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## KSR Fallout: Questions of Law Based on Findings of Fact and the Continuing Problem of Hindsight Bias

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### **Abstract**

The *KSR v. Teleflex* decision marked the Supreme Court's first significant return to the issue of "obviousness" in over four decades. While KSR may make it easier to invalidate a patent by a finding of obviousness, it is unclear how lower courts will implement the decision. The resulting uncertainty presents an opportunity to rethink the jury's role in an obviousness determination. This note discusses current model jury instructions and jury verdict forms, the jury's continuing role in obviousness decisions, and how new jury instructions that conform to KSR's standards can aid lower courts in addressing a jury's use of hindsight.

# KSR Fallout: Questions of Law Based on Findings of Fact and the Continuing Problem of Hindsight Bias

by ADAM POWELL\*

## I. Introduction

*KSR v. Teleflex* marked the Supreme Court's first significant return to the question of patent "obviousness"—which is used to ensure patents are not improvidently granted to inevitable inventions<sup>1</sup>—in over four decades.<sup>2</sup> If a jury finds an invention would have been obvious to one of ordinary skill in the art at the time the invention was made, the court is likely to find the patent invalid.<sup>3</sup> The changes mandated by *KSR* to non-obviousness determinations provide the opportunity to adjust jury instructions in order to address existing problems in non-obviousness law.

Prior to the *KSR* decision, in *Graham v. John Deere* the Court set forth general standards for a jury to consider in deciding whether a patent is obvious.<sup>4</sup> In response to the requirements established by *Graham*, the Federal Circuit developed the "teaching, suggestion, or motivation" test ("TSM test") as a method of determining whether inventions were "obvious" at the time of the application for a patent, and therefore invalid.<sup>5</sup> However, over time courts began to apply the standard too mechanically, leading the Court in *KSR* to strike down

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1. Michael H. Davis, *Patent Politics*, 56 S.C. L. REV. 337, 351 (2004).
2. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 427 (2007).
3. 35 U.S.C. § 103(a) (2006).
4. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).
5. See *High Court's Patent Ruling on Obviousness Was Not Paradigm Shift, Judges Agree*, 74 PAT. TRADEMARK & COPYRIGHT J. (BNA) 690 (2007) [hereinafter *Paradigm Shift*].

the rigid application of the TSM test and mandate a more flexible standard.<sup>6</sup>

The requirements of *KSR* may make it easier to invalidate a patent by a finding of obviousness, but the decision does not present any clear indication as to how lower courts will implement the decision or what substantive changes the decision will introduce to obviousness determinations.<sup>7</sup> Very few courts have modified their published jury instructions in view of *KSR*.<sup>8</sup> Additionally, studies show most courts utilize a “black box” jury verdict form that does not require the jury to make any specific factual findings with regard to the *Graham* factors.<sup>9</sup> Only the Northern District of California explicitly adopted a new model jury instruction and jury verdict form.<sup>10</sup>

The Supreme Court did not clearly define a new test and left non-obviousness law unsettled. The resulting uncertainty presents an opportunity to rethink the jury’s role and to adjust jury instructions in order to resolve problems endemic in obviousness decisions for decades. Adjusting jury instructions and jury verdict forms should

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6. *KSR*, 550 U.S. at 427.

7. *Paradigm Shift*, *supra* note 5 (contrasting the Federal Circuit Chief Judge Michel’s interpretation of *KSR*’s implications with former Judge Roderick R. McKelvie of the U.S. District Court for the District of Delaware and Senior Judge Thomas S. Ellis of the U.S. District Court for the Eastern District of Virginia).

8. See U.S. Court of Appeals for the Eleventh Circuit, Pattern Jury Instructions (Civil Cases), available at <http://www.ca11.uscourts.gov/documents/pdfs/civjury.pdf>, pp. 386–87 (last visited Nov. 2, 2008); U.S. Court of Appeals for the Fifth Circuit, Pattern Jury Instructions in Civil Cases, available at <http://www.lb5.uscourts.gov/juryinstructions/2006civil.doc>, § 9.5 (last visited Nov. 2, 2008); United States District Court for the District of Delaware, Uniform Jury Instructions for Patent Cases, available at <http://www.ded.uscourts.gov/jury/Patent%20Jury%20Instructions.pdf>, § 4.8 (last visited Nov. 2, 2008); U.S. District Court for the Northern District of California, Model Patent Jury Instructions, available at [http://www.cand.uscourts.gov/CAND/FAQ.nsf/60126b66e42d004888256d4e007bce29/4b43c2137e17e03a88257393007bac13/\\$FILE/NDModel.nov07.pdf](http://www.cand.uscourts.gov/CAND/FAQ.nsf/60126b66e42d004888256d4e007bce29/4b43c2137e17e03a88257393007bac13/$FILE/NDModel.nov07.pdf), pg. 32-38; American Intellectual Property Law Association, Model Patent Jury Instructions, available at [http://www.aipla.org/Content/ContentGroups/Publications1/Guide\\_to\\_Model\\_Patent\\_Jury\\_Instructions.htm#Obviousness](http://www.aipla.org/Content/ContentGroups/Publications1/Guide_to_Model_Patent_Jury_Instructions.htm#Obviousness) (last visited Nov. 2, 2008); Federal Circuit Bar Association, Model Patent Jury Instructions, § 4.3b, pg. 43-51 (updated Jan. 2008), available at [http://www.memberconnections.com/olc/pub/LVFC/cpages/misc/purchase\\_resources.jsp](http://www.memberconnections.com/olc/pub/LVFC/cpages/misc/purchase_resources.jsp) (last visited, Dec. 12, 2008).

9. William F. Lee, Lauren B. Fletcher, and Gabriel Taran, *Reflections on the Ongoing Role of Juries in Determining Obviousness In Patent Cases After the Supreme Court’s Decision in KSR*, 76 BNA PAT. TRADEMARK & COPYRIGHT J. 1870 (2008).

10. U.S. District Court for the Northern District of California, Model Patent Jury Instructions, *supra* note 8.

address the problem of hindsight bias—the tendency for people who know the outcome to believe falsely that they would have predicted it.<sup>11</sup> This paper will identify proposed jury instructions acceptable under *KSR*. It will then suggest why adopting a jury instruction requiring the jury to articulate findings of fact in a special verdict form will satisfy the requirements of *KSR* as well as create the added benefit of reducing hindsight bias.

Part I of this paper will examine early non-obviousness decisions, the *Graham* factors, and the Federal Circuit's TSM test. Part II will analyze the Supreme Court's decision in *KSR*, discuss post-*KSR* cases, and address summary judgment issues. Part III will discuss current model jury instructions and jury verdict forms. Finally, Part IV will discuss the jury's continuing role in non-obviousness decisions, the problems associated with hindsight bias, and how to address these concerns.

## II. Early Non-Obviousness Decisions, the *Graham* Factors, and the TSM Test

The first Supreme Court test for obviousness required that the invention demonstrate a minimum level of “skill and ingenuity.”<sup>12</sup> In *Hotchkiss v. Greenwood*, the Court held that an improved method of making doorknobs using clay rather than wood or metal was obvious because it did not exhibit enough skill and ingenuity.<sup>13</sup> In 1952 Congress codified the non-obviousness doctrine, establishing that:

A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.<sup>14</sup>

Combination patents, where all the elements exist in the prior art and the only “invention” is the combination, present unique difficulties to trial and appellate courts.<sup>15</sup> In response, the Supreme

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11. Arkes et al., *Eliminating the Hindsight Bias*, 73 J. OF APPLIED PSYCHOLOGY 305, 305 (1988).

12. *Hotchkiss v. Greenwood*, 52 U.S. 248, 267 (1851).

13. *Id.*

14. 35 U.S.C. § 103 (2006).

