the art, rather than innovating in the techniques themselves. Given *KSR*'s critique of the use of known techniques as rendering obvious results,³³² this would appear to pose a substantial risk to patents in these areas of the life sciences.

One area of research that involves repetitive use of known techniques to achieve similar results is the discovery of full or partial DNA sequences. As any student of evidence knows, the measure of good scientific technique lies in part in its ability to be accurately repeated and survive testing by others in the field.³³³ By that standard, DNA science is about as good as it gets. The basic techniques for collecting, cloning, and screening DNA are well-known.³³⁴ Sequencing DNA, an arduous and highly specialized skill just a few decades ago, is now "a standard procedure in every molecular biology laboratory."³³⁵ Essentially anyone can obtain a particular target sequence with the right samples and lab conditions by applying "known techniques."

As everyone in the art knows the basic techniques and can obtain meaningful results, it may be questioned how the entire field has not already become saturated with patents. Two principles have largely prevented a handful of patents from rendering other claims obvious. The first is the holding in the *Deuel*³³⁶ case that particular DNA sequences are not rendered obvious from the knowledge of general techniques to find DNA or even the knowledge of the structure of the protein expressed by a gene sequence.³³⁷ Even the similarity of the same genes between species is not enough.³³⁸ This is so despite the fact that the known DNA sequences of a gene of interest in one species are often used as the basis for probes to seek the same sequence in other species.³³⁹ The second principle is that the specificity required to describe DNA sufficiently to demonstrate conception and meet the written description requirement prevents parties from claiming much more than the precise sequence or compound they

³³² *KSR*, 127 S. Ct. at 1742.

³³³ See *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 590 n.9 (1993) (noting scientific definitions of "reliability" and "validity"), 593-94 (laying out considerations of evidentiary reliability).

³³⁴ See James D. Watson et al., *Recombinant DNA: Genes and Genomes – A Short Course* 82-92 (3d ed., Cold Spring Harbor Lab Press 2007) (describing basic cloning and screening process).

³³⁵ *Id.* at 92.

³³⁶ See *In re Deuel*, 51 F.3d 1552, 1558-59 (Fed. Cir. 1995).

³³⁷ *Id.*

³³⁸ See *Amgen v. Chugai*, 927 F.2d 1200, 1209 (Fed. Cir. 1991) (rejecting assertion that knowledge of monkey DNA sequence for EPO rendered human sequence obvious, stating "[w]hile the idea of using the monkey gene to probe for a homologous human gene may have been obvious to try, the realization of that idea would not have been obvious.").

³³⁹ *Id.*; see Watson, *supra* note 333, at 88, 315-16.

have identified.³⁴⁰ Hence, under current standards it is difficult to either obtain a broad patent on a range of DNA sequences, or for any genetic sequence to be *prima facie* obvious.

Even with these restrictions, DNA research often winds up in a race to the patent office. It is not uncommon for multiple laboratories to investigate the same target gene or compound during the same time. Owing to the common techniques employed, the results will be the same or nearly identical and are often obtained within close proximity in time. In turn, the PTO is forced to sift through these claims in multi-party interferences (that is, claims by more than one application for the same subject matter), a highly technical task focused on determining conception and invention dates.³⁴¹ Concerns with being entangled in such fights may have led researchers to file claims once they know a partial sequence, even if there is no apparent use for it.³⁴² It has also led to filings seeking to claim all potential variations of DNA within a genus.³⁴³

The Federal Circuit has relied on a failure to provide an adequate written description³⁴⁴ or a lack of utility³⁴⁵ to reject such claims. In the case of written description, the *Lilly* decision and cases employing its invocation of this requirement have led to a lively debate among academics and a minority of the Federal Circuit over whether the requirement even makes sense or can be applied in a meaningful, consistent

³⁴⁰ See *Fiers v. Revel*, 984 F.2d 1164, 1170-71 (Fed. Cir. 1993) (“An adequate written description of a DNA requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it; what is required is a description of the DNA itself. . . . If a conception of a DNA requires a precise definition, such as by structure, formula, chemical name, or physical properties, as we have held, then a description also requires that degree of specificity.”); *Amgen*, 927 F.2d at 1206 (“We hold that when an inventor is unable to envision the detailed constitution of a gene so as to distinguish it from other materials, as well as a method for obtaining it, conception has not been achieved until reduction to practice has occurred, *i.e.*, until after the gene has been isolated.”).

