

## ***IN RE BILSKI: A CONVERSATION WITH JUDGE RANDALL RADER AND A FIRST LOOK AT THE BPAI'S CASES***

*Stefania Fusco* ♦

### ABSTRACT

The summer of 2008 was a time of great importance to the patentability of processes. Indeed, on May 8, 2008, the U.S. Court of Appeals for the Federal Circuit (“Federal Circuit”) heard a case that many observers signaled as having the potential to become a turning point for this category of patentable subject matter. The case was *In re Bilski*; its decision on October 30, 2008 confirmed everyone’s expectations of a significant change in the patent system.

With *In re Bilski*, the court did not explicitly overrule *State Street Bank and Trust Co. v. Signature Financial Group*, but certainly took several steps to distance itself from the results reached in that decision ten years before. Indeed, the court reconsidered the *State Street* test and concluded that it was inadequate to determine whether a process is eligible for patent protection under 35 U.S.C. §101. Rather, the court indicated that the appropriate test is the “machine-or-transformation” test previously outlined by the Supreme Court in a number of decisions.

*In re Bilski* is in line with numerous cases that recently have emerged both at the Supreme Court level and at the Federal

---

♦ Stefania Fusco is a JSD Candidate and Kauffman Fellow at Stanford Law School. I have significantly benefited from the collaboration with my advisor, Professor Mark A. Lemley, whose comments helped me to carefully rethink and refine my position on the issues discussed. A special thanks to Judge Randall R. Rader for his kindness and willingness to discuss *In re Bilski* and other related cases with me. All the remaining mistakes are mine. The work was funded by the Ewing Marion Kauffman Foundation. The content of this publication are solely the responsibility of the Grantee.

Circuit to promote a more restrictive view of proper subject matter for patent protection. Nevertheless, it is still possible to speculate about the issues that *Bilski* will generate.

The first issue in the aftermath of *Bilski* is related to the transformation prong of the machine-or-transformation test and consists of the possibility that this requirement will hinder, rather than promote, innovation in the newest fields of endeavor where the need for patent protection is perhaps the highest.

A second issue focuses on the machine prong of the machine-or-transformation test. Indeed, commentators have already suggested that this part of the test will result in a return to the “doctrine of the magic words” described by Cohen and Lemley in 2001.

Finally, the last relevant issue raised by *In re Bilski* regards the Supreme Court’s grant of certiorari on June 1, 2009. Here, it is worth emphasizing that the highest Court’s intervention in a 35 U.S.C. §101 case at this point is certainly desirable to increase the understanding of the role the current patent system will play in fostering innovation in future technologies.

In this article, the author presents a modest attempt at shedding light on the aforementioned issues by analyzing the conversation that she had with Judge Rader on the issuance of *In re Bilski* and by investigating the cases decided by the Board of Patents Appeals and Interferences that apply this decision.

2010]

**IN RE BILSKI**

125

## TABLE OF CONTENTS

I. INTRODUCTION .....	126
II. THE PATENTABILITY OF PROCESSES: WHERE ARE WE NOW? .	127
A. In re Bilski.....	128
B. A Short Digression on the Limits of Patentable Subject Matter.....	131
C. The Origin of Bilski.....	135
III. A CONVERSATION WITH JUDGE RADER.....	139
A. Principal Issues Raised by the Bilski Decision.....	140
B. A Conversation with Judge Rader .....	142
1. Why <i>Bilski</i> , Why Now?.....	143
2. The Transformation Prong of the <i>Machine-Or- Transformation</i> Test .....	144
3. The Machine Prong of the <i>Machine-or- Transformation</i> Test .....	145
4. The Supreme Court's Grant of <i>Writ of Certiorari</i> ...	145
C. A Few General Considerations.....	146
IV. THE AFTERMATH OF <i>BILSKI</i> AT THE BPAI LEVEL.....	147
A. Seven Months of BPAI Decisions: Preliminary Numbers .....	147
B. A Closer Look at the BPAI Decision .....	149
1.The Machine Prong .....	149
2.The Transformation Prong .....	153
3.The Transformation of Data .....	155
V. CONCLUSIONS .....	156
VI. APPENDIX: QUESTIONS FOR JUDGE RADER.....	157

## I. INTRODUCTION

Since its issuance in 1998, the *State Street* decision has been central to a controversial debate between those supporting the patentability of business methods and those who considered that kind of subject matter to extend beyond the boundaries of the statutory provisions.

Nevertheless, in last ten years, *State Street* has “dominated the scene” and created substantial reliance among innovators and entrepreneurs on a particular scope of patent protection. At the same time, a number of industries, such as the software industry, flourished and became essential for the U.S. economy.

On October 30, 2008, the Federal Circuit decided *In re Bilski en banc*, but did not explicitly overrule *State Street*. It did, however, unquestionably reconsider its conclusions and, in so doing, significantly restricted the ability of inventors to obtain patents in certain fields of endeavor. Indeed, to obtain a patent on a process, it is no longer sufficient to show that an invention produces “a useful, concrete and tangible result.” Now, an applicant also needs to demonstrate that her invention is either tied to a machine or transforms an article into a different state or thing. Ultimately, the Federal Circuit rejected Bilski’s application for a method of hedging the consumption risk derived from selling a commodity at a fixed price.

The *Bilski* decision is the result of generalized criticism that dominated the aftermath of *State Street* in terms of both the quality of the patents issued in its wake and the kind of litigations that followed. These concerns were also expressed in a number of decisions both of the Supreme Court and of the Federal Circuit. In fact, it is possible to say that *Bilski* directly “descends” from those previous cases. However, the Supreme Court has now granted *certiorari*, and the resulting decision is expected to bring balance to the system and to shed light on the proper way to deal with the many issues that *Bilski* potentially engenders.

