

REMIXING OBVIOUSNESS

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re•mix ... produce a different version of (a musical recording) by altering the balance of the separate tracks¹

One prior art patent describes an adjustable gas pedal for a car. Another prior art patent describes a pedal-mounted sensor to link the car pedal to a computer-controlled throttle. Would it have been obvious to a pedal engineer of ordinary skill, in February 1998, to combine the two prior art items into a sensor-bearing adjustable gas pedal? If so, the sensor-bearing pedal was not properly patentable, even if it was new at that time.

On roughly these facts, the Supreme Court granted review in *KSR International Co. v. Teleflex, Inc.*² to decide “[w]hether the Federal Circuit ha[d] erred in holding that a claimed invention cannot be held ‘obvious,’ and thus unpatentable under 35 U.S.C. § 103(a), in the absence of some proven “teaching, suggestion, or motivation” that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed.”³ Reversing the U.S. Court of Appeals for the Federal Circuit, and reinstating the District Court’s summary judgment of invalidity of the asserted patent claim, the Supreme Court concluded that “the Court of Appeals analyzed the issue in a narrow, rigid manner inconsistent with §103 and [the Supreme Court’s] precedents.”⁴ The factors the Supreme Court first set out 41 years ago, in *Graham v. John Deere Co.*,⁵ “continue to define the inquiry that controls”⁶ a nonobviousness determination.

The Court’s unanimous opinion did not, however, reject utterly the Federal Circuit’s suggestion test. Praising attentiveness to evidence of a suggestion to combine prior art teachings as “a helpful insight,” the Court agreed with the Federal Circuit that

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¹ THE NEW OXFORD AMERICAN DICTIONARY 1432 (2d ed. 2005).

² 127 S. Ct. 1727 (2007).

³ Petitioner’s Merits Brief at i, *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) (No. 04-1530) (quoting *Teleflex, Inc. v. KSR Int’l Co.*, 119 Fed. Appx. 282, 285 (Fed. Cir. 2005)).

⁴ 127 S. Ct. at 1746; *see also id.* at 1739 (“We begin by rejecting the rigid approach of the Court of Appeals.”), 1743 (“What we hold is that the fundamental misunderstandings identified above led the Court of Appeals in this case to apply a test inconsistent with our patent law decisions.”).

⁵ 383 U.S. 1, 17-18 (1966).

⁶ 127 S. Ct. at 1734.

“a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.”⁷ Indeed, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”⁸ As a result, “[t]here is no necessary inconsistency between the idea underlying the [suggestion] test and the *Graham* analysis.”⁹ The wholesome support that evidence of a pre-existing suggestion provides to the denial of patent protection becomes error only when it hardens into a *sine qua non*:

Helpful insights, however, need not become rigid and mandatory formulas; and when it is so applied, the [suggestion] test is incompatible with our precedents. The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. ... [W]hen a court transforms the general principle into a rigid rule that limits the obviousness inquiry, as the Court of Appeals did here, it errs.¹⁰

An “expansive and flexible approach” works best,¹¹ instead, and “[i]n determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls.”¹²

In what sense, if at all, does the Federal Circuit’s suggestion test survive? Is it possible to say more than that the inquiry is now more “expansive and flexible”? To answer these questions, we must grasp that the Supreme Court differs with the Federal Circuit not merely over verbal formulae, but rather over a foundational premise for the patent system: Mistakes are inevitable in any patent regime that, like our own, strives to

⁷ *Id.* at 1741.

⁸ *Id.* See also *id.* at 1740-41 (“Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.”).

⁹ *Id.* at 1741.

¹⁰ *Id.*

¹¹ *Id.* at 1739.

¹² *Id.* at 1741-42. See also *id.* at 1742 (“The Court of Appeals failed to recognize that the problem motivating the patentee may be only one of many addressed by the patent’s subject matter. ... Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”).

sort the nonobvious wheat from the obvious chaff. It is now plain that, for the Supreme Court, a wrongful patent grant is more harmful than a wrongful denial. For the Federal Circuit, by contrast, a wrongful patent denial is more harmful than a wrongful grant. As a result of this fundamental inversion, although the Supreme Court's *KSR* decision uses familiar expressions about the nonobviousness requirement, *KSR* remixes them in a transformative way. One of *KSR*'s teachings—"A person of ordinary skill is also a person of ordinary creativity, not an automaton."¹³—is refreshingly new to the nonobviousness canon. And it is around this "ordinary creativity" core that the Supreme Court reworks its longstanding cautions against extending patent protection too readily to recombinations of prior art technologies. The result is effectively a rebuttable presumption of obviousness for patent claims that remix prior art elements to yield predictable results.¹⁴ *KSR* is, in short, a remix about remixing.

This essay has three parts. First, I show that the Federal Circuit has predicated its suggestion test on the premise that hindsight-driven distortion poses the gravest risk to a proper nonobviousness inquiry. That court has shaped the suggestion test to prevent the wrongful denials of patent protection that hindsight bias would otherwise provoke. Specifically, in the Federal Circuit, the suggestion test's operational core has been a hypothetical person *having ordinary skill in the art* ("phosita") who is drained of all creativity, spontaneity, and inventiveness—in short, a dullard who cannot innovate without a pointer showing the way. On this view, inventors merit our protection because they are (literally) in a class by themselves. Next, I show how *KSR* rejects hindsight dread and the dullard phosita by foregrounding the Court's longstanding skepticism toward patent claims that recite a new combination of prior art elements, also known as "combination claims." In doing so, the Court upends a quarter century of Federal Circuit denial that combination claims, as a group, merit a more skeptical stance. The new operational core is not a dullard phosita, but rather a person of ordinary skill *and creativity* in the art—a "phosacita." Finally, ending with a remix of my own, I propose a framework for determining whether a combination claim is nonobvious, adapting a rebuttable presumption mechanism that, until now, the Federal Circuit

¹³ *Id.* at 1742.

¹⁴ *Id.* at 1739 ("The combination of familiar according to known methods is likely to be obvious when it does no more than yield predictable results.").

has reserved for claims that recite a variable that falls within a range already shown in the prior art.