³⁴¹ See *Frazer v. Schlagel*, 498 F.3d 1283, 1286 (Fed. Cir. 2007) (noting that interference regarding vaccine for Human Papillomaviruses derived from DNA was initially among four different applications); *Capon v. Eshhar*, 418 F.3d 1349, 1350-51 (Fed. Cir. 2005) (interference over chimeric, or artificial, genes); *Novo Nordisk Pharm., Inc. v. Bio-Tech. Gen. Corp.*, 424 F.3d 1347, 1351 (Fed. Cir. 2005) (describing convoluted procedure of interference over human growth hormone protein created through recombinant DNA); *Fiers*, 984 F.2d at 1166-67 (describing three-way interference over EPO).

³⁴² See *In re Fisher*, 421 F.3d 1365, 1370-74 (Fed. Cir. 2005) (rejecting claims to short, fragmentary gene sequences for failure to demonstrate utility).

³⁴³ See *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1567-69 (Fed. Cir. 1997) (affirming findings that claims to human, mammalian, and vertebrate DNA for expressing insulin failed written description requirement despite disclosure of amino acid sequence for human insulin and rat DNA).

³⁴⁴ *Id.*

³⁴⁵ *Fisher*, 421 F.3d at 1370-74.

manner.³⁴⁶ The invocation of utility in *Fisher* likewise led Judge Rader to note this was being used inappropriately in an effort to overcome the limitations of *Deuel*.³⁴⁷ What has not been meaningfully challenged, however, is the central holding of *Deuel* that obviousness is generally inapplicable to novel DNA sequences.

If *KSR* means what it says, this should change. *KSR* asserts that, absent something beyond normal skill in the application of the technique, predictable variations and the repeated use of known techniques lead to obvious results.³⁴⁸ This is precisely the nature of DNA technology. On the one hand, it can be argued that discovering particular DNA sequences, particularly previously unclaimed species, is little more than seeking out the predictable variations of known DNA sequences. Even more clearly, almost all new sequences determined at this point are the result of applying known, predictable techniques again and again. The creativity of the process lies in determining what to look for, not how to look for it. But forming such a plan has consistently been rejected as showing conception of a claim to a sequence,³⁴⁹ and would not seem to overcome an assertion of obviousness.

Taking *KSR* to its logical conclusion would thus have a significant impact on patents to DNA sequences. Generally, sequences in a field where related DNA were known (which would be a significant percentage of cases) would be *prima facie* obvious. Only DNA sequences that were the result of some novel technique would seem to have a chance at patentability. It remains to be seen if this invigoration of obviousness is something the Supreme Court comprehended or the marketplace for patents would tolerate. Only time will tell.

B. Does KSR Change the Standard of Enablement or Challenge the Written Description Doctrine?

In relevant part, § 112 of the patent act requires that the specification of a patent

³⁴⁶ See *Lizardtech, Inc. v. Earth Resource Mapping, Inc.*, 433 F.3d 1373, 1378 (Fed. Cir. 2006) (Rader, J., dissenting from order denying rehearing en banc) (“[T]his court provides no neutral standard of application for its evolving written description doctrine.”); *Univ. of Rochester v. G.D. Searle & Co., Inc.*, 375 F.3d 1303, 1309, 1314-25 (Fed. Cir. 2004) (Rader, J., dissenting from order denying rehearing en

banc) (cataloging extensive academic critiques of *Lilly* and/or written description requirement) (*Rochester II*).

³⁴⁷ *Fisher*, 421 F.3d at 1381-82 (Rader, J., dissenting).

³⁴⁸ See *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740, 1742 (2007).