Thus, in preparation for this Supreme Court’s decision, this paper provides a full interpretation of *Bilski*, the context that produced this decision and the issues that might derive from it. Part I of the article is dedicated to analyzing *Bilski* and to a complete description of the cases that led to its issuance. Part II comprises an overview of the issues that *Bilski* might produce, combined with a summary of the conversation that I had with Judge Rader on this and other related cases. Finally, Part III

investigates the Board of Patent Appeals and Interferences' cases decided after *Bilski* and provides a preliminary indication of the impact that this decision has already had on the issues discussed.

## II. THE PATENTABILITY OF PROCESSES: WHERE ARE WE NOW?

The summer of 2008 was a time of great importance to the patentability of processes. Indeed, on May 8, 2008, the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit") heard a case that many observers signaled as having the potential of being a turning point for this category of patentable subject matter. The case was *In re Bilski*,<sup>1</sup> and its decision on October 30, 2008 confirmed everyone's expectations of a significant change in the patent system.<sup>2</sup>

This decision originated from Bilski's appeal from the Board of Patent Appeals and Interferences' ("BPAI" or "Board") decision to affirm the United States Patents and Trademarks Office (USPTO)'s rejection of his patent application.<sup>3</sup> The case was initially argued before the Federal Circuit on October 1, 2007.<sup>4</sup> Subsequently, the court, *sua sponte*, ordered its rehearing *en banc* and solicited the submission of supplemental briefs and amicus briefs on issues ranging from the patentability of Bilski's specific invention, to the criteria for the patentability of processes in general,<sup>5</sup> to the possibility of overruling the *State Street Bank and Trust Co. v. Signature Financial Group, Inc.* ("*State Street*") decision.<sup>6</sup> The next section will provide a full overview of the case.

---

<sup>1</sup> 545 F.3d 943 (Fed. Cir. 2008).

<sup>2</sup> "This decision is expected by many to mark the end of business method patents . . . but also has important implications for at least the software and life science fields." Jad A. Mills & Christopher E. Everett, *In Re Bilski Gets Nod for Review by U.S. Supreme Court*, Foley & Lardner LLP (Aug. 3, 2009), available at [http://www.foley.com/publications/pub\\_detail.aspx?pubid=6254](http://www.foley.com/publications/pub_detail.aspx?pubid=6254). See also Law360, *The Future of Business Method Patents After Bilski* (Dec. 16, 2008), [http://www.law360.com/registrations/user\\_registration?article\\_id=77731&concurrency\\_check=false](http://www.law360.com/registrations/user_registration?article_id=77731&concurrency_check=false) (noting that the decision may significantly impact the rights of business method patent holders).

<sup>3</sup> Brief of Appellants at 1, *Ex Parte Bilski*, B.P.A.I. Appeal No. 2002-2257, 2006 WL 4080055 (B.P.A.I. Sept. 26, 2006), *aff'd en banc*, No. 2007-1130 (Mar. 12, 2007).

<sup>4</sup> *In re Bilski*, 264 F. App'x 896, 2008 WL 417680, \*1 (Fed. Cir. 2008).

<sup>5</sup> *Id.* at 897.

<sup>6</sup> *Id.*; *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1999), *cert. denied*, 525 U.S. 1093 (1999).

*A. In re Bilski*

Bilski's patent application was for a method of hedging the consumption risk derived from selling a commodity at a fixed price.<sup>7</sup> The USPTO rejected his application because it concluded that the claimed method was merely an abstract idea or a mathematical algorithm without any practical application.<sup>8</sup> On appeal, the Board confirmed the USPTO's decision and explained that Bilski's claims were so broad as to cover any possible way of performing his method.<sup>9</sup> Thus, they were claims on an abstract idea or, in other words, claims on a subject matter not eligible for patent protection.<sup>10</sup> Bilski appealed the Board's decision, and the Federal Circuit sitting *en banc* affirmed the Board's rejection of the patent application.<sup>11</sup> Contextually, the court clarified the applicable standards to determine whether a claimed method is a statutory process under 35 U.S.C. § 101.<sup>12</sup>

With *In re Bilski*, the court did not explicitly overrule *State Street*, but certainly took several steps to distance itself from the results reached ten years before in that decision. Indeed, the court reconsidered the *State Street* test and concluded that it was inadequate to determine whether a process is eligible for patent protection under 35 U.S.C. §101.<sup>13</sup> The court indicated that the appropriate test is, rather, the "*machine-or-transformation*" test previously outlined by the Supreme Court in a number of decisions.<sup>14</sup> Consequently, now, a process producing "a useful, concrete and tangible result" is not necessarily patentable subject matter.<sup>15</sup> The court reconciled this change of position by

---

<sup>7</sup> Brief of Appellants, *supra* note 3, at 3–4; *In re Bilski*, 545 F.3d 943, 949 (Fed. Cir. 2008).

<sup>8</sup> *Ex Parte Bilski*, 2006 WL 4080055, at \*1–2.

<sup>9</sup> *Id.* at \*1.

<sup>10</sup> *See* Brief of Appellants, *supra* note 3, at \*1 (asserting that an abstract idea is beyond the statutory scope of 35 U.S.C. § 101 subject matter).

<sup>11</sup> *See In re Bilski*, 545 F.3d at 949.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.* at 959–60.

<sup>14</sup> *See, e.g.,* *Diamond v. Diehr*, 450 U.S. 175, 187 (1981) (noting that a mathematical formula which implements a process then becomes patentable); *Parker v. Flook*, 437 U.S. 584, 592 (1978) (relying upon past court decisions to assert that the plaintiff claims a machine which embodies a valuable principle, which plaintiff first developed a mode of its use); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972) (asserting that the key to determining patentability is the transformation of an article into a different state); *Cochrane v. Deener*, 94 U.S. 780, 787–88 (1876) (looking at a method that is new and useful is patentable even though the machine used to perform the process may not be).