15. See Tamir Packin, *Note: A New Test for Obviousness in Combination Patents: Economic Energy*, 28 CARDOZO L. REV. 957, 964-65 (2006).

Court developed the “synergy” test.<sup>16</sup> Using this test, claims were obvious if the combination of existing elements did not achieve any surprising result because the combination did not do anything different than the parts did alone.<sup>17</sup> In *Sakraida v. Ag Pro, Inc.* the Supreme Court elaborated on the “synergy” test by holding that an invention, which provided more efficient results but failed to do anything new, was obvious in light of the prior art.<sup>18</sup> Generally, the “synergy” test was problematic because it required a completely different standard for combination patents.<sup>19</sup>

#### **A. The Supreme Court’s Attempt at Clarity: the *Graham* Factors**

In an attempt to clarify non-obviousness law, the Supreme Court established more general standards of obviousness in *Graham v. John Deere Co.*<sup>20</sup> In *Graham*, the Court provided three primary factors to consider: (1) the scope and content of the prior art, (2) the differences between the prior art and the claims at issue, and (3) the level of ordinary skill in the art.<sup>21</sup> In addition to these factors, the Court indicated several secondary considerations, including “commercial success, long felt but unsolved needs, failure of others, etc.”<sup>22</sup> Other courts have added further secondary considerations to the *Graham* factors.<sup>23</sup>

Because the *Graham* factors are inherently factual in nature, district courts leave the question of obviousness for the jury, but review the legal conclusions in a motion for judgment as a matter of law under Federal Rule of Civil Procedure 50(a). District courts decide motions for judgment as a matter of law by determining whether a reasonable jury could find in favor of the party opposing the motion.<sup>24</sup> On review, an appellate court reviews legal questions

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

17. *Id.*

18. *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976).

19. *Packin*, *supra* note 15 at 980.

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

21. *Id.*

22. *Id.* at 17-18.

23. *In re Geisler*, 116 F.3d 1465, 1469-70 (Fed. Cir. 1997) (whether the invention demonstrated unexpected results); *In re Wright*, 569 F.2d 1124, 1127 (C.C.P.A. 1977) (whether others had previously attempted and failed to make the invention).

24. *LNP Engineering Plastics Inc. v. Miller Waste Mills Inc.*, 275 F.3d 1347, 1359 (Fed. Cir. 2001).

without deference and the findings of fact for substantial evidence.<sup>25</sup> While this system appears to strike a balance between the legal questions and the underlying factual inquiry, critics claim that non-obviousness decisions are a purely legal question and solely within the province of the court.<sup>26</sup> Furthermore, while *Graham* provided guidance, courts still struggled without a clearer test to offer the jury.

### **B. The Federal Circuit's Teaching, Suggestion, or Motivation Test**

To provide a clearer and more easily administered test to the jury, the United States Court of Customs and Patent Appeals—the predecessor to the Federal Circuit—set forth the teaching, suggestion, or motivation test, which brings into consideration whether the prior art demonstrated a teaching, suggestion, or motivation to combine known elements.<sup>27</sup> Shortly after the Federal Circuit's establishment, it abandoned the “synergy” test completely.<sup>28</sup> While the announcement of the TSM test predated the *Graham* decision, the Federal Circuit retained the TSM test because it viewed it as a way of carrying out the *Graham* factors.<sup>29</sup> However, the Federal Circuit eventually applied the test as a rigid, mechanical formula for determining patent obviousness.<sup>30</sup>

Critics attacked the “synergy” test as too strict and the TSM test as too liberal.<sup>31</sup> Shortly before *KSR*, the Federal Circuit recognized, in *Alza Corp. v. Mylan Labs., Inc.*, that courts applied the TSM test too rigidly and that the standard required more flexibility.<sup>32</sup> In *Alza Corp.* the court stated that “[t]here is flexibility in our obviousness jurisprudence because a motivation may be found implicitly in the prior art.”<sup>33</sup> The court also stated that it “does not have a rigid test that requires an actual teaching to combine before concluding that

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25. *Dippin Dots Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007) (citing *LNP Engineering Plastics Inc. v. Miller Waste Mills Inc.*, 275 F.3d 1347, 1353 (Fed. Cir. 2001)).

26. See Brief of Cisco Systems, Inc. et al as Amici Curaie in Support of Reversal, *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) (No. 04-1350), at 9-10.

27. *In re Bergel*, 48 C.C.P.A. 1102, 1105 (1961).

28. *Chore-Time Equipment Inc. v. Cumberland Corp.*, 713 F.2d 774, 781 (Fed. Cir. 1983).

29. *Paradigm Shift*, *supra* note 5.

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

31. Packin, *supra*, note 15 at 975.

32. *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1291 (Fed. Cir. 2006).

33. *Id.*

one of ordinary skill in the art would know to combine references.”<sup>34</sup> This decision indicates that the Federal Circuit may have moved away from the rigid application of the TSM test on its own volition. However, it also may have stemmed from the Supreme Court’s decision to grant certiorari in *KSR*.

### III. Conflicting Interpretations of *KSR* and Judicial Discretion

The Supreme Court’s decision in *KSR* was open ended and provided no clear test. Accordingly, it has left much to interpretation and has provided the Federal Circuit with considerable opportunity to shape the future of non-obviousness law. As a result, the decision has introduced substantial uncertainty in obviousness litigation, as well as instigating conflicting views on what changes to jury instructions are now mandated by the decision.

#### A. The *KSR* Decision

In *KSR*, the Supreme Court overturned the Federal Circuit’s decision to uphold a patent exclusively licensed to Teleflex.<sup>35</sup> The patent at suit related to a gas pedal that, instead of mechanically actuating fuel and air valves in an automobile, provided an electric signal to a computer that would then open or close the valves.<sup>36</sup> The district court found that it was obvious to combine a traditional pedal with a modular sensor providing an electric signal to a computer.<sup>37</sup> The Federal Circuit applied the strict TSM test and reversed the district court’s obviousness determination.<sup>38</sup>

On review, the Supreme Court held that while the Federal Circuit’s TSM test provided “helpful insight,” courts should not apply the TSM test rigidly.<sup>39</sup> While applying the TSM test did not depart from *Graham*, the Federal Circuit erred by applying it rigidly without other considerations which could supply the link between prior art references.<sup>40</sup> Thus, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than

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34. *Id.*

35. *KSR*, 550 U.S. at 427.

36. *Id.* at 409-10.

37. *Id.* at 412.

38. *Id.*

39. *Id.* at 418.

40. *Id.*

yield predictable results.”<sup>41</sup> The Court also validated the “obvious to try” doctrine by finding that one of reasonable skill in the art will likely try a “finite number of identified, predictable solutions.”<sup>42</sup>

It seems the Court deliberately chose to forego issuing a clear test in favor of a more flexible standard. The Court’s decision to create trial court discretion may undermine the actual impact of *KSR*. While *KSR* broadens the type of evidence available to trial courts in obviousness litigation, it leaves considerable power to the Federal Circuit to shape the future of non-obviousness law.<sup>43</sup>

### **B. Courts Apply *KSR* Non-Uniformly Across Industries**

The Federal Circuit has exhibited apathy toward the changes mandated in *KSR*. One court has even upheld a jury instruction requiring the jury to find motivation to combine before finding the patent obvious.<sup>44</sup> In addition, Chief Judge Michel of the Federal Circuit has noted that the *KSR* decision did not actually create a new test, settle confusion, or provide any useful formula.<sup>45</sup> According to Judge Michel, the TSM test was always intended to be a method of carrying out the test prescribed in *Graham*.<sup>46</sup> In response to assertions that *KSR* created a more “flexible” standard, Chief Judge Michel expressed discontent: “What is that? One that floats up and down and changes with the season?”<sup>47</sup> Apparently, the Federal Circuit may not intend to significantly alter its approach in resolving non-obviousness cases.