³⁴⁹ See *Fiers v. Revel*, 984 F.2d 1164, 1170-71 (Fed. Cir. 1993); *Amgen v. Chugai*, 927 F.2d 1200, 1206 (Fed. Cir. 1991); see also *Brenner v. Manson*, 383 U.S. 519, 536 (1966) (“[A] patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion.”); *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997) (quoting *Brenner*).

contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.³⁵⁰

The concept of enabling a patent through its specification has existed in the patent law for more than 150 years.³⁵¹ “Although not explicitly stated in § 112, to be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’”³⁵² The idea behind this requirement is that if a person of skill in the art cannot make use of the full scope of the invention based on its description in the patent, then the patentee has failed to provide adequate consideration for the benefit of a right of exclusion.³⁵³

Of slightly more recent vintage is the view that this section also requires the patent to have an explicit enough “written description” that a person of “ordinary skill” can understand the exact scope of what the patentee invented.³⁵⁴ Unlike enablement, “written description” cases turn on the idea that the “public notice” function of patents requires a patentee to “describe the claimed invention so that one skilled in the art can recognize what is claimed.”³⁵⁵ Despite this language, the focus of this doctrine is not on whether a person of skill in the art understands the full scope of the claim – if a claim is not fatally indefinite (a distinct requirement of § 112), it is necessarily comprehensible by such a person.³⁵⁶ Instead, the cases really turn on the specification documents that the

³⁵⁰ 35 U.S.C. § 112, ¶1 (2006).

³⁵¹ See *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175-76 (1852) (assessing whether specification was clear enough to be understood by a “mechanic of ordinary skill”); *Woodworth v. Wilson*, 45 U.S. (4 How.) 712, 716 (1846) (same).

³⁵² *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993) (paraphrasing *In re Vaeck*, 947 F.2d 488, 495 (Fed. Cir. 1991)); see also *Genentech*, 108 F.3d at 1365 (quoting *Wright*).

³⁵³ *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003) (“[A]s part of the *quid pro quo* of the patent bargain, the applicant’s specification must enable one of ordinary skill in the art to practice the full scope of the claimed invention.”).

³⁵⁴ See *Univ. of Rochester v. GD Searle & Co., Inc.*, 358 F.3d 916, 921-25 (Fed. Cir. 2004) (tracing principle, in theory, to 1940s C.C.P.A. precedent and comments on “written description” generally even further) (*Rochester I*). But see *Rochester II*, 375 F.3d 1303, 1307 (Fed. Cir. 2004) (“In 1997, this court for the first time applied the written description language of 35 U.S.C. § 112, ¶1 as a general disclosure requirement in place of enablement, rather than in its traditional role as a doctrine to prevent applicants from adding new inventions to an older disclosure.”).

³⁵⁵ *Rochester I*, 358 F.3d at 922-23 (quoting *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968 (Fed. Cir. 2002)).

³⁵⁶ See *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008) (“[T]his [indefiniteness] standard is met where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on

“the patentee was in possession of the invention that is claimed.”³⁵⁷ In other words, the issue is whether a person of skill in the art would recognize the full scope of the claim as construed in the teachings of the specification. If not, then the claim was overbroad in that it exceeded the written description and is rendered invalid as a result.

KSR did not seek to address either of these requirements. Historically, both enablement and written description requirements are measured from what a person of ordinary skill would understand from the disclosure of the patent.³⁵⁸ In neither case is the patent required to spell out information that is known in the art.³⁵⁹ While the burden for attacking a granted patent for failure to satisfy either condition is on a defendant by clear and convincing evidence,³⁶⁰ a case is typically made by showing some gap between the literal language of the specification and the claims as construed, sometimes (but not always) coupled with some testimony that the prior art would not provide the means to bridge the gap.³⁶¹ The burden then effectively shifts to the patentee to explain how a person of skill in the art would really understand any gap.³⁶²

If *KSR* really means what it says, it raises some significant questions about the continuing propriety of these requirements, at least as currently applied. Both enablement and the written description requirement suggest that persons of skill in the art must be led through every aspect of a patent not explicitly understood in the prior art,

the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area.”).

³⁵⁷ *Capon v. Eshhar*, 418 F.3d 1349, 1357 (Fed. Cir. 2005).

³⁵⁸ See *Rochester I*, 358 F.3d at 922-23 (written description); *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993) (enablement).

³⁵⁹ See *Monsanto Co. v. Scruggs*, 459 F.3d 1328, 1337 (Fed. Cir. 2006) (applying written description requirement, finding that claims did not need to recite particular DNA sequences because claims were not limited to sequence and specification demonstrated that several

sequences were known and on deposit); *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1367 (Fed. Cir. 1997) (enablement).

³⁶⁰ *Monsanto Co.*, 459 F.3d at 1336-37 (Fed. Cir. 2006) (written description); *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1238-39 (Fed. Cir. 2003) (enablement).