The Hindsight Lament

The Federal Circuit had long held that, to prove that an invention would have been obvious to the ordinary artisan, it was not enough to show that the pertinent prior art at the time taught the ordinary artisan all (or most of) the separate parts of an invention, and their respective functions, in a grouping of pertinent prior art references.¹⁵ One had to prove, in addition, that “the prior art as a whole would have suggested [the invention] to one skilled in the art.”¹⁶

The Federal Circuit’s demand for proof of a suggestion or motivation to combine or modify the pertinent prior art was aimed specifically at preventing the hindsight bias from tainting the nonobviousness inquiry. Psychologist Baruch Fischhoff, commenting on the then-current literature, described the hindsight bias as follows:

In hindsight, people consistently exaggerate what could have been anticipated in foresight. They not only tend to view what has happened as having been inevitable but also to view it as having appeared “relatively inevitable” before it happened. People believe that others should have been able to anticipate events much better than was actually the case. They even misremember their own predictions so as to exaggerate in hindsight what they knew in foresight.¹⁷

The Federal Circuit’s unflagging effort to prevent hindsight bias is not merely a recent reflection of cognitive social psychology findings. To the contrary, “concern about the corruption of judgments of nonobviousness by improper ‘hindsight’ is a strong theme in Federal Circuit opinions.”¹⁸

¹⁵ Where the prior art contains a *single* reference that shows each and every limitation of the claimed invention (expressly or inherently), the invention is old, *i.e.*, it fails the novelty criterion. See ROGER SCHECHTER & JOHN R. THOMAS, PRINCIPLES OF PATENT LAW 77 (2d ed. 2004) (“An invention is judged novel unless a *single prior art reference* discloses every element of the challenged claim and enables one skilled in the art to make the invention.”) (emphasis added). In such a case, there is no need to further inquire whether the invention would have been obvious.

¹⁶ *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir. 1983) (affirming the trial court’s conclusion that the claimed invention was not invalid for obviousness). Citations for the point are legion. See 2 DONALD S. CHISUM, CHISUM ON PATENTS § 5.04[1][e][ii] at notes 56, 57 (2005) (collecting cases).

¹⁷ Baruch Fischhoff, *For Those Condemned to Study the Past: Heuristics and Biases in Hindsight*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 335, 341 (Daniel Kahneman *et al.* eds., 1982).

¹⁸ Rebecca S. Eisenberg, *Obvious to Whom? Evaluating Inventions from the Perspective of*

This concern about hindsight bias has a fine pedigree. For well over a century, U.S. courts—including the Supreme Court—have been alert to the distortion that hindsight threatens when, long after the fact, one evaluates whether an invention would have been obvious to the ordinary artisan at the time the actual invention took place.¹⁹ It is only a slight exaggeration to say that we have had judicial hand wringing about the

PHOSITA, 19 BERKELEY TECH. L.J. 885, 887 (2004). Professors Merges and Duffy, in their comprehensive and engaging study of the *Graham* case, opine that “[t]he Federal Circuit has been obsessed with avoiding hindsight to deny patents to meritorious inventions.” John F. Duffy & Robert P. Merges, *The Story of Graham v. John Deere Company: Patent Law’s Evolving Standard of Creativity*, in *INTELLECTUAL PROPERTY STORIES* 108, 155 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2006).

¹⁹ See, e.g., *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966) (approving “secondary considerations” evidence on the ground that it “may also serve to ‘guard against slipping into use of hindsight’ and to resist the temptation to read into the prior art the teachings of the invention in issue”) (quoting *Monroe Auto Equip. v. Heckethorn Mfg.*, 332 F.2d 406, 412 (6th Cir. 1964)); *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U.S. 275, 279 (1943) (“Viewed after the event, the means Anthony adopted seem simple and such as should have been obvious to those who worked in the field, but this is not enough to negative invention.”); *Loom Co. v. Higgins*, 105 U.S. 580, 591 (1881) (“Now that it has succeeded, it may seem very plain to any one that he could have done it as well. This is often the case with inventions of the greatest merit.”); *S.H. Kress & Co. v. Aghnides*, 246 F.2d 718, 723 (4th Cir. 1957) (“Obviousness does not mean that one skilled in the art can perceive the solution after it has been found and pointed out by someone else; the test of obviousness is as of an earlier time, when the search is on.”); *Graham v. Jeffrey Mfg.*, 206 F.2d 769, 772 (5th Cir. 1953) (“in determining whether invention exists in a given device, courts should guard against oversimplification through a hindsight view of the problem as originally encountered”); *Scott & Williams, Inc. v. Whisnant*, 126 F.2d 19, 22 (4th Cir. 1942) (“After a new invention is completed, it is then very easy to see how it was accomplished. But such enlightenment, resembling apparent simplicity, is the product of hindsight.”); *Lakeshire Cheese Co. v. Shefford Cheese Co.*, 72 F.2d 497, 499 (7th Cir. 1934) (“Whether a patent involves invention is to be determined in the light of historical facts rather than what might appear to be simple in the light of hindsight.”); *Skinner Bros. Belting Co. v. Oil Well Improvements Co.*, 54 F.2d 896, 898 (10th Cir. 1931) (“We know that we should try to eliminate ‘hindsight’; we know that the fact that the problem existed, that financial reward awaited a solution, and that no one did think of it, is strong evidence of invention.”); *Faries Mfg. v. George W. Brown & Co.*, 121 F. 547, 550 (7th Cir. 1902) (“[T]he same wonder accompanies every step forward in the useful arts. The eye that sees a thing already embodied in mechanical form gives little credit to the eye that first saw it in imagination. But the difference is just the difference between what is common observation and what constitutes an act of creation. The one is the eye of inventive genius; the other of a looker on after the fact.”); *Johnson v. Forty-Second St. R. Co.*, 33 F. 499, 501 (C.C.S.D.N.Y. 1888) (“In judging of the invention care should be taken not to underestimate its value, because the apparatus, now that we have seen it work, seems so plain and simple. ... There is always the danger, unless care is taken to divest the mind of the idea added to the art by the inventor, that the invention will be viewed and condemned in the light of ascertained facts. With his description for a guide, it is an easy task to trace the steps from the aggregation to the invention.”).

hindsight bias for about as long as we have had a nonobviousness requirement for patent protection.

The contemporary Federal Circuit has justified its suggestion test as the key guardian against hindsight-based wrongful rejections of patent rights: “To prevent hindsight invalidation of patent claims, the law requires some ‘teaching, suggestion, or reason’ to combine cited references.”²⁰ For example, in a recent case overturning a Patent Office determination that a decorative jack-o-lantern plastic lawn bag for leaves would have been obvious, the Federal Circuit succinctly explained that

the best defense against the subtle but powerful attraction of hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.²¹

In the *Dembiczak* case, the court reversed the Patent Office’s conclusion that the lawn bag invention at issue would have been obvious due to the lack of sufficient record evidence of a suggestion or motivation to combine the jack-o-lantern paper bag prior art with the orange plastic trash bag prior art that the Patent Office had before it.²²

The Federal Circuit’s hindsight-prevention rationale for the suggestion test did not originate in that court. Instead, it originated in one of its two predecessor courts, the Court of Customs & Patent Appeals (“CCPA”). No later than 1975, Judge Giles Rich made the link quite clear: “There must ... be a reason apparent at the time the invention

²⁰ *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001).