Some critics assert that the *KSR* decision was an anomaly because the simplicity of the technology at issue did not provide an adequate dispute about the *Graham* factors.<sup>48</sup> Chief Judge Michel noted that the facts were “too easy, too black and white.”<sup>49</sup> While juries can readily make appropriate findings of fact in such a simple mechanical case, they may have much more difficulty when

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41. *KSR*, 550 U.S. at 416.

42. *Id.* at 419-21.

43. Justin Lee, *ANNUAL REVIEW 2008: INTELLECTUAL PROPERTY: PATENT: Note: How KSR Broadens (Without Lowering) the Evidentiary Standard of Nonobviousness*, 23 *BERKELEY TECH. L.J.* 15, 15 (2008).

44. *Cordis Corp. v. Medtronic Ave. Inc.*, 511 F.3d 1157, 1172 (Fed. Cir. 2008).

45. *Paradigm Shift*, *supra* note 5.

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.*

confronted with subject matter in the life sciences, organic chemistry, or molecular biology.<sup>50</sup> Because organic chemistry inherently involves a finite number of combinations, a broad reading of *KSR* could arguably render the entire field “obvious.”<sup>51</sup> According to the Federal Circuit, “in cases involving new chemical compounds, it remains necessary to identify some reason which would have led a chemist to modify a known compound in a particular manner to establish prima facie obviousness of a newly claimed compound.”<sup>52</sup>

Subsequent Federal Circuit decisions have provided conflicting results. While it appears that courts are more likely to find mechanical patents obvious, it is uncertain what effect *KSR* will have on pharmaceutical and biotech patents. Two recent cases involving mechanical patents, *Leapfrog Entertainment, Inc. v. Fisher-Price, Inc.* and *In re ICON Health & Fitness*, highlight relatively simple technologies that courts can readily consider under *KSR*.<sup>53</sup> In *Leapfrog*, the court found that a prior mechanical device and modern electronic device contained all the claims limitations except for a “reader.”<sup>54</sup> Because readers were well known in the art and used in several other toys, the court found that the combination was obvious.<sup>55</sup> In *ICON Health & Fitness* the claims were obvious because it combined a folding treadmill with a spring mechanism for a folding bed. Since the folding bed addressed the same problem as a folding treadmill, it was analogous prior art.<sup>56</sup> In addition, the Federal Circuit in *In re Comiskey* articulated a rule that may make it more difficult for patentees to patent old mechanical inventions that incorporate modern electronics.<sup>57</sup> According to the *In re Comiskey* court, “the routine addition of modern electronics to an otherwise unpatentable invention typically creates a prima facie case of obviousness.”<sup>58</sup>

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50. Tony Dutra, *Experts Identify Patent Issues Ripe for Judicial Clarification*, 76 PAT. TRADEMARK & COPYRIGHT J. (BNA) 138 (2008).

51. *Id.*

52. *Takeda Chem. Indus. Ltd. V. Alphapharm Pty. Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. 2007).

53. See *Leapfrog Entertainment, Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1158 (Fed. Cir. 2007) (an “interactive learning device” that helped children to read phonetically); *In re ICON Health & Fitness*, 496 F.3d 1374, 1377 (Fed. Cir. 2007) (treadmill with a folding base and spring mechanism to hold the base in an upright position).

54. *Leapfrog Entertainment, Inc.*, 485 F.3d at 1162.

55. *Id.*

56. *ICON Health & Fitness*, 496 F.3d at 1381.

57. *In re Comiskey*, 499 F.3d 1365, 1380 (Fed. Cir. 2007).

58. *Id.*

While it is fairly straightforward for a court to predict obviousness in the context of mechanical devices, the problem is arguably much more complicated in the pharmaceutical arts. Shortly before *KSR* the Federal Circuit decided *Pfizer, Inc. v. Apotex, Inc.*; after *KSR* the Federal Circuit denied rehearing en banc.<sup>59</sup> In *Pfizer* the patentee tested a limited number of salts and found that one had unexpected superior results.<sup>60</sup> Despite the unpredictability of the chemical changes, the federal circuit observed that prior case law disfavored routine testing and held that the claimed invention was obvious.<sup>61</sup>

In *Takeda*, however, the Federal Circuit held that the patent at issue did not involve a finite number of solutions, as in *Pfizer*, and the patented product was therefore not obvious.<sup>62</sup> The court required a “reason that would have led a chemist to modify a known compound in a particular manner.”<sup>63</sup> Simply replacing “reason” with “teaching, suggestion, or motivation” would produce the old TSM test and indicate that the test was still applied rigidly in the chemical arts.<sup>64</sup>

In *PharmaStem Therapeutics, Inc. v. Viacell, Inc.*, the Federal Circuit overruled a jury’s finding of non-obviousness in a case in which the accused infringers even praised the inventors as “pioneers” in the field.<sup>65</sup> The court found that using stem cells to treat persons with compromised blood and immune systems was obvious because there was a reasonable expectation of success in light of prior art teachings and suggestions.<sup>66</sup> *PharmaStem* shows that the Federal Circuit may be overturning jury verdicts in biochemical cases based on a liberal construction of *KSR*.

There is no way to quantify the implications of *KSR*, but it appears that the decision made it easier to invalidate a patent based on obviousness. How the lower courts construe the decision will shape the extent to which it is easier to invalidate a patent upon a finding of obviousness. Based on recent decisions, *KSR* appears to apply more clearly to mechanical patents since the Federal Circuit

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59. *Pfizer Inc. v. Apotex, Inc.*, 480 F.3d 1348 (Fed. Cir. 2006).

60. *Id.* at 1367.

61. *Id.*

62. *Takeda*, 492 F.3d at 1350.

63. *Id.* at 1358

64. Lee, *supra*, note 43 at 39.

65. *PharmaStem Therapeutics, Inc. v. Viacell, Inc.*, 491 F.3d 1342, 1365 (Fed. Cir. 2007).

66. *Id.*

seems unwilling to stray substantially from its prior precedent in pharmaceutical patents.

### C. Judges Have Differing Opinions Regarding the Effect of *KSR* on Summary Judgment

In *KSR* the Federal Circuit overturned the district court's summary judgment motion because conflicting expert testimony raised a genuine issue of material fact.<sup>67</sup> The conflicting expert testimony came from two Teleflex experts who asserted that the location of the sensor was a "simple, elegant, and novel combination."<sup>68</sup> The Supreme Court reversed, holding that conclusory affidavits on the question of obviousness cannot prevent summary judgment because it is a legal conclusion.<sup>69</sup>

Some believe that the number of summary judgment motions on obviousness will increase and that *KSR* is the key to "an efficient method for challenging questionable patents."<sup>70</sup> Former Judge Roderick R. McKelvie of the United States District Court for the District of Delaware, and Senior Judge Thomas S. Ellis of the United States District Court for the Eastern District of Virginia, agree that *KSR* would likely result in more motions for summary judgment being granted.<sup>71</sup> However, Chief Judge Michel of the Federal Circuit disagrees, predicting that at the trial level the number of summary judgment motions being granted will not change significantly, but that there may be an increase in post-trial Rule 50 motions for judgment as a matter of law.<sup>72</sup>

In *Omegaflex, Inc. v. Parker-Hannifin Corp.*, a decision by Chief Judge Michel, the Federal Circuit reversed a grant of summary judgment based on conflicting expert testimony.<sup>73</sup> In *Omegaflex* the expert testimony consisted of an expert asserting that one of skill in the art would have "recognized the importance of proper alignment"

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67. *Teleflex, Inc. v. KSR Int'l Co.*, 119 F. App'x 282, 289-90 (2005).

68. *Id.*

69. *KSR*, 550 U.S. at 425-26.

70. Lee, *supra*, note 43, at 43 (citing John F. Duffy, Commentary, *KSR v. Teleflex: Predictable Reform of Patent Substance and Procedure in the Judiciary*, 106 Mich. L. Rev. First Impressions 34, 37 (2007)).