³⁶¹ *Automotive Techs. Int’l., Inc. v. BMW of North Am., Inc.*, 501 F.3d 1274, 1283-84 (Fed. Cir. 2007) (finding that patent, while disclosing mechanical side impact sensor, did not enable the use of electronic sensors and hence didn’t enable full scope of claim); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1380 (Fed. Cir. 2007) (finding that as claims covered injector systems both with and without pressure jackets, but specification included only jacketed systems, the claims were not enabled) (*Liebel-Flarsheim II*); *Univ. of Rochester v. GD Searle & Co., Inc.*, 358 F.3d 916, 925-26 (Fed. Cir. 2004) (noting lack of disclosure of any compound to satisfy claimed function of inhibiting Cox-2 enzyme).

³⁶² *Rochester I*, 358 F.3d at 925-26 (noting lower court’s reliance on absence of testimony by patentee’s experts as to how compound required by claimed method would be identified by persons of skill in the art).

with no allowance for innovation or insight on their part. This, in turn, is directly contradictory to the finding in *KSR* that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.”³⁶³ An even-handed application of *KSR* would indicate that a patent would be valid so long as persons of “ordinary skill” could recognize the logical scope and limits of the specification through application of their native intellect and creativity, rather than solely from the prior art. While the proof of where this innovative talent ends might appear to be difficult to discern, it is no more so than attempting to assess what “ordinary creativity” will be for the purposes of obviousness. It is doubtful that the Court intended this consequence, but the alternative would be to define “persons of ordinary skill” differently for each distinct analysis, a result that would render patent law a Byzantine labyrinth of unimaginable dimensions.

B. The Impact of Creativity on Claim Construction

Claim construction – the process of determining the meaning of patent claims – is a central concept in patent law. As claims define the invention, it is a necessary component of determining infringement.³⁶⁴ It likewise is a necessary first step in assessing the validity of a claim.³⁶⁵ It is even used to determine whether a person made a sufficient contribution to the claimed invention to be considered an inventor.³⁶⁶ It is, in short, ubiquitous.

Claims are interpreted, in the first instance, from the perspective of persons of ordinary skill in the art.³⁶⁷ This is because patents are not written for the use of lay people but for others within a given field. This fact has led to a dichotomy in claim construction cases. Some cases endorse the use of general purpose dictionaries, at least when a term lacks a clear meaning in the art.³⁶⁸ Other cases suggest that where a term lacks a clear meaning in the art, it must be defined solely by resort to the specification.³⁶⁹ While the latest statement of the full Federal Circuit endorses both views in particular

³⁶³ *Id.*

³⁶⁴ *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc) (“An infringement analysis involves two steps. First, the court determines the scope and meaning of the patent claims asserted . . . and then the properly construed claims are compared to the allegedly infringing device”) (citation omitted).

³⁶⁵ *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000).

³⁶⁶ *See Trovan, Ltd. v. Sokymat SA*, 299 F.3d 1292, 1302 (Fed. Cir. 2002).

³⁶⁷ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005).

³⁶⁸ *See Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007) (using general dictionary meaning for “vertical” after assessing that there was no meaning in the art).

³⁶⁹ *Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n*, 366 F.3d 1311, 1321 (Fed. Cir. 2004).

cases,³⁷⁰ *KSR*'s recognition of creativity in persons of ordinary skill challenges the latter view, as a term can almost always be inferentially understood more generally than its use in a particular context.

As discussed above, dictionaries are standard tools of statutory construction.³⁷¹ As the Federal Circuit justified finding that claim construction is a matter of law on the similarity of a patent to a statute,³⁷² it should not be surprising that patent terms are often construed in light of dictionary definitions. These can be general purpose dictionaries, technical dictionaries, or both. For example, in *Verizon*,³⁷³ the court rejected a proposed construction of "destination" as used in "destination address" where it conflicted with a general dictionary definition of the term and the specification did not appear to require the proposed definition.³⁷⁴ Similarly, in *LB Plastics*,³⁷⁵ the Federal Circuit affirmed a construction of "weld" based on both general purpose and technical dictionaries.³⁷⁶