²¹ *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). It must be said, however, that combination without suggestion shows hindsight only to the extent that an ordinary artisan is incapable of creatively, spontaneously remixing known prior art elements when confronted with a new problem.

²² *Id.* at 999-1001. Professors Schechter and Thomas conclude their discussion of the lawn bag case by observing that

[i]n cases such as *Dembiczak* the court’s reasoning seems excessively mechanical. ... In most fields, practitioners are seldom such dullards as to require detailed step-by-step instructions to accomplish basic tasks. Yet here, and in other cases, the Federal Circuit seems to state that an invention would not have been obvious unless its precise recipe existed in the prior art. ... Worse, the current Federal Circuit approach risks diluting the nonobviousness requirement to little more than an anticipation test conducted over multiple references.

SCHUCHTER & THOMAS, *supra* note 15, at 161 (footnote omitted).

was made to the person of ordinary skill in the art for applying the teaching at hand, or the use of the teaching as evidence of obviousness will entail prohibited hindsight.”²³ Not long after the Federal Circuit’s creation in 1982, Chief Judge Howard Markey reaffirmed the CCPA’s hindsight-prevention rationale for demanding proof of a suggestion as part of one’s obviousness case:

To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.²⁴

Recent cases simply echo this now-familiar equation: “the suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness.”²⁵

The Federal Circuit’s vigilance against a creeping hindsight bias led it, in turn, to dumb down the hypothetical phosita. Indeed, the court has indulged “a judicial presumption, with little if any support in the statutory language, that [the] PHOSITA is an uncreative plodder, incapable of making inventions of his own.”²⁶ Judge Rich, once again, clearly set out the theory:

The statutory emphasis [in the Patent Act] 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

²³ In re Nomiya, 509 F.2d 566, 573 (CCPA 1975) (Rich, J.). *Nomiya*’s hindsight prevention/suggestion test link is itself supported by two decades of CCPA caselaw. See, e.g., In re Scott, 323 F.2d 1016, 1020 (CCPA 1963) (Rich, J.) (“The rejection, in our opinion, is based upon an improper hindsight view of the art after having full benefit of appellant’s disclosure. The concept [of the claimed invention] is not fairly suggested in the art.”); In re Shaffer, 229 F.2d 476, 479 (CCPA 1956) (“[I]t is not enough for a valid rejection to view the prior art in retrospect once an applicant’s disclosure is known. The art applied should be viewed by itself to see if it fairly disclosed doing what an applicant has done.”).

²⁴ W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983) (Markey, C.J.). Again, equating combination-absent-suggestion with hindsight ignores the role an ordinary artisan’s ordinary creativity plays in solving problems.

²⁵ In re Rouffet, 149 F.3d 1350, 1358 (Fed. Cir. 1998).

²⁶ Eisenberg, *supra* note 18, at 891. See also Joseph P. Meara, *Just Who is the Person Having Ordinary Skill in the Art? Patent Law’s Mysterious Personage*, 77 WASH. L. REV. 267, 276 (2002) (“Phosita is not the inventor, but rather an uncreative person that thinks along conventional lines, never seeking to innovate.”).

or would likely have done, faced with the revelations of [the prior art] references. 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.²⁷

Perhaps a dullard phosita is the inevitable by-product of a vigorous suggestion test. The accomplishments of a creative, rather than a dullard, artisan of ordinary skill would doubtless be harder to distinguish from a hindsight-driven retrospective assessment of a patent applicant's contribution to the field; as the suggestion test drives out hindsight, it drives down the phosita's competence. In any event, a focus on express suggestions in the prior art—the more common kind²⁸—deflates the ordinary artisan's problem-solving skills. As Professor Eisenberg put it, “[a]ctive practitioners of a technology bring more to a problem than may be found in written prior art, including training, judgment, intuition, and tacit knowledge acquired through field experience.”²⁹

If the court's cases are any indication, fear of hindsight-driven distortion has played a large role in the Federal Circuit's drift to an improperly rigid suggestion test. In the service of that test, the court drained the phosita of the creative problem-solving, inventive skills that are the natural heritage of developmentally healthy human beings. Linked together, the dullard phosita and rigid suggestion test made for an easily cleared nonobviousness hurdle: “[A]ny independent thought overcomes the nonobvious bar. If a mediocre artisan has to do more than read the prior art and myopically follow its suggestions, the invention is not obvious.”³⁰ Thus matters stood at the Federal Circuit before *KSR*.

²⁷ *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985) (Rich, J.).

²⁸ *See Rouffet*, 149 F.3d at 1355-56 (“Although the suggestion to combine references may flow from the nature of the problem, the suggestion more often comes from the teachings of the pertinent references or from the ordinary knowledge of those skilled in the art that certain references are of special importance in a particular field.”) (citations omitted).

²⁹ Eisenberg, *supra* note 18, at 897.

³⁰ *Samson Vermont, A New Way to Determine Obviousness: Applying the Pioneer Doctrine to 35 U.S.C. § 103(a)*, 29 AIPLA Q.J. 375 (2001). *See also* FEDERAL TRADE COMMISSION, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY ch. 4, p. 14 (2003) (“Some applications of the suggestion test ... appear almost to have read the PHOSITA out of the statute. Inventive processes typically involve judgment, experience, and common sense capable of connecting some dots. The suggestion test, rigidly applied, assumes away a PHOSITA's typical levels of creativity and insight and supports findings of nonobviousness even when only a modicum of additional insight is needed.”) (footnote omitted).

The Ordinary Creativity Impromptu

KSR demotes the hindsight bias from *bête noire* to manageable pest. At the same time, it foregrounds the phosita's creativity. This is the new environment in which the remaining trace of the suggestion principle must live, an environment that gives the suggestion inquiry an entirely different tone.

The Supreme Court does not deny that hindsight bias is a risk in deciding whether a claimed invention would have been obvious. In *Graham*, its seminal decision on how to implement § 103, the Court acknowledged the helpful role that objective evidence (*e.g.*, long-felt unmet need, the failure of other artisans to solve the problem) can play in ameliorating the effects of hindsight.³¹ In *KSR*, the Court reaffirms *Graham*³² and, at the same time, critiques the Federal Circuit's relentless focus on the hindsight bias as a "fundamental misunderstanding": "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning. Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it."³³ Hindsight dread, the soul of the Federal Circuit's suggestion test, should no longer drive the nonobviousness inquiry.