71. *Id.*

72. *Paradigm Shift*, *supra* note 5.

73. *Omegaflex, Inc. v. Parker-Hannifin Corp.*, 243 F. App'x 592, 597 (Fed. Cir. 2007) (non-precedential).

and would have been motivated to use a “locating sleeve.”<sup>74</sup> Chief Judge Michel’s prediction and the Federal Circuit’s decision in *Omegaflex* comport with the traditional method of adjudicating obviousness at the trial level—rarely removing the initial determination from the jury.

#### **IV. Options for Jury Instructions Which Satisfy the Requirements of *KSR***

Several jury instructions have surfaced that are acceptable under *KSR* due at least in part to the open-ended nature the decision. Presently, jury instructions on non-obviousness exist in three basic forms. The vast majority of courts employ general verdict forms in instructing juries to determine the question of non-obviousness.<sup>75</sup> In other instances a court may employ a special verdict form that instructs the jury to articulate specific findings corresponding to the *Graham* factors and other considerations.<sup>76</sup> Finally, a court may employ a verdict form that instructs the jury to make the same factual findings corresponding to the *Graham* factors and other considerations, but leaves the ultimate non-obviousness decision to the judge.<sup>77</sup>

##### **A. Most Jurisdictions Have Not Modified Their Jury Instructions to Conform to *KSR***

*KSR* is still a very recent decision and many jurisdictions have not modified their jury instructions.<sup>78</sup> However, most of the pre-*KSR* jury instructions incorporate the *Graham* factors and comply fairly closely with the requirements in *KSR*.<sup>79</sup> While various jurisdictions have not modified their official jury instructions, nothing prevents district courts from making small modifications to include the proper *KSR* standards.<sup>80</sup>

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74. *Id.* at 596.

75. *See* Lee et al., *supra* note 9.

76. *See*, U.S. District Court for the Northern District of California, Model Patent Jury Instructions, *supra* note 8.

77. *See id.*

78. *See, e.g.*, U.S. Court of Appeals for the Eleventh Circuit, Pattern Jury Instructions (Civil Cases), *supra* note 8 at 386-87.

79. *See id.*

80. *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 585 F. Supp. 2d 562, 567 (D. Del. 2008) (court modified model jury instructions to conform with *KSR* by eliminating teaching, suggestion or motivation requirement).

The Eleventh Circuit's jury instructions set out the statutory obviousness requirement, define the concept of "prior art," and instruct the jury to consider secondary considerations.<sup>81</sup> The relevant secondary considerations include a long-felt need, others' failed attempts, commercial success, consent decrees and licenses, and the defendant's alleged copying.<sup>82</sup> By comparison, while requiring the same consideration of the *Graham* primary and secondary considerations, the Fifth Circuit's jury instructions also caution jury's against using hindsight bias.<sup>83</sup> However, the instructions still require a motivation to combine when obviousness is based on a combination of prior art references.<sup>84</sup> Like the Eleventh Circuit and Fifth Circuit, the United States District Court for the District of Delaware's jury instructions require a jury to consider the *Graham* primary factors and secondary considerations.<sup>85</sup> However, contrary to *KSR*, the District of Delaware's jury instructions reject the "obvious to try" standards.<sup>86</sup>

#### **B. Post-*KSR* Jury Instructions Provide Several Options for Conforming to *KSR***

The Northern District of California was one of the first to issue new, post-*KSR* jury instructions. These instructions give judges a choice of two alternative instructions, and provide corresponding jury verdict forms.<sup>87</sup> Effectively, these instructions give judges a choice: Judges may use the jury only to make specific findings of fact and leave the legal determination of obviousness for the judge, or the judge may follow the traditional approach of requiring the jury make specific findings of fact in addition to making the legal determination of obviousness. Both instructions provide the statutory requirements and instruct the jury to conclude whether the primary and secondary

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81. U.S. Court of Appeals for the Eleventh Circuit, Pattern Jury Instructions (Civil Cases), *supra* note 8 at 386-87.

82. *Id.*

83. U.S. Court of Appeals for the Fifth Circuit, Pattern Jury Instructions in Civil Cases, *supra* note 8 at § 9.5.

84. *Id.*

85. United States District Court for the District of Delaware, Uniform Jury Instructions for Patent Cases, *supra* note 8 at § 4.8.

86. *Id.*

87. U.S. District Court for the Northern District of California, Model Patent Jury Instructions, *supra* note 8.

considerations of *Graham* are present.<sup>88</sup> The secondary considerations the jury must consider include commercial success, long-felt need, others' failed attempts, defendant's alleged copying, unexpected superior results, acceptance and praise from others in the field, independent invention of the claimed invention by others at or around the time the claimed invention was made, and other evidence showing obviousness or non-obviousness.<sup>89</sup> However, one of the jury instructions stops there and leaves the ultimate obviousness determination for the judge.<sup>90</sup> The other jury instruction provides additional guidelines to enable the jury to resolve the obviousness question, such as instructing the jury to avoid hindsight bias while considering whether the invention was obvious to try.<sup>91</sup> The Northern District of California provides two model jury verdict forms corresponding to these two jury instructions.<sup>92</sup> Both forms require specific findings of fact as to the *Graham* factors and secondary considerations of fact, but the second form requires an actual finding of obviousness.<sup>93</sup> In this way, the Northern District of California provides a choice for judges as to the legal application of *KSR* and the extent to which the jury is involved in the ultimate finding of obviousness.

The American Intellectual Property Law Association ("AIPLA") and the Federal Circuit Bar Association ("FCBA") have also promulgated model jury instructions. The AIPLA's jury instructions are similar to the Northern District of California's jury instructions, allowing the judge to choose between two jury instructions.<sup>94</sup> A first AIPLA jury instruction asks the jury only to make factual findings, thus leaving the legal determination of obviousness to the judge; a second AIPLA jury instruction directs the jury to make the final determination of obviousness in view of the jury's factual findings.<sup>95</sup> The FCBA's jury instructions incorporate the standard *Graham* factors and additional information gleaned from

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88. *Id.*

89. *Id.*

90. *Id.*

91. *Id.*

92. *Id.* at 57-59.

93. *Id.*

94. American Intellectual Property Law Association, Model Patent Jury Instructions, *supra* note 8.

95. *Id.*

*KSR*, including the “obvious to try” standard, and ultimately instruct the jury to make the final obviousness determination.<sup>96</sup>

Upon Federal Circuit Chief Judge Michel’s request, the National Patent Jury Instruction Project recently developed new jury instructions for patent infringement cases.<sup>97</sup> The Federal Circuit, however, has not endorsed these jury instructions.<sup>98</sup> The instructions allow for two alternative instructions very similar to those provided by the Northern District of California’s jury instructions.<sup>99</sup> While emphasizing the factual nature of the inquiry, however, the committee that formed the new jury instructions did not include a special verdict form requiring the jury to articulate its factual findings.<sup>100</sup>

At least one court has specifically modified a jury instruction for use in the biotech arts.<sup>101</sup> The court issued a jury instruction that includes the “obvious to try” standard set out in *KSR*.<sup>102</sup> Recognizing problems associated with hindsight bias in the biological arts, where at least some ideas are derived from a limited number of possibilities, the court added: “in arts such as biotechnology, which are not generally predictable, [the defendant] must also prove that one skilled in the art would have had a reasonable expectation of success in pursuing the options available to him at the time in order for you to conclude that selecting any such option would have been obvious.”<sup>103</sup>

Despite the changes mandated by *KSR*, many courts use old jury instructions that do not account for *KSR*’s new, more flexible standard. While previous jury instructions typically require the jury to consider the *Graham* factors, only post-*KSR* jury instructions have implemented the “obvious to try” standard laid out by the United States Supreme Court in *KSR*. This information raises the question,

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96. Federal Circuit Bar Association, Model Patent Jury Instructions, *supra* note 8 at § 4.3b, pg. 43-51.