<sup>15</sup> *See* Brief of Appellants, *supra* note 3, at 7 (citing *In re Alappat*, 33 F.3d

explaining that “looking for a ‘useful, concrete and tangible result’ may in many instances provide useful indications of whether a [process] claim is drawn” to a patentable subject matter.<sup>16</sup> This result can be reached because “a process tied to a particular machine, or transforming or reducing a particular article into a different state or thing, will generally produce a ‘concrete’ and ‘tangible’ result as those terms were used in” *State Street*.<sup>17</sup> Nevertheless, the Federal Circuit pointed out that this investigation, by itself, is insufficient.<sup>18</sup> Thus, the *machine-or-transformation* test must now be used.

The *machine-or-transformation* test constitutes of two prongs.<sup>19</sup> An applicant must either show that his process is connected to a particular machine or transforms an article.<sup>20</sup> Absent such a demonstration, the applicant did not, in fact, invent a process eligible for patent protection.

Contextually, the court specified that there are “certain considerations”<sup>21</sup> that must be taken into account in analyzing both of the aforementioned prongs. First, “the use of a specific machine or transformation of an article must impose *meaningful limits on the claim’s scope* to impart patent eligibility . . . [s]econd the involvement of the machine or transformation in the claimed process must *not merely be insignificant extra-solution activity*.”<sup>22</sup>

The court left detailed discussion of the machine part of the test to future cases.<sup>23</sup> For the transformation prong, however, it provided some clarification about the kind of “articles” whose transformation can impart eligibility for patent protection.<sup>24</sup> Specifically, the court distinguished the physical or chemical transformation of physical objects from the transformation of articles, such as electronic signals, data, legal obligations and business risks, which are generally the subject of “information-

---

1526, 1544 (Fed. Cir. 1994)) (discussing how the Bilski process did meet the Alappat test, though it claimed method as opposed to a machine, and yet was still ruled invalid).

<sup>16</sup> *In re Bilski*, 545 F.3d 943, 959 (Fed. Cir 2008).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.* at 961.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *In re Bilski*, 545 F.3d 943, 961–62 (Fed. Cir 2008) (emphasis added) (citing *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972)).

<sup>23</sup> *Id.* at 962.

<sup>24</sup> *Id.*

age” processes and business methods.<sup>25</sup> The court noted that the transformation of the former kinds of articles certainly indicate that the process under consideration is patentable subject matter.<sup>26</sup> On the other hand, the transformation of the latter kinds of articles creates more problems. The court discussed the *Abele*<sup>27</sup> case to illustrate its point and noted that, within that context, the claim that was held to be drawn to patentable subject matter was the one in which the applicant specified what type of data was transformed by his process and how such data were obtained.<sup>28</sup> The Federal Circuit added that, in that case, it was clear that the transformed “data . . . represented physical and tangible objects.”<sup>29</sup> Moreover, considering the specific elements of Bilski’s method, the court stated that “[p]urported transformation or manipulations simply of public private legal obligations or relationships, business risk, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.”<sup>30</sup> The court concluded that the applicants’ process did not pass the *machine-or-transformation* test because it did not transform an article into a different state or thing and was not connected to a specific machine;<sup>31</sup> thus, Bilski’s process did not constitute patentable subject matter.<sup>32</sup>

In response, on January 28, 2009, Bilski petitioned the Supreme Court for a *writ of certiorari*. The petition presented two questions: whether the *machine-or-transformation* test adopted by the Federal Circuit is appropriate for determining the patentability of processes under 35 U.S.C. §101 and whether such a test conflicts with the Congressional intent to provide protection for businesses methods as evidenced by 35 U.S.C. § 273.<sup>33</sup> The Supreme Court granted certiorari on June 1, 2009.<sup>34</sup>

---

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* at 958–59, 962–63 (citing *In re Abele*, 684 F.2d 902, 905–09 (C.C.P.A.1982), *abrogated by In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008)).

<sup>28</sup> *In re Bilski*, 545 F.3d 943, 962–63 (Fed. Cir 2008).

<sup>29</sup> *Id.*

<sup>30</sup> *Id.* at 963.

<sup>31</sup> *Id.* at 966.

<sup>32</sup> *Id.*

<sup>33</sup> The questions presented were

[w]hether the Federal Circuit erred by holding that a “process” must be tied to a particular machine or apparatus, or transform a particular article into a different state or thing (“machine-or-transformation” test), to be eligible for patenting under 35 U.S.C. § 101, despite this Court’s precedent

Since the heart of this controversy is the issue of whether Bilski's process lies outside the scope of patent protection, it appears useful to integrate the discussion with a brief description of the limits provided by the patent system to patentable subject matter. These limits reflect the most important balance of interest within the patent system: the goal of fostering innovation through a system of exclusive rights on one hand and the need to leave enough "raw material" of knowledge on which innovators can build to produce new inventions on the other. The next section analyzes the most relevant cases that contributed to clearly defining the items that, under the current system, are excluded from patentability.

*B. A Short Digression on the Limits of Patentable Subject Matter*

Patentable subject matter is defined by two main provisions: the Copyright and Patent Clause of the U.S. Constitution and 35 U.S.C. §101. In particular, the constitutional article outlines the main purpose of the patent system "[t]o promote the Progress of Science and useful Arts"<sup>35</sup> and defines the system of exclusive rights adopted to achieve this goal.<sup>36</sup> The statutory provision, on the other hand, specifically identifies the four categories of patentable subject matter for which patent protection, as defined in the Constitution, must be granted. These four categories include: processes, machines, manufactures and compositions of matter.<sup>37</sup>

Notwithstanding the fact that the combined reading of these two provisions supports a very broad definition of patentable subject matter, substantial disagreement, both at the courts and on the academic level, has always revolved around determining the specific boundaries of patent protection. Much of the debate

---

declining to limit the broad statutory grant of patent eligibility for "any" new and useful process beyond excluding patents for "laws of nature, physical phenomena, and abstract ideas"; and whether the Federal Circuit's "machine-or-transformation" test for patent eligibility, which effectively forecloses meaningful patent protection to many business methods, contradicts the clear Congressional intent that patents protect "method[s] of doing or conducting business."