What, if anything, replaces the Federal Circuit's concern about hindsight bias? The Supreme Court twice voices concern in *KSR* about the harm to innovation that wrongful patent grants produce. First, in concluding that "[t]he diversity of inventive pursuits and of modern technology counsels against" a "formalistic" suggestion test, the Court explains that "[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility."³⁴ Second, in summarizing its holding, the Court concludes that, because "progress beginning from higher levels of achievement is expected in the normal course, the re-

³¹ *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966) (approving "secondary considerations" evidence on the ground that it "may also serve to 'guard against slipping into use of hindsight' and to resist the temptation to read into the prior art the teachings of the invention in issue") (quoting *Monroe Auto Equip. v. Heckethorn Mfg.*, 332 F.2d 406, 412 (6th Cir. 1964)).

³² 127 S. Ct. at 1734.

³³ *Id.* at 1742-43.

³⁴ *Id.* at 1741.

sults of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts.”³⁵ In a sense, the Court guides us away from a familiar and tempting *hero bias*, *i.e.*, the tendency to confer an unwarranted “heroic inventor” status on one who simply makes an obvious invention using ordinary creativity.³⁶ And, as the foregoing shows, the Court views it as more important to avoid the wrongful grant of an obvious patent than to avoid the wrongful denial of a nonobvious one.

Perhaps nothing better demonstrates the Supreme Court’s rejection of the Federal Circuit’s pre-*KSR* suggestion test than the Court’s renewed conclusion that a claim that recites a new combination of elements already known in the art, *i.e.*, a combination claim, is presumptively obvious. More than 55 years ago, in *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, the Court posed the general question, “What indicia of invention should the courts seek in a case where nothing tangible is new, and invention, if it exists at all, is only in bringing old elements together?”³⁷ In answering, the Court summarized what was already a settled principle:

Courts should scrutinize combination patent claims with a care proportioned to *the difficulty and improbability of finding invention in an assembly of old elements*. The function of a patent is to add to the sum of useful knowledge. Patents cannot be sustained when, on the contrary, their effect is to subtract from former resources freely available to skilled artisans. A patent for *a combination which only unites old elements with no change in their respective functions, such as is presented here*, obvi-

³⁵ *Id.* at 1746. See also *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150 (1989) (“Taken together, the novelty and nonobviousness requirements express a congressional determination that the purposes behind the Patent Clause are best served by free competition and exploitation of either that which is already available to the public or that which may be readily discerned from publicly available material.”).

³⁶ Commentators have long recognized that the “heroic inventor” icon plays a central role in our accounts of innovation. See, e.g., Ralph C. Epstein, *Industrial Invention: Heroic, or Systematic?*, 40 Q.J. ECON. 232, 237-38 (1926) (“When one man is given complete or practically complete credit for a particular invention, when that invention is conceived to have flashed virtually from his brain alone, or to have been worked out by him as a result of his peculiar inspiration or genius, we have what may be termed an ‘heroic theory’ of invention. Such accounts of the course of invention are commonly found in biographies. ... What the advocates of the heroic theory always assert or imply is that without the one man whose life they are chronicling, a particular invention could not, or would not, readily have been forthcoming.”); Mark D. Janis, *Patent Abolitionism*, 17 BERKELEY TECH. L.J. 899, 910-22 (2002) (discussing at length “the ‘heroic inventor’ in U.S. patent law iconography”).

³⁷ 340 U.S. 147, 150 (1950).

ously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men.³⁸

With respect to the grocery store check-out counter patent in suit, the *Great Atlantic* Court concluded that “[t]his case is wanting in any unusual or surprising consequences from the unification of the elements here concerned, and there is nothing to indicate that the lower courts scrutinized the claims in light of this rather severe test.”³⁹

In *KSR*, the Court squarely reaffirms its skepticism of combination claims, putting that skeptical stance on an equal doctrinal footing with both § 103 of the Patent Act, enacted two years after *Great Atlantic*,⁴⁰ and the seminal *Graham* case:

Neither the enactment of § 103 nor the analysis in *Graham* disturbed this Court’s earlier instructions concerning the need for caution in granting a patent based on the combination of elements found in the prior art. ... The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.⁴¹

³⁸ *Id.* at 152-53 (emphases added). For a comprehensive review of earlier Supreme Court cases that hewed to the same principle, see Mary Helen Sears, *Combination Patents and 35 U.S.C. § 103*, 1977 DET. C.L. REV. 83, 91-94.

³⁹ 340 U.S. at 152.

⁴⁰ 66 Stat. 792, 798. Judge Rich later recounted that the Court’s decision in *Great Atlantic* galvanized the patent bar to press for a new Patent Act section on nonobviousness that would supersede, among other things, *Great Atlantic* itself:

In December 1950 the bar was far from unanimous in thinking that the statute should deal with the requirement for “invention,” not even the members of the Committee agreed. There are always those who prefer the *status quo*, with which they have learned to live, no matter how ridiculous it may be. Now, it is very significant that what persuaded the Coordinating Committee to replace the case law with a statutory provision was the Supreme Court’s opinion, and Mr. Justice Douglas’ concurring opinion, published in the New York Times on the very day in 1950 the Committee was having a meeting, in the case of *The Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 87 USPQ 303, (The “A&P” Case on the checkout counter). I am sure that it is because I remember reading the opinions aloud that day to the Drafting Committee. The decision may have been all right, but we considered what was said in the opinions to be typical of all that was wrong with the patent law’s “invention” requirement. ... [W]e determined to replace [the majority opinion in *A&P*] with a statute that hopefully made more sense. And my position is that Congress, enacting the Patent Act of 1952, *did* replace the *A & P Case* reasoning—not its decision on the facts—by substituting statutory for case law.

Giles S. Rich, *Laying the Ghost of the “Invention” Requirement*, 1 APLA Q.J. 26, 32-33 (1972). *KSR*, embracing *Great Atlantic* alongside § 103, squarely rejects this position.

⁴¹ 127 S. Ct. at 1739 (citing *Great Atlantic*). See also *id.* at 1740 (“when a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious”) (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)), 1740 (“a court must ask whether the im-

The Supreme Court's enduring caution toward the patentability of combination claims is especially striking because the Federal Circuit, and the CCPA before it, repeatedly rejected this approach as errant nonsense, often denying the very notion of a combination claim as an identifiable type of claim.⁴² By 1991, the Federal Circuit could state, with no

provement is more than the predictable use of prior art elements according to their established functions”), 1741 (noting that “common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions”).