97. Bass et al., Model Patent Jury Instructions (Dec. 5 2008), available at <http://www.patentlyo.com/patentjuryinst.pdf> (last visited Dec. 18, 2008).

98. *Id.* at 1.

99. *See id.* at 42-46.

100. *Id.*

101. *See Invitrogen Corp. v. Clontech Laboratories Inc.*, D. Md., No. AW-96-4080, 5/16/07.

102. *Biotech Firm Wins Jury Verdict Following Post-KSR Instruction on ‘Obvious-to-Try’*, 74 PAT. TRADEMARK & COPYRIGHT J. (BNA) 141 (2007).

103. *Id.*

have court actually modified verdict forms to reflect the *KSR* decision?

### C. Few Courts Require Special Verdict Forms

Early studies suggest most district courts use general verdict forms rather than special verdict forms, which require juries to enumerate their factual findings.<sup>104</sup> The study compared seventeen jury verdict forms between the issuance of the *KSR* decision and January 17, 2008.<sup>105</sup> Of the seventeen jury verdict forms, thirteen jury verdict forms not only asked juries to make the ultimate obviousness decision, but also used a general verdict form that did not require juries to enumerate their factual findings with respect to the *Graham* factors or secondary considerations.<sup>106</sup> Four jury verdict forms did not require the jury to make a finding on obviousness, leaving the decision of obviousness for the court. Of these four jury verdict forms, only one followed the Northern District of California's approach, setting forth several factual questions to the jury in a special verdict form.<sup>107</sup>

## V. The Continuing Role of Juries in Non-Obviousness Decisions

Many bodies of law deal with a common dilemma: who should decide a legal question based on a factual inquiry? The answer varies across differing legal regimes. For example, in patent disputes the judge alone is responsible for determining claim construction, even though the decision may involve several factual inquiries.<sup>108</sup> Juries, however, are responsible for claim construction in real property law.<sup>109</sup> Though placing the obviousness inquiry into the hands of a judge may potentially improve the patent system, such a change should not be

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104. Lee et al., *supra* note 9.

105. *Id.*

106. *Id.*

107. *Id.*

108. While the Federal Circuit has been reluctant to expressly classify claim construction as a legal question based on fact, others have had no problem in doing so. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 989 (1995) (Mayer, J., concurring).

109. Paul M. Shoenhard, *Reversing the Reversal Rate: Using Real Property Principles to Guide Federal Circuit Patent Jurisprudence*, 17 *FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 299, 332-33 (2007) (noting the similarities in real property claim construction and patent claim construction).

advocated lightly. Completely removing the obviousness determination from the province of the jury may not cure the inefficiency and unpredictability characteristics of jury determinations.

#### **A. Completely Removing the Obviousness Determination from the Province of the Jury is Not the Solution**

According to popular perception, a jury is more likely to find in favor of a patentee and grant higher damages than a judge.<sup>110</sup> Common complaints about juror competence include: juries are unable to comprehend the technology or the legal requirements for patent validity and infringement; juries are pro-patentee and have a higher regard for the United States Patent and Trademark Office; juries are biased in favor of domestic companies; juries award excessively high damage awards; and juries are easily swayed by tangential factors.<sup>111</sup> The combination of a “blue ribbon” on the cover of a patent, the fact that a patent application is reviewed by an “expert agency” with “technically trained examiners,” and the presumption of validity afforded to issued patent applications may lead juries to exhibit undue deference to the patentee.<sup>112</sup>

Empirical studies on jury performance in patent disputes are uncommon. In other areas of law, commentators use several methods of comparing the performance of judges and juries. Those methods include asking judges to indicate their agreements or disagreements with respect to decisions made by juries, comparing outcomes upon an investigation of bench trials and jury trials, and using experimental simulations.<sup>113</sup> Unfortunately, archival studies of actual patent cases are the only significant studies conducted on jury obviousness determinations.

##### *1. Win Rates and All-or-Nothing Decisions*

In one of the most comprehensive studies conducted on jury bias, Kimberly Moore investigated 1411 cases between 1983 and 1999.<sup>114</sup>

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110. Kimberly A. Moore, *Judges, Juries, and Patent Cases – An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 369 (2000-2001).

111. *Id.* (internal citations omitted).

112. *Id.* at 372-73.

113. Jennifer K. Robbennolt, *Jury Decisionmaking: Evaluating Juries by Comparison to Judges: A Benchmark for Judging?*, 32 FLA. ST. U.L. REV. 469, 472-76 (2005).

114. Of the 1411 trials, the fact finder resolved 1209 cases, resulting in 533 jury trials and 676 bench trials. Robbennolt, *supra* note 113 at 380 (internal citations omitted).

The study applied a theoretical model, which assumes—considering the relevant biases of judge and jury—that litigants will settle all cases where the probability of winning was significantly different than 50-percent, resulting in a theoretical 50-percent win rate for the patentee and 50-percent for the alleged infringer.<sup>115</sup>

The data in the Moore study indicated an overall win rate of 58-percent for the patentee, with a 68-percent win rate in jury decisions and a 51-percent win rate in judge decisions.<sup>116</sup> Additionally, when viewed on a yearly basis, the win rate in a bench trial remained relatively constant while the win rate in a jury trial fluctuated over time.<sup>117</sup> Moore speculated that the win rates for bench trials were closer to 50-percent because the win rate varied less over the course of the year and parties could more accurately estimate their chances of prevailing, enabling them to determine whether to settle the suit before trial.<sup>118</sup> On its face, this appears to be significant evidence supporting the popular view, namely that a jury is more likely to find in favor of a patentee. However, when the study compared the individual issues of validity, enforceability, and infringement, the differences were still apparent, albeit less dramatic.<sup>119</sup>

Moore also compared win rates when a jury decides upon multiple issues and when the accused infringer files a suit for declaratory judgment of non-infringement or invalidity. The study showed that when juries consider both validity and infringement, they found both issues for the same party at a much higher rate than a judge, indicating that the jury's decision on complex issues may become influenced by the tendency to rule in an "all or nothing" fashion.<sup>120</sup> The survey indicated similar results when deciding a case

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115. While many other empirical studies do not substantiate the 50-percent prediction, the ones that do conform most closely to a number of assumptions proposed in the Priest/Klein model. The assumptions are: damages are stipulated and only liability is in issue, equal stakes, symmetrical information, risk neutrality, and lack of strategic behavior. *Id.* at 376-77 (internal citations omitted).

116. *Id.* at 386. The study also considered win rates on a claim-by-claim basis and found no significant difference. On a claim-by-claim basis, the win rates were 63-percent and 49-percent, for the jury and judge, respectively. *Id.*

117. *Id.* at 388.

118. *Id.* However, if this were true, there is no reason why the error would be systematically skewed in one direction or the other. *Id.*

119. The patentee win rates for jury and judge respectively were: validity 71-percent and 64-percent, enforceability 75-percent and 72-percent, infringement 71-percent and 59-percent, and willfulness 71-percent and 53-percent. *Id.* at 390.