Petition for a Writ of Certiorari, *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008), cert. granted, 129 S. Ct. 2735 (No. 08-964) (quoting 35 U.S.C. § 273).

<sup>34</sup> *In re Bilski*, 129 S. Ct. 2735 (2009).

<sup>35</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>36</sup> *Id.*

<sup>37</sup> 35 U.S.C. § 101 (2000).

has focused on the limits to patentable subject matter, which have been judicially created by the United States Supreme Court in a long line of cases.<sup>38</sup> These limits constitute exceptions to patentable subject matter and provide balance to the system by avoiding the fact that too much patent protection precludes innovation rather than engendering it.<sup>39</sup> This risk is present every time someone has a monopoly on the basics of the knowledge from which innovators derive inspirations. Thus, no exclusive rights can be granted on laws of nature, natural phenomena and abstract ideas.<sup>40</sup>

As mentioned, the Supreme Court has elaborated these limits through a number of cases. For instance, in 1972, the Court decided *Gottschalk v. Benson*<sup>41</sup> and concluded that “[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.”<sup>42</sup>

The Benson case involved a method consisting of mathematical procedures to convert binary-coded decimal (“BCD”) numerals into pure binary numerals.<sup>43</sup> No specific application for such a method was claimed in the patent application.<sup>44</sup> On the contrary, the relevant claims were so broad as to cover any possible use of the specific mathematical formula in a general-purpose digital computer.<sup>45</sup> The Court noted that granting a patent in this case would be equivalent to granting a patent on an abstract idea

---

<sup>38</sup> ROBERT PATRICK MERGES, PATENT LAW AND POLICY: CASES AND MATERIALS 51 (2d ed. 1997).

<sup>39</sup> See *Gottschalk v. Benson*, 409 U.S. 63, 67–68 (1972) (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” See also *Diamond v. Diehr*, 450 U.S. 175, 185 (1981) (excluding from patentability laws of nature, natural phenomena, and abstract ideas); *Parker v. Flook*, 437 U.S. 584, 593 (1978) (holding that a law of nature is not something the law was enacted to protect); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948) (holding that discovery of a “phenomenon of nature” cannot be patentable on its own); *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. 498, 507 (1874) (holding that an idea by itself is not patentable); *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852) (holding that no one can claim an exclusive right to a principle).

<sup>40</sup> See *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (citing *Parker*, 437 U.S. 584; *Gottschalk*, 409 U.S. at 67; *Funk Bros.*, 333 U.S. at 130; *O’Reilly v. Morse*, 56 U.S. 62, 112–21 (1853); *Le Roy*, 55 U.S. at 175).

<sup>41</sup> *Gottschalk*, 409 U.S. at 63.

<sup>42</sup> *Id.* at 67.

<sup>43</sup> *Id.* at 64.

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

because there is no significant use of the formula for converting BCD numerals into pure numerals except in connection to a digital computer.<sup>46</sup> Thus, the applicants were claiming a patent on all possible uses of their method which would have completely pre-empted the claimed mathematical formula.<sup>47</sup> For this reason, the claims under consideration had to be rejected as not directed to patentable subject matter but, rather, to an abstract idea.<sup>48</sup>

Subsequently, in 1980, the Court decided *Diamond v. Chakrabarty*,<sup>49</sup> in which it was confronted with determining whether a living, human-made micro-organism with the ability to break down crude oil was a “manufacture” or a “composition of matter” within the meaning of the patent statute and, thus, could be patented.<sup>50</sup> In that context, the Court underlined the very wide scope of patent protection, but also clarified that “[t]his . . . [was] not to suggest that § 101 has no limits or that it embraces every discovery” as indeed “[t]he laws of nature, physical phenomena, and abstract ideas have been held not patentable.”<sup>51</sup> Ultimately, the Court decided in favor of the patentability of Chakrabarty’s invention because “[h]is claim [was] not to a hitherto unknown natural phenomenon, but to a non-naturally occurring manufacture or composition of matter – a product of human ingenuity.”<sup>52</sup>

Finally, of great importance in determining the limits to patentable subject matter is the 1981 Supreme Court’s decision *Diamond v. Diehr*.<sup>53</sup> The case involved a process for curing synthetic rubber that required the use of a mathematical formula and a programmed digital computer.<sup>54</sup> The Court had to determine whether such a process was patentable subject matter under 35 U.S.C. §101.<sup>55</sup> Once again the Court first clarified that the scope of patent protection is broad and includes “anything under the sun that is made by man.”<sup>56</sup> Then, it specified that not every discovery is within the statutory terms and that

---

<sup>46</sup> *Id.* at 71–72.

<sup>47</sup> *Gottschalk v. Benson*, 409 U.S. 63 (1972).

<sup>48</sup> *Id.* at 71–73.

<sup>49</sup> *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

<sup>50</sup> *Id.* at 305–07.

<sup>51</sup> *Id.* at 309.

<sup>52</sup> *Id.*

<sup>53</sup> *Diamond v. Diehr*, 450 U.S. 175 (1981).