The Supreme Court's synthesis of *Great Atlantic* and *Graham* is prefigured by regional circuit cases from the 1970s and 1980s, which are replete with much the same synthesis as that found in *KSR*. See, e.g., *Reed Tool Co. v. Dresser Indus.*, 672 F.2d 523, 527-28 (5th Cir. 1982) (applying *Great Atlantic* together with *Graham*); *M-C Indus. v. Precision Dynamics Corp.*, 634 F.2d 1211, 1213-14 (9th Cir. 1980) (same); *Dual Mfg. v. Burriss Indus.*, 619 F.2d 660, 665-66 (7th Cir. 1980) (en banc) (same); *Reinke Mfg. v. Sidney Mfg.*, 594 F.2d 644, 646, 648-52 (8th Cir. 1979) (same); *Astro Music, Inc. v. Eastham*, 564 F.2d 1236, 1237-38 (9th Cir. 1977) (same); *Robbins Co. v. Dresser Indus.*, 554 F.2d 1289, 1290-91, 1295 (5th Cir. 1977) (same); *Deere & Co. v. Sperry Rand Co.*, 513 F.2d 1131, 1132-33 (9th Cir. 1975) (same); *Regimbal v. Scymansky*, 444 F.2d 333, 338-40 (9th Cir. 1971) (same).

⁴² See, e.g., *Milliken Research Corp. v. Dan River, Inc.*, 739 F.2d 587, 593 (Fed. Cir. 1984) (Nies, J.) (“Milliken is correct that this court has discarded the proposition[] that it is difficult to find ‘true invention,’ i.e., non-obviousness, in a combination patent”); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 961 (Fed. Cir. 1983) (Markey, C.J.) (“It is ... simplistically unrealistic to employ a separate test of patentability for combinations of old elements when the language of the 1952 Patent Act provides no basis for either classifying patents into different ‘types’ or for applying different treatment to different ‘types’ of patents.”); *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1566 (Fed. Cir. 1983) (Rich, J.) (“There is neither a statutory distinction between ‘combination patents’ and some other, never defined type of patent, nor a reason to treat the conditions for patentability differently with respect to ‘combination patents.’ It but obfuscates the law to posit a non-statutory, judge-created classification labeled ‘combination patents.’”); *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579 (Fed. Cir. 1983) (Rich, J.) (“It was error for the district court to derogate the likelihood of finding patentable invention in a combination of old elements. No species of invention is more suspect as a matter of law than any other.”); *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir. 1983) (Markey, C.J.) (“That all elements of an invention may have been old (the normal situation), or some old and some new, or all new, is however, simply irrelevant. Virtually all inventions are combinations and virtually all are combinations of old elements.”); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540 (Fed. Cir. 1983) (Markey, C.J.) (“There is no warrant for judicial classification of patents, whether into ‘combination’ patents and some other unnamed and undefined class or otherwise. Nor is there warrant for differing treatment or consideration of patents based on a judicially devised label. Reference to ‘combination’ patents is, moreover, meaningless.”); *In re Menough*, 323 F.2d 1011, 1015 (CCPA 1963) (Rich, J.) (“Mechanical elements can do no more than contribute to the combination the mechanical functions of which they are inherently capable. The patentability of combinations has always depended on the unobviousness of the combination per se.”). One commentator, at least, proved prescient, opining that “the legal authority for the [Federal Circuit's] combination standards ... may well turn out to be a house of cards under the scrutiny of the Supreme Court.” Robert W. Harris, *Prospects for Supreme Court Review of the Federal Circuit Standards for Obviousness of Inventions Combin-*

apparent hint of irony, that it “has dispelled th[e] notion that ‘combinations inventions’ are to be treated differently from other inventions.”⁴³ This “notion” was not, of course, the Federal Circuit’s to dispel. As Professor Lunney put it in 2000, “the Federal Circuit has refused to follow the Supreme Court’s lead on this issue.”⁴⁴ That refusal plainly cannot continue.

The presumptive obviousness of combination claims, reaffirmed in *KSR*, is compelling not merely on *stare decisis* grounds, but also because the approach highlights the basic incompatibility between the Federal Circuit’s dullard phosita and the expansive inquiry about any “apparent reason to combine the known elements”⁴⁵ that *KSR* mandates. An ordinary artisan endowed with enough creativity to prevent the nonobviousness standard from collapsing into a multi-reference novelty standard⁴⁶ will rou-

ing Old Elements, 68 J. PAT. & TRADEMARK OFF. SOC’Y 66, 67 (1986).

Chief Judge Markey, in a 1983 talk at the University of Chicago Law School, attacked the notions that “a combination of old elements is not patentable” and that “[a]n invention in which each element performs only its expected function is not patentable,” classing the Supreme Court’s decision in *Great Atlantic* as misguided. Howard T. Markey, *Why Not the Statute?*, 65 J. PAT. OFF. SOC’Y 331, 333-35 & n.8 (1983). According to Chief Judge Markey, “[t]he question is not, or never should be, whether all of the elements in the combination are old. Only God works from nothing. Man must work with old elements.” *Id.* What this view overlooks, however, is that, by using a presumption framework that turns on whether a claim is a combination claim, we can structure the process of inquiring about nonobviousness to get more accurate outcomes more efficiently. *KSR* deploys *Great Atlantic* for just this enhanced accuracy and efficiency, thereby rejecting Chief Judge Markey’s antipresumption binarism, according to which “[i]deally, all patent rights to all inventions ... would receive the same ‘scrutiny’ under the statute” and “[t]he claimed invention either meets the patentability requirements of the statute or it doesn’t.” *Id.* at 334 n.7.

⁴³ *Ryko Mfg. v. Nu-Star, Inc.*, 950 F.2d 714, 717 (Fed. Cir. 1991). *But cf.* *Republic Indus. v. Schlage Lock Co.*, 592 F.2d 963, 972 & n.25 (7th Cir. 1979) (It is a “truism that when all the parts of a claimed invention are known, the combination (and the act of combining) is likely to be more obvious to one reasonably skilled in the art.”²⁵ [Note 25] The Supreme Court has expressed this idea in similar terms: ‘Courts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding (a patentable) invention in an assembly of old elements. ...’ *Great A & P Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 152 (1950). *Accord, Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 281 (1976).”); *Reeves Instrument Corp. v. Beckman Instruments, Inc.*, 444 F.2d 263, 271 (9th Cir. 1971) (“The [Supreme] Court’s decision in *A&P* recognizes that non-obviousness is less likely to occur in combination patents, and therefore applies a somewhat more stringent rule of non-obviousness to such patents. It is not inconsistent with, but merely in application of, the general rule stated in [§] 103.”).

⁴⁴ Glynn S. Lunney, Jr., *E-Obviousness*, 7 MICH. TELECOMM. & TECH. L. REV. 363, 379 (2000). Prof. Lunney’s observation is not a new one. Thirty years ago, Sears described the same intransigence as it had been shown up to 1977. *See Sears, supra* note 38, at 95-105.

⁴⁵ 127 S. Ct. at 1741.