120. Robbennolt, *supra* note 113 at 403 (finding jury verdicts for the same party 86-percent of the time, while bench verdicts for the same party only 74-percent of the time).

with multiple patents.<sup>121</sup> Additionally, judges found in favor of patentees most of the time—regardless of whether the patentee was first to bring suit on infringement or the alleged infringer filed suit for declaratory judgment—while juries found more often for the party who was first to bring suit.<sup>122</sup> Moreover, for patent validity, juries found for the patentee 76-percent of the time when the patentee was first to bring suit, and only 40-percent of the time for the patentee when the alleged infringer filed suit for declaratory judgment.<sup>123</sup>

## 2. *Who is More Accurate?*

The other piece of the puzzle is the appeal affirmance rate. Different studies have shown varying overall affirmance statistics for decisions appealed to the Federal Circuit. One study conducted by Christian Chu showed 52-percent affirmance for summary judgments, 45-percent for jury trials and 56-percent for bench trials.<sup>124</sup> After performing a chi-square test, the p-value was 0.00082, allowing Chu to say with 99-percent confidence that the type of judgment appealed can predict the likelihood of reversal or affirmance by the Federal Circuit.<sup>125</sup> By contrast, Moore's study found that the overall affirmance rate was 78-percent for both bench and jury trials, and that there was no significant difference for validity, infringement, or enforceability.<sup>126</sup> The differences may stem from the fact that the studies covered different periods of time or used slightly different statistical methods. Chu's study indicates that the Federal Circuit agrees with judges more often.

Moore's study, however, appears to indicate a jury may be just as competent as a judge in evaluating patent cases. Nevertheless, it is important to consider the record the judge and jury each provide for the Federal Circuit to review. While the Federal Rules of Civil Procedure require judges to articulate their findings of fact and conclusions of law, most jury verdict forms are black box forms that

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121. *Id.* at 404 (finding jury verdicts for the same party 87-percent of the time, while bench verdicts for the same party only 72-percent of the time).

122. *Id.* at 406 (finding jury verdicts for the patentee 68-percent of the time when patentee filed and only 38-percent of the time when the alleged infringer filed a declaratory judgment).

123. *Id.*

124. Christian A. Chu, Empirical Analysis of the Federal Circuit's Claim Construction Trends, 16 BERKELEY TECH. L. J. 1075, 1109 (2001).

125. *Id.* at 1109-10.

126. Moore, *supra* note 110 at 398-99.

do not require juries to articulate their findings.<sup>127</sup> When reviewing a black box verdict form, the Federal Circuit must presume the jury found all of the facts in the record in support of the chosen verdict.<sup>128</sup> For this reason, it is much more difficult for the Federal Circuit to overturn a jury verdict than a bench verdict. Moore suggests that affirmance statistics may not be an accurate rating of how well a jury performs, and that the actual affirmance rating may be significantly lower if the Federal Circuit knew the basis for a jury's decision.<sup>129</sup>

The above studies confirm many common fears about jury trials in the context of patent cases. Juries tend to find for plaintiffs (patentees or alleged infringers) more often than judges find for plaintiffs. While results for affirmance studies lead to mixed conclusions, both the Moore and Chu studies suggest that a problem may exist, as indicated by jury trial affirmance ratings. Accordingly, the patent system may be improved by shifting the responsibility for obviousness determinations from the jury to the judge.

### 3. *Taking the Entire Decision Away from the Jury is Too Drastic*

The extent of jury involvement in the obviousness determination remains contentious in the wake of the *KSR* decision because obviousness is ultimately a legal determination that may be based on questions of fact.<sup>130</sup> Traditionally, trial courts resolve this conflict by ruling on allegations of patent obviousness in motions for judgment as a matter of law.<sup>131</sup> The Northern District of California instructs the jury to make factual findings, and gives the judge the option of deciding the obviousness question or passing it on to the jury.<sup>132</sup> Still others advocate taking the entire process out of the jury's hands.<sup>133</sup>

In patent claim construction, early courts would often leave questions of fact relevant to claim construction for the jury.<sup>134</sup> Over time, when it became apparent that juries were not up to the task of claim construction, judges began providing juries with their interpretations of patent claims that the juries were to use in

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127. Fed. R. Civ. P. 52(a); Moore, *supra* note 110 at 401.

128. *Id.* (citing *Jurgens v. McKasy*, 927 F.2d 1552, 1557 (Fed. Cir. 1991)).

129. *Id.*

130. *KSR*, 550 U.S. at 425-26.

131. FED. R. CIV. P. 50.

132. See notes 87-93 and accompanying text.

133. See Brief of Cisco Systems, Inc. et al as Amici Curaie in Support of Reversal, *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) (No. 04-1350), at 9-10.

134. *Id.* at 332 (citing *Silsby v. Foote*, 55 U.S. 218, 219 (1852)).

determining patent infringement or invalidity.<sup>135</sup> Early courts justified this practice as an exception to the Seventh Amendment, reasoning that due process required a judge decide the issue because of the complexity of patent suits.<sup>136</sup> The Federal Circuit has since condemned this “complexity exception.”<sup>137</sup> The Supreme Court, however, has held that claim construction was an inquiry for the court and ignored the apparent legal/factual problem.<sup>138</sup>

In obviousness law, by contrast, the Supreme Court has classified the question as one of law based on findings of fact.<sup>139</sup> As a result, it is likely that the Federal Circuit will not accept any kind of “complexity exception” to the Seventh Amendment. Additionally, as discussed above, since the Federal Circuit seems to be of the view that *KSR* did not change much, it may be unwilling to endorse sweeping doctrinal changes.

**B. *KSR* Provides the Opportunity to Reduce Hindsight Bias by Requiring Juries to Articulate their Factual Findings on a Special Verdict Form**

Most of the popular fears among patent practitioners can be boiled down to the notion that juries are highly susceptible to hindsight bias. Hindsight bias is the tendency for people who know an outcome to falsely believe they could have predicted the outcome.<sup>140</sup> In addition to the legal world, hindsight bias is found in a variety of applied settings including politics, historical judgment, psychotherapy case histories, medical diagnoses, and employee evaluation.<sup>141</sup> Efforts to curb hindsight bias in the legal setting have proven mostly unsuccessful, but may be addressed by looking at other settings that have seen success.

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135. *Id.*

136. *Id.* at 333.

137. *Id.*

138. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384 (1996).

139. *KSR*, 550 U.S. at 427.

140. Arkes et al., *Eliminating the Hindsight Bias*, 73 J. OF APPLIED PSYCHOL. 305, 305 (1988).

141. *Id.*

1. *No Test or Jury Instruction has Succeeded in Reducing Hindsight Bias*

While many model jury instructions caution against hindsight bias, evidence shows these warnings are often ineffective.<sup>142</sup> Mandel conducted a study dividing participants into three groups, and asking each to address two scenarios: a “baseball scenario,” where the invention involved a baseball teaching aid, and a “fishing lure scenario,” where the invention involved a new type of fishing lure.<sup>143</sup> The first group—the foresight group—assessed whether a hypothetical person would be able to solve the problem using only the prior art and initial information.<sup>144</sup> The second group—the hindsight group—simultaneously considered both the solution and whether it was obvious.<sup>145</sup> Finally, the third group—the debiasing group—received the same information as the hindsight group, with an admonishment against using hindsight to reach the solution.<sup>146</sup>

In the baseball scenario, 24-percent of the foresight group, 76-percent of the hindsight group and 66-percent of the debiasing group found the solution obvious.<sup>147</sup> In the fishing lure scenario, 23-percent of the foresight group, 59-percent of the hindsight group, and 49-percent of the debiasing group found the solution obvious.<sup>148</sup> The results suggest that hindsight bias is a significant problem, potentially rendering jury verdicts unreliable. In Mandel’s study, while the instruction cautioning against the use of hindsight was helpful in reducing the use of hindsight, it did not completely mitigate the

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142. Gregory N. Mandel, *Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational*, 67 OHIO ST. L.J. 1391 (2006).

143. The baseball scenario involved instructional materials for teaching people to throw baseball pitches. The prior art described how to hold and release the ball, plastic baseballs with indentations showing where to place one’s fingers, and workshops where people could go to learn. The inventor was asked to develop a new product that allowed the student to hold a real baseball while learning but did not require individual instruction. *Id.* at 1407. The Fishing lure scenario involved an inventor who was trying to make an artificial fishing lure that would not lose its salty flavor or spoil in water. The prior art included the following: an article which suggested adding flavor or odor of natural bait to lures; a patent on a lure made of squirrel hair with yeast and salt baked in to emit an odor; a book which noted that fish could “taste” bait before biting, and recommended using salted pork rinds as bait; and an entry in Field Sports Almanac that described using salted minnows as bait. *Id.* at 1407-08.