Not all panels of the Federal Circuit agree with the common use of dictionaries, though. A striking example of the contrary view is *Vanderlande*.³⁷⁷ There, a patented conveyor belt sorting system included a "glide surface" intended to improve the action of a "diverter shoe" in pushing objects off the conveyor belt to spur tracks.³⁷⁸ The defendant attempted to define the "glide" in glide surface as referring to the small pieces of plastic or cloth that make furniture more movable.³⁷⁹ While properly rejecting this tortured definition, the panel took a particularly harsh stance on the use of dictionaries. The panel held that unless there was positive evidence that those skilled in the art "would understand a claim term to have the same meaning in the art as that term has in common, lay usage," any term lacking a clear, art specific definition in the art would have to be construed solely on the basis of the specification.³⁸⁰ Consistent with this approach, any time a court decided that two or more words constituted a single claim term it would be likely to construe the terms strictly in accordance with the specification. This is

³⁷⁰ See *Phillips*, 415 F.3d at 1318.

³⁷¹ See *supra* Part III.B.

³⁷² *Markman v. Westview Instruments*, 52 F.3d 967, 987-88 (Fed. Cir. 1995).

³⁷³ *Verizon Services Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295 (Fed. Cir. 2007).

³⁷⁴ *Id.* at 1304-05.

³⁷⁵ *L.B. Plastics, Inc. v. Amerimax Home Prods., Inc.*, 499 F.3d 1303 (Fed. Cir. 2007).

³⁷⁶ *Id.* at 1308.

³⁷⁷ *Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n*, 366 F.3d 1311, 1314-17 (Fed. Cir. 2004).

³⁷⁸ *Id.* at 1321.

³⁷⁹ *Id.*

³⁸⁰ *Id.*

particularly likely in view of the Federal Circuit's own admission that such terms are often created by patent counsel, not inventors or workers in the field.³⁸¹

The full Federal Circuit's most recent attempt to address claim construction embraces both views, contradictory as that may seem. *Phillips* was expected to resolve the discordant trends in claim construction between cases that sought to establish an "ordinary meaning" for a term in the first instance without regard to the specification and those that suggested the specification was paramount. While indicating that meanings appearing clearly from the specification and prosecution history should control, *Phillips* nonetheless stated that a court could effectively use any sources it wanted to, in any order, in attempting to arrive at a construction.³⁸² Hence, cases can still run the gamut from relying on dictionaries to rejecting them outright.

Introducing creativity and problem solving as elements of a person of ordinary skill's character consistent with *KSR*³⁸³ would once again shift this balance. It seems to undercut any rationale for *Vanderlande*'s holding that in the absence of an immediate, art specific meaning for a claim a person of skill in the art would feel bound to use only the patent's teaching to define it. Rather, a court would have to analyze which inferences and creative steps the reader might take in reaching a full understanding of a patent. At a minimum, it would seem that such persons would seek out available reference materials to determine the meaning of terms. They would also seem likely, in the case of compound terms like "glide surface," to attempt to infer the meaning from the definitions of the component terms, rather than just try to glean a narrow meaning from the specification.

VI. CONCLUSION

Arriving at the central ruling in *KSR* did not require the Court to analyze "ordinary skill," "person of ordinary skill," or "person having ordinary skill." The lack of rigorous review, or even cited authority, for its conclusion that possessing skill necessarily indicates possession of creativity reinforces the impression that these comments were a gratuitous afterthought. The carelessness of these statements is confirmed by comparing them with a more rigorous study of the meaning of "ordinary skill" both as a matter of construction and precedent. The implications of a widespread implementation of *KSR*'s views on the nature of "persons of ordinary skill" are therefore quite disturbing. Hopefully, confronted with the scope of these problems and issues, either the Court or Congress will take the steps necessary to ensure these comments do

³⁸¹ *Markman v. Westview Instruments*, 52 F.3d 967, 985 (Fed. Cir. 1995) ("[C]ommonly the claims are drafted by the inventor's patent solicitor and they may even be drafted by the patent examiner in an examiner's amendment (subject to the approval of the inventor's solicitor)."); see also *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379 (Fed. Cir. 2000) (quoting *Markman I*).

³⁸² *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-18 (Fed. Cir. 2005).

³⁸³ *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741-42 (2007).

not become the proverbial devil in the details. Otherwise, all participants in patent law (inventors, prosecutors, examiners, litigators, and judges) will have to adjust their traditional views of “ordinary skill” and “persons having ordinary skill” to match these new, seemingly *a priori* views of the Court.