<sup>54</sup> *Id.* at 177.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at 182 (quoting S. REP. NO. 82-1979, at 5 (1952), *reprinted in* 1952 U.S.C.C.A.N. 2394, 2399).

specifically excluded from patent protection are laws of nature, natural phenomena and abstract ideas.<sup>57</sup>

The Court also clarified that, at that point, it was recognized that “an *application* of a law of nature or a mathematical formula to a known structure or process . . .”<sup>58</sup> was patentable. Thus, Diehr’s invention that used a mathematical formula to perform a process for the molding of rubber products deserved protection by the patent system because it consisted of not the formula per se, but its specific application within the described process.<sup>59</sup>

As explained above, these cases illustrate the Supreme Court’s position toward establishing the limits of patentable subject matter. However, they are also indicative of the general attitude prevailing in the 1980s that favored an ever-expanding understanding of the scope of patent protection.<sup>60</sup> It is unquestionable that this attitude has changed significantly in the last couple of years. Indeed, a number of cases emerged both at the Supreme Court level<sup>61</sup> and at the Federal Circuit<sup>62</sup> that promoted a more restrictive view of what should be considered proper for patent protection. The dissenting opinion in *Lab. Corp. v. Metabolite*<sup>63</sup> and the results of two subsequent Federal Circuit’s cases<sup>64</sup> are emblematic in this regard and will be discussed in the next section. Indeed, it can be said that the

---

<sup>57</sup> *Diehr*, 450 U.S. 175.

<sup>58</sup> *Id.* at 187(emphasis in original).

<sup>59</sup> *Id.* at 192–93.

<sup>60</sup> *See, e.g.*, *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (noting that “anything under the sun that is made by man” is patentable) (quoting S. REP. NO. 82-1979, at 5 (1952), H.R. REP. NO. 82-1923, at 6 (1952), *reprinted in* 1952 U.S.C.C.A.N. 2394, 2399).

<sup>61</sup> *See, e.g.*, *eBay Inc. v. MercExchange*, 547 U.S. 388, 390 (2006) (finding that the traditional four factor test used by courts when considering permanent injunctive relief applies to disputes arising under the Patent Act); *see also* *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.* 548 U.S. 124, 125, 138 (2006) (Breyer, J., dissenting) (arguing that a patent on the process for diagnosing two specific vitamin deficiencies is invalid because it “is an unpatentable ‘natural phenomenon[.]’”); *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 405–07, 426–47 (2007) (noting that by failing to fulfill a requirement specifically stated in the Patent Act, the patent will not be granted).

<sup>62</sup> *See In re Comiskey*, 499 F.3d 1365, 1378 (Fed. Cir. 2007) (finding that certain business systems which operate on human mental processes are not patentable), *overruled by In re Comiskey*, 544 F.3d 967 (Fed. Cir. 2009); *In re Nuijten*, 500 F.3d 1346, 1354 (Fed. Cir. 2007) (finding that the subject matter of the patent must fall into at least one of the four categories of statutory subject matter and if it does not then it is not patentable regardless of whether it is new and useful).

<sup>63</sup> *Metabolite*, 548 U.S. at 125, 130, 138. (Breyer, J., dissenting).

<sup>64</sup> *In re Comiskey*, 499 F.3d at 1378; *In re Nuijten*, 500 F.3d at 1354.

conclusions reached in *Bilski* are directly “descending” from these recent cases.

### *C. The Origin of Bilski*

As mentioned, a new trend has recently characterized both the Supreme Court and the Federal Circuit’s decisions that impinged on the extension of patent rights.<sup>65</sup> Beginning in 2006, the Supreme Court made it more difficult for a patent holder to obtain a permanent injunction against an infringing party. Indeed, the Court in *eBay Inc. v. MercExchange* stated that in patent cases, as in any other case, district courts have the discretionary power to grant or *deny* injunctive relief based on principles of equity.<sup>66</sup> The Court reached this conclusion despite the Federal Circuit’s long-standing general rule, providing for an almost automatic grant of a permanent injunction once the infringement and validity of a patent had been established.<sup>67</sup>

Also in 2006, the Supreme Court came close to deciding what could have become the most important case signaling a more stringent approach toward the patent system in general and patentable subject matter in particular: *Lab. Corp. of Am. Holdings v. Metabolite Labs.*<sup>68</sup> Here, the Court dismissed as improvidently granted a writ of certiorari on the invalidity of a patent on a process used to determine folate and cobalamin deficiency in the human body.<sup>69</sup> The lower courts found the patent claim to be valid, and Laboratory Corporation of America Holdings (Lab. Corp.) petitioned the Supreme Court on the ground that the patent under consideration “seeks to ‘claim a monopoly over a basic scientific relationship’”<sup>70</sup> or, in other words, a law of nature. The case deserves particular attention

---

<sup>65</sup> See Brief Amici Curiae of 20 Law and Bus. Professors in Support of Neither Party, *Bilski v. Doll*, 129 S. Ct. 2735 (2009) (No. 08-964).

<sup>66</sup> *eBay Inc.*, 547 U.S. at 394.

<sup>67</sup> See, e.g., *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1547 (Fed. Cir. 1995) (finding that even if a patentee failed to actually use their patent a court will still rarely deny injunctive relief in order to protect the public interest); see also *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1247 (Fed. Cir. 1989) (finding the general rule to be that unless there is a sound reason for denying an injunction the court will grant an injunction when there has been an infringement on a valid patent).

<sup>68</sup> See *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.* 548 U.S. 124, 125–27, 138 (2006).

<sup>69</sup> *Id.* at 125–128.

<sup>70</sup> *Id.* at 125 (quoting Petition for a Writ of Certiorari, *Metabolite*, 548 U.S. 125 (No. 04-607)).

because of Justice Breyer's direct attack on the *State Street* standard for determining a patentable process.<sup>71</sup>

Indeed, in his dissent from *certiorari* being improvidently granted, Justice Breyer, joined by Justice Stevens and Justice Souter, emphasizes the importance of the Supreme Court's intervention because of the special public interest considerations raised by the case.<sup>72</sup> Justice Breyer explained that the claimed process constituted nothing more than an instruction for doctors to obtain certain data from their patients and analyze them in light of their medical knowledge.<sup>73</sup> This instruction can most certainly be described as a series of steps constituting a process, but Justice Breyer emphasized that this is not material.<sup>74</sup> The important part is, rather, the content of the aforementioned steps<sup>75</sup> that, in his view, consists merely of thinking about an "unpatentable 'natural phenomenon'": the natural relationship between two substances present in the human body.<sup>76</sup> Justice Breyer added that the fact that the claimed process "produces a 'useful concrete and tangible result'" as intended in *State Street* is not helpful, because, ultimately, the Supreme Court has never adopted this standard that, "if taken literally, . . . [would find patentable processes in] instances where . . . [the] Court has held the contrary."<sup>77</sup>