144. *Id.* at 1408.

145. *Id.*

146. *Id.*

147. *Id.* at 1409.

148. *Id.*

problem. Overall, the Mandell study suggests that hindsight bias shifted about one-half and about one-third of mock juror decisions in the baseball and fishing lure scenarios, respectively.<sup>149</sup> In addition, while hindsight bias is a problem in many different legal regimes, it appears to be a much greater problem in patent obviousness determinations.<sup>150</sup>

Additionally, group studies suggest that jury deliberation in a group setting does not significantly reduce a jury's use of hindsight bias. One study, where individuals were first asked to record their individual verdicts and then allowed to deliberate in a group, found no significant difference between an individual's use of hindsight and the group's use of hindsight.<sup>151</sup> Another study, where researchers asked participants to make judgments "as if they had known the outcome," found no significant difference between an individual participant's use of hindsight and a group's use of hindsight.<sup>152</sup>

Unfortunately, some studies suggest hindsight bias also has a significant effect on judges.<sup>153</sup> For this reason, giving the obviousness decision to the judge will not significantly reduce the problem of hindsight bias. However, other studies suggest individuals familiar

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149. Mandel, *supra* note 142 at n. 63.

150. *Id.*, see also, Chris Guthrie et al., *Inside the Judicial Mind*, 86 CORNELL L. REV. 777, 818 (2001) (24-percent of judges shifted decision in section 1983 scenario in hindsight); Reid Hastie et al., *Juror Judgments in Civil Cases: Hindsight Effects on Judgments of Liability for Punitive Damages*, 23 LAW & HUM. BEHAV. 597, 606 (1999) (24-percent of mock jurors shifted decision concerning punitive damages); Kim A. Kamin & Jeffery J. Rachlinski, *Ex Post? Ex Ante: Determining Liability in Hindsight*, 19 LAW & HUM. BEHAV. 89, 98 (1995) (34-percent of mock jurors shifted decision concerning negligence); Merrie Jo Stallard & Debra L. Worthington, *Reducing the Hindsight Bias Utilizing Attorney Closing Arguments*, 22 LAW & HUM. BEHAV. 671, 679 (1998) (28-percent of mock jurors shifted decision concerning negligence).

151. Ed Bukszar & Terry Connolly, *Hindsight Bias and Strategic Choice: Some Problems in Learning from Experience*, 31 ACAD. OF MGMT. J. 628, 637 (1988).

152. Dagmar Stahlberg et al., *We Knew It All Along: Hindsight Bias in Groups*, 63 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 46, 49 (1995). The only significant difference was that the group had a better ability to recall than the individual. Mandel, *supra*, note 142 at n. 80. This difference would only ameliorate the problem of hindsight bias when the task is to recall a prior judgment and would not exist in non-obviousness determinations where there is no prior judgment. *Id.*

153. John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 214-15 (1998) (finding no statistically significant differences between the rate that judges and juries find a patent obvious); Chris Guthrie et al., *Inside the Judicial Mind*, 86 CORNELL L. REV. 777, 803, 818 (2001) (study revealed judges demonstrate less susceptibility to certain cognitive illusions, but not to hindsight bias).

with a task demonstrate slightly less hindsight bias.<sup>154</sup> At best, judges will exhibit only slightly less hindsight bias, but without further studies the extent of this effect is unclear.

Both the secondary considerations of *Graham* and the Federal Circuit's TSM test attempted to curb hindsight bias.<sup>155</sup> To investigate the impact of both tests, Mandel conducted another study using two versions of the baseball scenario from his previous survey.<sup>156</sup> The first version was unmodified; the second, modified version included a single explicit suggestion to combine prior art from the inventor's supervisor.<sup>157</sup> In this study Mandel divided test subjects into the foresight group and the hindsight group.<sup>158</sup> Within these groups Mandel further divided subjects into sub-groups in which subjects were either given the modified or unmodified version of the scenario. In each of those sub-groups, subjects were instructed to make an obviousness determination in view of a) no instruction, b) the TSM test, or c) the *Graham* test.<sup>159</sup> The results are summarized in the following table from Mandel's study:<sup>160</sup>

	Suggestion in scenario	Instruction	N	Obvious (freq.)	Confidence (mean)	Likelihood (mean)
Foresight	No	None	55	23	68.73	4.78
	Yes	None	55	27 (42%) 27 (49%)	71.00	4.94

154. Jay J. J. Christensen-Szalanski & Cynthia Fobian Willham, *The Hindsight Bias: A Meta-Analysis*, 48 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 147, 155 (1991).

155. *Graham*, 383 U.S. at 36; *In re Dembiczak*, 175 F.3d 994, 999 (1999) ("The best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.")

156. See Mandel, *supra* note 142.

157. Gregory Mandel, *Patently Non-Obvious II: Experimental Study on the Hindsight Issue Before the Supreme Court in KSR v. Teleflex*, 9 YALE J. L. & TECH. 1, 13 (2006).

158. *Id.* at 14-15.

159. The foresight group was given all the basic lead-up information and asked whether a solution would be obvious. The hindsight group was also given the actual invention and asked whether that invention was obvious. The suggestion instruction group was given the same information as the hindsight group but also informed of the TSM test and instructed to implement it. The *Graham* instruction group was identical to the hindsight group, but contained instructions about the *Graham* requirements and instructed the juror to follow those requirements. *Id.*

160. *Id.* at 16.

Hindsight	No	None	55	39	74.55	5.38
	Yes	None	53	(71%)	74.91	5.77
	No	Suggestion	55	45	71.45	5.56
	Yes	Suggestion	56	(85%)	71.79	5.42
	No	<i>Graham</i>	55	45	74.91	5.65
				(83%)		
			42	(75%)		
			43	(78%)		

The results suggest that neither the *Graham* test nor the TSM was able to significantly decrease the amount of hindsight bias.<sup>161</sup>

2. *Psychologists Have Found that Subjects Who Articulate a Rationale for Their Decisions Exhibit Less Hindsight Bias*

Given that the numerous judicial tests designed by courts to curb hindsight bias may be ineffective, hindsight bias may appear to be an unsolvable problem in obviousness determinations. However, a solution may lie in a psychological study by Arkes et al. (the “Arkes study” herein), the results of which suggest that subjects exhibit less hindsight bias when they articulate the rationale for their conclusions.<sup>162</sup> In the Arkes study, researchers divided participating psychologists into eight groups of 60 psychologists.<sup>163</sup> The researchers provided a “foresight” group with a fact pattern about a patient and asked them to assign a probability that the patient suffered from three different conditions.<sup>164</sup> The researchers then provided each of three “hindsight” groups with the same fact pattern, with the added datum that the patient actually had a primary diagnosis of one of the three conditions.<sup>165</sup> A “foresight-reasons” group received the same fact pattern as the foresight group with an additional requirement to

161. See Mandel, *supra* note 157 at 16.

162. Arkes *et al.*, *supra* note 140 at 305.

163. The subjects were taken randomly from a list compiled of all psychologists in the United States who indicated neuropsychology as a primary field or area of specialization. Of the persons, the majority were engaged in clinical practice, the majority were men, 94% had a Ph.D. degree, and 3% were diplomats in neuropsychology. 480 subjects were taken randomly, divided into eight groups of 60, and mailed the study. *Id.* at 306.