⁴⁶ As I have explained elsewhere,

tinely solve problems by adaptively remixing prior art elements. The Court thus instructs us that, when exploring the reason to combine known elements, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.”⁴⁷ Describing the Federal Circuit’s errors in analyzing the validity of the claim in suit, the Court also states that “in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.”⁴⁸ The Court even rejects as error the Federal Circuit’s routine denial of an “obvious to try” account of why a given invention would have been obvious, relying instead on the ordinary artisan’s ordinary creativity in trying out familiar options.⁴⁹ In short, “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton,”⁵⁰ as the literature on the psychology of problem solving indicates.⁵¹ The Supreme

denying the ordinary artisan’s creative capacity threatens to collapse the nonobviousness requirement into a mere supernovelty requirement. If ordinary artisans truly cannot invent, then every new invention necessarily constitutes an advance beyond the reach of the ordinary inventor; nonobviousness is assured, by definition. All that remains is to verify that no express pointer in the art directs the ordinary artisan to an insight he is powerless to make on his own. In such a regime, an invention is *new* if it is not already taught by a single piece of prior art, and it is *supernew* (and thus patentable), even if its elements are scattered among the art, so long as there is no suggestion to combine or modify that prior art to make the new invention.

Joseph Scott Miller, *Nonobviousness: Looking Back and Looking Ahead*, in 2 INTELLECTUAL PROPERTY AND INFORMATION WEALTH: ISSUES AND PRACTICES IN THE DIGITAL AGE 1, 12 (Peter Yu ed. 2006). See also SCHECHTER & THOMAS, *supra* note 15, at 161 (“Worse, the current Federal Circuit approach risks diluting the nonobviousness requirement to little more than an anticipation test conducted over multiple references.”); John H. Barton, *Non-Obviousness*, 43 IDEA 475, 496 (2003) (“Asking whether there was a suggestion in the prior art to combine two references seems much closer to a novelty test than to a non-obviousness test—and using this standard as a bright line for non-obviousness effectively eliminates the non-obviousness requirement.”); Timothy R. Holbrook, *Possession in Patent Law*, 59 SMU L. REV. 123, 170-72 (2006) (arguing that a rigid suggestion test converts the obviousness inquiry into an anticipation inquiry).

⁴⁷ 127 S. Ct. at 1741. In other words, we can count on a person of ordinary skill to take “creative steps” and make inferences about how to remix prior art elements effectively.

⁴⁸ *Id.* at 1742.

⁴⁹ *Id.* (“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.”).

⁵⁰ *Id.* Thirty years ago, Sears drew the same conclusion from her review of the Supreme Court’s

Court has thus banished the dullard phosita of *Standard Oil*, just as the Federal Trade Commission recommended in its 2003 report⁵² and as two *amici*, including the United States, urged in *KSR*.⁵³

The Combination Claim Antiphony

What is the way forward, then? Although I have used the phrase “presumptively obvious” here, it is not a phrase that appears in *KSR*. Indeed, the only presumption the Court mentions in *KSR* is the presumption of validity that extends to all issued patents.⁵⁴ Thus one could argue, with some reason, that it goes too far, after *KSR*, to formally establish a rebuttable presumption framework for adjudicating the obviousness *vel non* of combination claims: “The Court could have created a presumption if it wanted to, but it didn’t. We shouldn’t either” This argument seems even stronger when one considers that the Supreme Court has not been shy about creating new presumptions in recent cases, at least where the “doctrine of equivalents theory” of patent infringement is concerned.⁵⁵

leading cases, including *Great Atlantic & Pacific Tea*. See *Sears*, *supra* note 38, at 99 (“the level of ordinary skill at any given time affords the basis for associating old elements in *any* manner which merely takes advantage of their known capabilities.”) (emphasis in original).

⁵¹ [citations]

⁵² TO PROMOTE INNOVATION, *supra* note 30, at ch. 4, p. 15 (“The Commission urges that in assessing obviousness, the analysis should ascribe to the person having ordinary skill in the art an ability to combine or modify prior art references that is consistent with the creativity and problem-solving skills that in fact are characteristic of those having ordinary skill in the art.”).

⁵³ Brief for the United States as Amicus Curiae Supporting Petitioner at 25, *KSR Int’l Co. v. Teleflex, Inc.*, 27 S. Ct. 1727 (2007) (No. 04-1530) (“The Federal Circuit’s systemic diminishment of the role of the person of ordinary skill and its miserly assessment of that person’s capabilities has distorted the *Graham* framework. The Court should reiterate that the role of the hypothetical person of ordinary skill is critical in the nonobviousness inquiry and that the person is understood to have ‘an ability to combine and modify prior art references that is consistent with the creativity and problem-solving skills that in fact are characteristic of those having ordinary skill in the art.’”) (quoting TO PROMOTE INNOVATION, *supra* note 30, at ch. 4, p. 15); Brief of Intellectual Property Law Professors as *Amici Curiae* in Support of Petitioner at 26, *KSR Int’l Co. v. Teleflex, Inc.*, 27 S. Ct. 1727 (2007) (No. 04-1530) (“The factual determination of the level of ordinary skill in the art should not be limited to the content of prior art references, the common knowledge of those in the art, and any suggestions to combine the art that are found in those references or knowledge. It should also encompass the PHOSITA’s ordinary inventive skills, the tools and methods routinely applied in her field, and the kinds of experimentation she does and problems she solves as a matter of course.”).

⁵⁴ See 127 S. Ct. at 1745 (discussing the presumption); 35 U.S.C. § 282 (establishing the presumption).

⁵⁵ See *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 23 (1997) (establishing a rebuttable presumption that a claim amendment was for reasons of patentability); *Festo v.*

The Court's clear recommitment to *Great Atlantic*, however, requires that the lower courts, and the Patent Office, find a way reliably to treat combination claims with the proper caution against erroneously granting patent protection to what is, in truth, an ordinary innovation. A rebuttable presumption of obviousness, applicable against combination claims, seems the best way to prompt the patentee to provide an adequate evidentiary basis for rejecting what is more likely true, given that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results."⁵⁶ Indeed, such prompting is among a presumption's classic functions.⁵⁷ And given that petitioner KSR urged the Court to put less of a premium on fully stating a formal legal framework than on rejecting the patentability of the adjustable pedal patent on the merits,⁵⁸ perhaps we have a little more liberty to translate *KSR*'s instructions into a presumption model.