Subsequently, at the beginning of 2007, the Supreme Court in *MedImmune, Inc. v. Genentech, Inc.*<sup>78</sup> increased the number of parties allowed to seek a declaratory judgment on the validity and enforceability of a patent by including licensees in good standing.<sup>79</sup> Specifically, the Court said that in order to satisfy the "Cases" and "Controversies" limitation of Article III of the Constitution, a licensee does not need to terminate or be in breach of its license agreement.<sup>80</sup> Indeed, according to the Court, a licensee has standing before a federal court even if she keeps

---

<sup>71</sup> *Metabolite*, 548 U.S. at 136–37.

<sup>72</sup> *Id.* at 134, 138.

<sup>73</sup> *Id.* at 137.

<sup>74</sup> *Id.* at 137–38.

<sup>75</sup> *See id.* (stating that while any process may be reduced to a series of steps, the question is what those steps embody).

<sup>76</sup> *Id.* at 137–38.

<sup>77</sup> *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.* 548 U.S. 124, 136 (2006) (citing *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1999)).

<sup>78</sup> 549 U.S. 118 (2007).

<sup>79</sup> *Id.* at 120–21, 128, 130, 135, 137.

<sup>80</sup> *Id.* at 120, 126–28, 137.

paying royalties while challenging the validity of the patent underlying the agreement on which said payments are made.<sup>81</sup> Thus, now, a licensee does not need to be concerned with the potential risk of having to pay treble damages to a prevailing patent holder before bringing an action against him on the validity of a dubious patent.

Furthermore, in 2007, the Supreme Court decided *KSR Int'l Co. v. Teleflex Inc.*<sup>82</sup> in which it stated that the test adopted by the Federal Circuit to determine obviousness when the invention combines two or more prior art teachings is contrary to 35 U.S.C. § 103 and to the Court's precedents.<sup>83</sup> The Federal Circuit's test was an analysis that identified obviousness *only* when "precise teachings directed to the specific subject matter of the challenged claim"<sup>84</sup> "[could] be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art."<sup>85</sup> The Supreme Court found this test to be a "rigid and mandatory formula[] . . ."<sup>86</sup> It also concluded that "[u]nder 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" and render said invention obvious.<sup>87</sup> Thus, now, the chances of finding obviousness in the cases discussed here are enhanced both by the absence of the need for precise teaching in the prior art and by the increase in the size of the relevant pool of information from which the motivation to combine known elements can be drawn.<sup>88</sup>

The aforementioned series of Supreme Court's decisions did not go unnoticed by the Federal Circuit that in 2007 issued *In re Comiskey*<sup>89</sup> and *In re Nuijten*,<sup>90</sup> both decisions favoring a more limited understanding of patent holders' rights compared to that previously expressed in its own precedent, *State Street*.<sup>91</sup>

---

<sup>81</sup> *Id.* at 130–31 (citing *Altwater v. Freeman*, 319 U.S. 359, 365–66 (1943)).

<sup>82</sup> 550 U.S. 398 (2007).

<sup>83</sup> *Id.* at 407.

<sup>84</sup> *Id.* at 418.

<sup>85</sup> *Id.* at 407 (citing *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323–24 (Fed. Cir. 1999)).

<sup>86</sup> *KSR Int'l Co.*, 550 U.S. at 419.

<sup>87</sup> *Id.* at 419–20 (emphasis added).

<sup>88</sup> *See id.* at 420.

<sup>89</sup> 499 F.3d 1365, 1374, 1380–81 (Fed. Cir. 2007).

<sup>90</sup> 500 F.3d 1346, 1353–54 (Fed. Cir. 2007).

<sup>91</sup> *Compare State Street*, 149 F.3d 1368, 1373 (Fed. Cir. 1999) (holding that the transformation of data, although dealing with a mathematical algorithm,

Specifically, in *Comiskey*, the court affirmed the rejection of the patent application because it claimed unpatentable subject matter, i.e., exclusive rights on the use of human intelligence in and of itself.<sup>92</sup> The court stated that mental processes as abstract ideas may be patented *only* if they are tied to one of the other categories of statutory subject matter: process, machine, manufacture or composition of matter.<sup>93</sup> It also distinguished *Comiskey* from *State Street* by saying that in the older case it was virtually impossible to perform the described task without the aid of a computer or an equivalent device, whereas, in this case, the applicant conceded that the claimed process did not require using any machine.<sup>94</sup>

Subsequently, *Comiskey* petitioned for a rehearing *en banc* of the decision.<sup>95</sup> His request was granted on January 13, 2009 to the limited extent of allowing the original panel to revise its opinion.<sup>96</sup> Contextually, the September 20, 2007 judgment was vacated and the related opinion withdrawn.<sup>97</sup> In the new opinion, the court's position on the patentability of mental processes under 35 U.S.C. §101 is substantially identical to the one expressed in 2007.<sup>98</sup>

Finally, *Nuijten*, which was decided on the same day as *Comiskey*,<sup>99</sup> questioned the validity of *State Street*.<sup>100</sup> In that case, the Federal Circuit found that the invention was not patentable because it did not fall into one of the four categories of statutory subject matter: process, machine, manufacture and composition of matter.<sup>101</sup> *Nuijten* objected to this analysis by noting that it

---

which is normally no patentable, is so because it corresponded to a useful and concrete thing), *with In re Comiskey*, 499 F.3d at 1374 (noting that while some courts suggest that *State Street* supports the proposition that business method are patentable generally, the court in this case held that they are treated as any other process and must fit in one of the enumerated subject matters), and *In re Nuijten*, 500 F.3d at 1353–54 (noting that in interpreting *State Street*, the four statutory categories are not irrelevant, and the claim must fall within one of the subject matter categories in order to be patentable).