164. *Id.*

165. *Id.*

give reasons for their decisions.<sup>166</sup> Finally, three “hindsight-reasons” groups considered the same fact pattern as the hindsight groups, and were asked by the researchers to give reasons for their decisions.<sup>167</sup> The study showed that 58% of the hindsight subjects gave a higher probability estimate to the correct diagnosis than the corresponding estimate from the foresight group.<sup>168</sup> By contrast, only 41% of the hindsight-reasons group gave a higher probability estimate to the correct diagnosis than the corresponding estimate from the foresight-reasons group.<sup>169</sup>

Though conducted in a different field of study and on subjects who are much different than typical jurors, the Arkes study indicates that requiring people to articulate the reasons for their decisions reduces hindsight bias. Therefore, using a special verdict form and requiring the jury to articulate its reasons in reference to the *Graham* factors may reduce hindsight bias in non-obviousness decisions.

### C. A New Solution to Hindsight Bias Using *KSR*'s Framework

The Mandel studies show that juries (even judges) are susceptible to significant hindsight bias and that such bias will be present even after instructing them on either the *Graham* factors or the Federal Circuit's TSM test. As judges are also vulnerable to hindsight bias, simply requiring the court to make the entire determination would not solve the problem. Furthermore, the Supreme Court's renewal of the *Graham* factors in *KSR* alone will not significantly reduce the amount of hindsight bias. A solution to mitigating the problem of hindsight bias may be to modify jury instructions to require juries to articulate their factual findings. Some jurisdictions have implemented such modifications to their jury instructions.<sup>170</sup> Others should follow.

#### 1. Requiring Juries to Articulate Findings of Fact

Both of the alternative jury instructions for the Northern District of California contain a jury verdict form requiring the jury to clearly

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166. *Id.*

167. *Id.*

168. *Id.*

169. Arkes *et al.*, *supra* note 140 at 307.

170. See U.S. District Court for the Northern District of California, Model Patent Jury Instructions, *supra* note 8; Federal Circuit Bar Association, Model Patent Jury Instructions, *supra* note 8.

define its factual findings with respect to the *Graham* factors.<sup>171</sup> Considering the complexity of patent cases, it is surprising that juries are not already required to articulate their factual findings. Furthermore, the Arkes study found that requiring subjects to articulate their factual reasoning reduced hindsight bias.<sup>172</sup> Similarly, juries may employ less hindsight if they are required to explain their reasoning using the *Graham* factors.

These types of instructions and verdict forms would also have the added benefit of giving the Federal Circuit a clearer record to review on appeal. The Moore study suggests that jury verdict affirmance rates may be artificially higher than they should be because the Federal Circuit does not know the factual findings most juries make, forcing the Federal Circuit to assume that the jury found all relevant facts in favor of the party who won.<sup>173</sup> Some may argue that reducing affirmance rates would add even more uncertainty to patent suits. However, in the long run, it would add stability to the patent system because parties could benefit from insight into how juries make their decisions and how the Federal Circuit treats such decisions. Additionally, it may encourage settlement before appeal by allowing parties to accurately predict their chances of winning on appeal.

## 2. *Dealing with Difficult-to-Answer Graham Factors*

Scholars have argued that it would be unduly difficult for a jury to answer each of the obviousness factors of *Graham*.<sup>174</sup> Other experts have suggested that the jury can easily decide the two most important factors of *Graham*, namely whether there was a long-felt need and whether there was any evidence of teaching away.<sup>175</sup> Additionally, *KSR*'s new "obvious to try" standard may be one a jury could easily address. Realistically, the jury's ability to accurately answer the *Graham* factors will depend upon the patented technology. For example, a jury could easily make a finding as to all the primary and secondary factors of *Graham* in a case involving relatively simple technology, such as the baseball or fishing lure scenario Mandel used in his studies. However, juries will likely have

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171. *Id.*

172. Arkes et al., *supra* note 140 at 305.

173. Moore, *supra* note 110 at 401.

174. Dutra, *supra*, note 50.

175. *Id.*

much more difficulty with technology involving organic chemistry, biotech, or molecular biology.

There are various ways in which a court can address the problem associated with the manner by which a jury addresses the obviousness factors of *Graham*. One solution is for the court to allow the jury to leave one or more of the *Graham* factors blank if they are too difficult to answer. However, doing so would allow the jury to refuse to answer most, if not all of the factual inquiries, and continue to decide non-obviousness using hindsight. A better solution would be for the court to provide all of the *Graham* factors to the jury, but give the judge discretion in instructing the jury to return specific factual findings in view of certain *Graham* factors. In doing so, the judge would have the discretion to decide, on a case-by-case basis, whether one or more of the *Graham* factors were impractical for the jury to answer.

### 3. *Alternative: Bifurcate the Decision Process*

Some jury instructions call for the jury to make specific factual findings related to the *Graham* factors but reserve the ultimate question of law for the judge.<sup>176</sup> This would allow a jury to focus on more narrow factual considerations rather than attempting to address the larger obviousness determination. It is possible that the jury would show less hindsight bias when deciding only specific factual findings, and the judge would exhibit less hindsight bias because the judge would make an objective legal decision based on established facts. Further, since an individual familiar with a task may exhibit less hindsight bias, a judge may be better equipped than a jury to deal with hindsight bias.<sup>177</sup> This approach, however, is controversial and the Federal Circuit would likely not support it as an alternative to the more traditional roles of judge and jury.

## VI. Conclusion

The *KSR* Court attempted to clarify uncertainty in obviousness law by striking down the strict application of the Federal Circuit's TSM test and advocating a renewed appreciation for the *Graham* factors. Unfortunately, the Court did not define a clear test for the lower courts to use, which has led to conflicting interpretations,

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176. See, U.S. District Court for the Northern District of California, Model Patent Jury Instructions, *supra* note 8.

177. See Christensen-Szalanski & Cynthia Willham, *supra* note 154.

particularly in the chemical and biochemical arts. It is unclear whether judges will be granting more summary judgment motions, and if they do, whether those orders will be reversed on appeal. This uncertainty has led to several different jury instructions and conflicting ideas about the effect of *KSR*.

While many jurisdictions have not altered their jury instructions in view of *KSR*, the Northern District of California has provided two alternatives. Both instructions charge the jury with specific factual findings regarding the *Graham* factors and require a special verdict form. One option allows the jury to adjudicate the entire non-obviousness decision, as is customary. The other option charges the jury only with the specific factual findings, while leaving the ultimate obviousness determination for the judge. Concern about jury incompetence has led some to the proposition that non-obviousness law may be improved by moving more responsibility from the jury to the judge.

The concerns associated with the jury's role in determining obviousness include juries generally having a pro-plaintiff bias, a propensity toward awarding higher damages and an inability to comprehend legal standards. While certain studies have provided mixed results, other studies suggest that the judge may be better equipped to adjudicate non-obviousness determinations. This would indicate the non-obviousness decision should be removed from the province of the jury. However, based on Federal Circuit precedent and commentary, it appears that the Federal Circuit may be unwilling to make such a sweeping change. Instead, jurisdictions should follow the first variation of the Northern District of California's jury instructions. By using this variation, the jury will determine non-obviousness, but a special verdict form will require them to articulate their findings of fact with respect to the *Graham* factors.

While previous attempts to curb hindsight bias in patent law have been ineffective, a study conducted by Arkes et al. suggests that requiring subjects to articulate their rationale reduces the tendency to succumb to the use of hindsight. Accordingly, by requiring a special verdict form, jurors may decide the non-obviousness decision without resorting to hindsight.

Given the disparity of jury instructions in various jurisdictions, it is inevitable that the Federal Circuit will address the proper non-obviousness standard in the wake of *KSR*. Only time will tell which of the interpretations discussed above will balance the concerns of the *KSR* court and gain the blessing of the Federal Circuit. However,

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until the Federal Circuit sets forth a non-obviousness standard, jurisdictions should fashion their instructions after the first alternative proposed by the Northern District of California, as it provides the opportunity to reduce hindsight bias while staying true to the requirements of *KSR*.