A nonobviousness analysis requires, in effect, a call and response. I first proposed a version of this rebuttable presumption model in May 2006,⁵⁹ without the benefit of *KSR*; and after *KSR*, it seems more appropriate than ever. Cast in terms of Patent Office process, the call and response would proceed as follows:

Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 740-41 (2002) (establishing a rebuttable presumption that a narrowing claim amendment estops reliance on the doctrine of equivalents). See also *TrafFix Devices, Inc. v. Marketing Displays, Inc.*, 532 U.S. 23, 29-30 (2001) ("A utility patent is strong evidence that the features therein claimed are functional. If trade dress protection is sought for those features the strong evidence of functionality based on the previous patent adds great weight to the statutory presumption that features are deemed functional until proved otherwise by the party seeking trade dress protection. Where the expired patent claimed the features in question, one who seeks to establish trade dress protection must carry the heavy burden of showing that the feature is not functional, for instance by showing that it is merely an ornamental, incidental, or arbitrary aspect of the device."); *In re Pennington Seed, Inc.*, 466 F.3d 1053, 1060 (Fed. Cir. 2006) (*TrafFix* concerned "whether a claimed feature of an expired patent could acquire trade dress protection, and the Court held that there was a rebuttable presumption that it could not.>").

⁵⁶ 127 S. Ct. at 1739.

⁵⁷ See Ronald J. Allen, *Burdens of Proof, Uncertainty, and Ambiguity in Modern Legal Discourse*, 17 HARV. J.L. PUB. POL'Y 627, 636-37 (1994) (explaining that, among other things, presumptions "creat[e] incentives to the production of information").

⁵⁸ Reply Brief for Petitioner at 3, *KSR Int'l Co. v. Teleflex, Inc.*, 27 S. Ct. 1727 (2007) (No. 04-1530) ("As important as are legal tests for determining ultimate questions of patent validity, the *holdings* of this Court *applying* substantive patent legal standards are of even greater importance to litigants and other participants in the U.S. patent system.") (emphasis in original). Thanks to John Duffy for drawing my attention to this passage.

⁵⁹ *Toward a new nonobviousness analysis*, The Fire of Genius, <http://www.thefireofgenius.com/2006/05/30/toward-a-new-nonobviousness-analysis/> (May 30, 2006, 6:30 pm).

At the Patent Office, the examiner should canvass the pertinent prior art to determine which elements, if any, in a given claim can be found in the prior art, and assess whether the claimed invention uses those prior art elements for their known functions or roles. The pertinent prior art will contain either all the elements in the claim under review serving the same functions, all the elements in the claim under review but playing different functions, or less than all the elements in the claim under review.

If the pertinent prior art contains all the elements in the claim serving their prior art functions, the examiner should make an initial rejection of the claim that explains this state of affairs. At that point, the burden of production would shift to the applicant to overcome the presumptive obviousness of the claim.⁶⁰ The applicant could do so with objective evidence of nonobviousness, *e.g.*, proof that the prior art expressly taught away from making the combination in the claim under review, or other identifiable parties had tried and failed to solve the problem the applicant has successfully solved, or the claimed combination yields unexpectedly effective or powerful results.⁶¹ Failing any such evidence, the claim would be unpatentable for obviousness.

If the pertinent prior contains all the elements in the claim but at least one element is playing a new function, or the art does not contain all the elements in the claim, the burden would be on the examiner to prove that the invention would have been obvious. Specifically, the examiner should not make an initial rejection in this circumstance unless she could state “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”⁶² The ordinary artisan’s ordinary creativity will no doubt play a significant role in this analysis, as well.⁶³

A court challenge would unfold in the same way, with the accused infringer playing a role analogous to that of the Patent Office. Of course, under current law, the presumption of validity would require that the accused infringer present clear and convincing evidence of the pertinent prior art. However, in this presumption framework, upon

⁶⁰ *Cf.* 127 S. Ct. at 1740 (“a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions”).

⁶¹ This group of rebuttal evidence sources is broader than I had preferred in May 2006.

⁶² 127 S. Ct. at 1741. [The new guidelines for examiners explore these “reasons” paradigms.]

⁶³ *See, e.g.*, [Leapfrog; In re Icon Health; Frazier (nonprec); Ex parte McBrearty (nonprec)].

a showing that the prior art contains all the elements of the claim serving their prior art functions, the patentee would bear the burden of coming forward with evidence adequate to overcome the presumptive obviousness of the claimed invention. Failing the introduction of such evidence, the claim would fall.

I am not the only one to have proposed a rebuttable presumption framework for analyzing obviousness. Indeed, I am not the only one to do so in the context of *KSR*. First, in August 2006, IBM filed an *amicus* brief in *KSR* that urged the Court to “retain the long-standing teaching-suggestion-motivation test, but establish a clear rule permitting the application of a rebuttable presumption that prior art references would be combined by one of ordinary skill in the art”⁶⁴ Given that the Supreme Court has now rejected the Federal Circuit’s rigid suggestion test, it is no longer vital to reconcile that test with a rebuttable presumption framework (as IBM strove to do). Second, in March 2007, Professor Timothy Holbrook proposed an elegant, two-way presumption framework designed to leverage the mirrored relationship between evidence of a suggestion to combine prior art elements (which points toward a conclusion of obviousness) and evidence that the prior art teaches away from the combination (which points toward a conclusion of nonobviousness).⁶⁵ According to Professor Holbrook,

[i]f all of the limitations of the claim are present in the prior art, then the court would look for either a motivation to combine the prior art or a teaching away from the claimed invention. The presence of a suggestion to combine should create a presumption of obviousness, rebuttable by strong secondary considerations, such as the failure of others, unexpected results, or long-felt but unsolved need, or by contrary evidence from the prior art. Similarly, the presence of a teaching away should create a presumption of non-obviousness, rebuttable by other secondary considerations suggesting the advancement was merely trivial or by other parts of the prior art demonstrating that one of skill in the art would not view this combination as being discouraged by the prior art. Importantly, in the absence of either a suggestion to combine or a teaching away, no presumption arises and the court should apply the *Graham* methodology alone, absent any presumptions. Indeed, the absence of either a motivation or a teaching away says very little about the state of the art one way or the other; it is merely an ab-

⁶⁴ Brief of *Amicus Curiae* International Business Machines Corporation in Support of Neither Party at 18, *KSR Int’l Co. v. Teleflex, Inc.*, 27 S. Ct. 1727 (2007) (No. 04-1530).

⁶⁵ Timothy R. Holbrook, *Obviousness in Patent Law and the Motivation to Combine: A Presumption-Based Approach*, SLIP OPINIONS, March 21, 2007, http://washulrev.blogspot.com/2007_03_01_archive.html. *Slip Opinions* is the online supplement to the *Washington University Law Review*.

sence of *evidence* and not evidence of a lack of technical know-how.⁶⁶

Importantly, Professor Holbrook makes no mention of *Great Atlantic's* insistence that “[c]ourts should scrutinize combination patent claims with a care proportioned to *the difficulty and improbability of finding invention in an assembly of old elements.*”⁶⁷

I think my presumption framework is more sound than IBM’s or Professor Holbrook’s, for two reasons. First, unlike the other proposed frameworks, mine fully credits the Supreme Court’s commitment to caution where combination claims are concerned. Neither IBM nor Professor Holbrook expressly tailors the presumption to combination claims.⁶⁸ I do, and *KSR* vindicates this approach.