<sup>92</sup> *In re Comiskey*, 499 F.3d at 1378–79.

<sup>93</sup> *Id.* at 1378.

<sup>94</sup> *Id.* at 1374, 1379.

<sup>95</sup> *In re Comiskey*, 554 F.3d at 969.

<sup>96</sup> Opinion was revised on January 26, 2009. *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> *Id.* at 980; see also *In re Comiskey*, 499 F.3d 1364, 1381 (Fed. Cir. 2007).

<sup>99</sup> *In re Comiskey*, 499 F.3d at 1365; *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007).

<sup>100</sup> *In re Nuijten*, 500 F.3d at 1354.

<sup>101</sup> *Id.* at 1357.

was inconsistent with the view previously expressed in *State Street*, where the court said that the important part was the “essential characteristics of the . . . [invention], in particular, its practical utility,” rather than the statutory category to which its claims were directed.<sup>102</sup> The Federal Circuit explained that, on the contrary, there was no conflict with its own precedent, because, in that case, the court simply clarified the fact that judges should not be too concerned with determining the specific statutory category in which the invention should be included.<sup>103</sup> They must only be sure that said invention satisfies *at least one* of the 35 U.S.C. §101 categories.<sup>104</sup> Judge Linn dissented from this conclusion, emphasizing that the majority’s holding did not seem to be required both by the statute and the court own precedents.<sup>105</sup>

This brief overview of cases clearly illustrates the changed environment that now defines the speculation on the scope of patentable subject matter. It also provides a logical explanation for the results reached a few months ago in *Bilski*. However, it does not answer the many questions that this decision raises. For this reason, I decided to meet with Judge Rader of the Federal Circuit, who graciously agreed to discuss *Bilski* and a few other related cases with me. It is with great appreciation for his time and kindness that I summarize the aforementioned discussions.

### III. A CONVERSATION WITH JUDGE RADER

The previous part has been dedicated to the analysis of *Bilski* and to the judicial context that engendered it. However, no mention has been made of the possible consequences that this decision might have on innovation in many fields. Indeed, by changing the criteria for the patentability of a claim to a process, the Federal Circuit has altered the pool of subject matter that can benefit from patent protection with obvious repercussions for a number of industries. For instance, it is anticipated that online commerce and the software industry will be most affected.<sup>106</sup>

---

<sup>102</sup> *Id.* at 1353–54.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.* at 1354.

<sup>105</sup> *Id.* at 1358 (Linn, J., dissenting).

<sup>106</sup> See, e.g., Solveig Singleton, *In re Bilski: Business Method and Software Patents and More*, THE TECHNOLOGY LIBERATION FRONT (Oct. 7, 2009), available at <http://techliberation.com/2009/10/07/in-re-bilski-business-method-and-software-patents-and-more/> (noting that problems of business method patents and software patents are linked and such patents are hard to define).

It has been said that with *Bilski* the Federal Circuit reverted to the pre-*State Street* era.<sup>107</sup> Although this interpretation appears to be true, it is incomplete because it does not provide an indication of the outcome resulting from the application of rules used ten years ago to the modern context. Indeed, the past ten years have not only been years of judicial decisions, scholarly analysis and criticism. They have also been years of significant progress in science and technology, changes in markets that adjusted to the *State Street's* rules and development of new industries that in many instances not only thrived, but also became central to the U.S. economy.<sup>108</sup> Indeed, it is possible to say that, although the rules have remained the same, the playing field on which *Bilski* operates today is completely different from that of the pre-*State Street* era. Thus, the potential impact on innovation resulting from the Federal Circuit's change of position on the patentability of processes is totally uncertain.

Nevertheless, it is already possible to speculate about the issues that *Bilski* will generate. Thus, in this section, I will first identify the most relevant possible post-*Bilski* effects; then, I will discuss them by analyzing the conversations that I had on this point with Judge Rader of the Federal Circuit. In *Bilski*, Judge Rader wrote one of the most vigorous dissenting opinions. Indeed, the discussion with him on this case is extremely useful to highlight the risk presented by the *Bilski* decision and its return to the *machine-or-transformation* test.

#### A. Principal Issues Raised by the *Bilski* Decision<sup>109</sup>

The first issue that the aftermath of *Bilski* might determine is related to the transformation prong of the *machine-or-transformation* test and consists of the possibility that this requirement will hinder, rather than promote, innovation in the newest fields of endeavor where the need for patent protection is perhaps the highest. The Federal Circuit in its decision has made it clear that the kind of transformation required to impart patentability to an invention is one that ultimately involves

---

<sup>107</sup> Posting of Randy Picker to The University of Chicago Law School Faculty Blog, *In re Bilski: The Fed Circuit Tells Inventors to Stuff It*, <http://uchicago.law.typepad.com/faculty/2008/10/in-re-bilski-th.html> (Oct. 30, 2008, 05:03 EST).

<sup>108</sup> See *In re Bilski*, 545 F.3d 943, 976–77, 992 (Fed. Cir. 2008) (Newman, J., dissenting).