Second, my framework performs in the same way, and on the same theory, as a presumption of obviousness with which the Federal Circuit (and the CCPA, its predecessor) already has about 65 years of experience. Specifically, “[w]here a claimed range overlaps with a range disclosed in the prior art, there is a presumption of obviousness. The presumption can be rebutted if it can be shown that the prior art teaches away from the claimed range, or the claimed range produces new and unexpected results.”⁶⁹ This

⁶⁶ *Id.*

⁶⁷ *Great Atlantic*, 340 U.S. at 152 (emphasis added).

⁶⁸ Professor Holbrook’s proposed framework *does* focus on combination claims, in the sense that a presumption is triggered, if at all, only “[i]f all of the limitations of the claim are present in the prior art,” *i.e.* if the claim is a combination claim. Holbrook, *supra* note 64.

⁶⁹ *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311 (Fed. Cir. 2006). *See also* *In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997) (“Geisler concedes that the examiner was correct to find the claims *prima facie* obvious, because the claimed thickness range of 50 to 100 Angstroms for the protective layer overlaps at its end point with the thickness range of 100 to 600 Angstroms disclosed by Zehender. [¶] Addressing a case similar in some respects to this one, the Court of Customs and Patent Appeals stated that a *prima facie* case of obviousness can be rebutted if the applicant (1) can establish ‘the existence of unexpected properties in the range claimed’ or (2) can show ‘that the art in any material respect taught away’ from the claimed invention.”) (quoting *In re Malagari*, 499 F.2d 1297, 1303 (Fed. Cir. 1974)) (citations omitted); *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990) (“The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. These cases have consistently held that in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. Woodruff has made no such showing in the present case.”) (citations omitted); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) (“[E]ven though applicant’s modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.”). Neither IBM’s *amicus* brief nor Professor Holbrook’s proposal makes reference to this line of cases.

line of authority originates no later than 1943,⁷⁰ and embraces structural/mechanical technology as much as chemical technology.⁷¹ The theory of this established presumption of obviousness is that ordinary skill in the art includes, by definition, the motivation to optimize known variables: “The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”⁷² Similarly, *KSR* (and its rekindling of *Great Atlantic*) teaches that ordinary skill in the art includes, by definition, creative remixing of prior art elements consistent with their known functions: “Common sense teaches ... that familiar items 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.”⁷³ By parity of reasoning, a presumption of obviousness is proper for combination claims in the same way it is for claims that recite a range that overlaps with a prior art range. It is interesting, too, that the Patent Office’s Board of Patent Appeals & Interferences, in two post-*KSR* precedential decisions, has applied something close to a rebuttable presumption framework for combination claims.⁷⁴

⁷⁰ See *In re Cooper*, 134 F.2d 630, 632 (CCPA 1943) (“[I]f the prior art shows a range, as appellants apparently admit it does in this case, which includes the range claimed in their application, in the absence of the production of a different product they are not entitled to a patent.”).

⁷¹ See *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1320-21 (“[T]he issue of the ’015 patent’s obviousness arises because the prior art showed one, two and four elongated handles on weight plates. ... [¶] The key feature of the ’015 patent, the fact that there are three elongated handles, falls within a range disclosed by the prior art.”), 1322 (“[W]here there is a range disclosed in the prior art, and the claimed invention falls within that range, there is a presumption of obviousness. But the presumption will be rebutted if it can be shown: (1) [t]hat the prior art taught away from the claimed invention, or (2) that there are new and unexpected results relative to the prior art.”) (citations omitted).

⁷² *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003). See also *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) (“discovery of an optimum value of a result effective variable in known process is ordinarily within the skill of the art”); *Aller*, 220 F.2d at 458 (“No invention is involved in discovering optimum ranges of a process by routine experimentation.”).

⁷³ *KSR*, 127 S. Ct. at 1742.

⁷⁴ *Ex parte Smith*, ___ USPQ2d ___, ___, 2007 WL 1813761 at *11 (BPAI June 25, 2007) (Smith’s “claims ... were combinations which only unite old elements with no change in their respective functions and which yield predictable results. Thus, the claimed subject matter likely would have been obvious under *KSR*. In addition, neither [Smith’s] Specification nor [Smith’s] arguments present any evidence that the modifications necessary to effect the combination are uniquely challenging or difficult for one of ordinary skill in the art. Because this is a case where the improvement is no more than ‘the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement,’ *KSR*,

Conclusion

What remains of the Federal Circuit’s suggestion test? Not quite nothing. “[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.”⁷⁵ *KSR* emphasizes, however, that one such reason is that ordinary artisans know the value of remixing the familiar elements of their arts to solve new problems. In *KSR* itself, for example, there “existed a marketplace that created a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for achieving this advance.”⁷⁶ If the patent claim in question is a remix of the prior art, the reason prompting the combination is likely the phosita’s basic creative ability. All that remains is to allow rebuttal that the claim is not what it seems, *i.e.*, an obvious adaptation of prior art elements.

Hindsight dread has been demoted, and the phosita reinvigorated. The suggestion test, if it makes sense to call it that still, persists in a different milieu tuned to a different priority—namely, avoiding wrongful patent grants by means of, among other things, a healthy skepticism about the likelihood that a combination claim is nonobvious. And the nonobviousness inquiry has a new operational core, in the form of a phosita who is also a person of ordinary creativity. What remains of the Federal Circuit’s suggestion test? Perhaps as much, or as little, as remains of Bach’s *Minuet in G Major* (BWV Anh 114) in jazz artist John Stebbe’s *Bach Jazz (Minuet in G)*.⁷⁷

127 S.Ct. at 1740, no further analysis was required by the Examiner. *KSR*, 127 S.Ct. at 1740.”); *Ex parte Catan*, ___ USPQ2d ___, ___, 2007 WL 1934867 at *10 (BPAI July 3, 2007) (“The claim is to a structure already known in the prior art that is altered by the mere substitution of one known element for another element known in the field for the same function. ... [Catan] has presented no evidence that combining the Nakano device with the Harada bioauthentication means would have required anything more from one of ordinary skill in the art than to substitute one authentication means for a more advanced one. Accordingly, we hold that the subject matter of claim 5 would have been obvious to one of ordinary skill in the art given the teachings of Nakano and Harada.”)

⁷⁵ *Id.* at 1741.

⁷⁶ *Id.* at 1744.

⁷⁷ You can hear the first at youtube.com, <http://www.youtube.com/watch?v=Kxe5zC1-cWM>, and the second at macjams.com, <http://www.macjams.com/song/10100>.