<sup>109</sup> This subpart has been adapted from Stefania Fusco, Comment, *Is In re Bilski a Déjà Vu?*, 2009 STAN. TECH. L. REV. P1 (2009).

physical objects or substances.<sup>110</sup> However, as highlighted by Judges Newman and Rader in their dissents, having to satisfy this requirement might be very problematic in those cases in which the assessment of the physical/non-physical nature of the invention is, to begin with, unclear. Judge Newman's dissent was particularly concerned with the applicability of such a requirement to "inventions that apply today's electronic and photonic [sic] technologies, as well as other processes that handle data and information in novel ways."<sup>111</sup> They provided a great contribution to the extraordinary social and economic success of the Information Age and now risk being eliminated from the system of incentives provided by the patent system.<sup>112</sup>

Another issue arising from the *Bilski* decision focuses on the machine prong of the *machine-or-transformation* test. Indeed, a number of commentators have already suggested that this part of the test will cause a return to the "doctrine of the magic words" described by Cohen and Lemley in 2001.<sup>113</sup> This doctrine refers to the fact that under the pre-*State Street* regime, it was possible to render statutory any claim that recited a mathematical formula or a mental process by simply adding specific words to the patent application.<sup>114</sup> According to Cohen and Lemley, as long as the claims were drafted in such a way to include either a general purpose computer or a standard hardware or a memory element, there was no question that the process under consideration was patentable subject matter.<sup>115</sup> This was true even if the aforementioned physical elements were well known in the field and did not add anything to the novelty of the invention.<sup>116</sup> Thus, in those days, companies wanting to obtain a patent on software "needed only to define their claims in terms of a computer program implemented in a machine."<sup>117</sup>

The Federal Circuit explicitly decided not to deal with the machine prong in the context of *Bilski*,<sup>118</sup> but it is certainly

---

<sup>110</sup> See *In re Bilski*, 545 F.3d at 963.

<sup>111</sup> *Id.* at 976 (Newman, J., dissenting).

<sup>112</sup> *Id.* at 976–77, 992 (Newman, J., dissenting).

<sup>113</sup> Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CAL. L. REV. 1, 9 (2001). See also Stefania Fusco, *Is In re Bilski a Déjà vu?*, 2009 STAN. TECH. L. REV. P1, 8 (2009).

<sup>114</sup> Cohen & Lemley, *supra* note 113, at 9–10.

<sup>115</sup> *Id.*

<sup>116</sup> *Id.* at 9.

<sup>117</sup> *Id.* at 10.

<sup>118</sup> See *In re Bilski*, 545 F.3d 943, 962 (Fed. Cir. 2008).

possible to say that the use of “magic words” by well-trained patent attorneys appears to be a very effective countermeasure to make the machine prong inoperative.<sup>119</sup> In addition, this same scenario might extend to the transformation part of the *machine-or-transformation* test, particularly when the transformation of data is involved.<sup>120</sup> In such cases, patent attorneys will have to use their most effective and creative skills to make the data under consideration as representative of the physical world as possible.

Finally, the last relevant issue raised by *Bilski* regards the Supreme Court’s grant of *certiorari* on this case. This point has already been discussed in Part I.<sup>121</sup> However, here, it is worth emphasizing that the highest Court’s intervention in a 35 U.S.C. § 101 case is certainly desirable to increase the understanding of the role the current patent system will play in fostering innovation in future technologies.<sup>122</sup> Indeed, it is hoped that, with its decision, the Supreme Court will define the boundaries of patentable subject matter taking into consideration the reality of the modern world, in which extremely valuable innovations occur in ways substantially different from the past and regarding matters having very little in common with the traditional objects of patent protection.<sup>123</sup>

### *B. A Conversation with Judge Rader*

In November 2008, the Federal Circuit came to the Bay Area to hear some cases and participate in a number of talks in which present and future issues of patent law were discussed. Since my primary research interest focuses on patent protection, I decided to attend the aforementioned events; as a result, I had the

---

<sup>119</sup> See Cohen & Lemley, *supra* note 113, at 9.

<sup>120</sup> See, e.g., Richard Sybert & David Heckadon, *The Impact of Bilski on Business Method Patents Leading Lawyers on Navigating Procedural Changes, Forming New Patent Filing Strategies, and Forecasting Future Developments: The Present and Future Impact of the Bilski Decision and its Recent Appeal to the Supreme Court*, 2009 WL 2510889, \*8 (August 2009).

<sup>121</sup> See *supra* Part 0.

<sup>122</sup> See, e.g., R. David Donoghue & Michael A. Grill, *In Re Bilski: A Midpoint in the Evolution of Business Method Patents?*, 7 NW. J. TECH & INTELL. PROP. 316, \*3 (2009).

<sup>123</sup> See Dawn-Marie Bey, *The Impact of Bilski on Business Method Patents Leading Lawyers on Navigating Procedural Changes, Forming New Patent Filing Strategies, and Forecasting Future Developments: Responses to Bilski: Rejections, Suggestions, and Follow-On Case Law*, 2009 WL 2510887, \*1112 (Aug. 2009).

opportunity to meet with Judge Rader. Most of the conversations with him revolved around my J.S.D. dissertation on the patentability of business methods and its relationship with the recent *Bilski* decision.

Subsequently, I decided to ask him for the opportunity to discuss *Bilski* and other related cases in more detail. He accepted and on December 8, 2008 I went Washington, DC to talk to him again.

A complete list of the questions that I presented to Judge Rader is provided in the Appendix;<sup>124</sup> they regarded substantially the issues that I identified in the previous part<sup>125</sup> as potential post-*Bilski* effects. The following section is a brief summary of the conversation that occurred during our meeting.

#### 1. Why *Bilski*, Why Now?

The first question that I asked Judge Rader focused on the selection of *Bilski* as a proper case to redefine the test for the patentability of a claim to a process.

Judge Rader began by mentioning the line of recent decisions (*eBay*, *KSR* and *MedImmune*) indicating a more restrictive understanding of the extension of patent rights by the Supreme Court.<sup>126</sup> He specifically talked about *Lab. Corp.* and the fact that the dissenting opinion clearly indicates that there were a number of Justices who were displeased with the way in which 35 U.S.C. §101 had been interpreted in the past.<sup>127</sup> According to him, these facts could have induced the Federal Circuit to dispose of *Bilski*, which at that time was the easiest among all of the other 35 U.S.C. §101 cases brought to the court's attention, in a way that resulted in the October 2008 decision.<sup>128</sup>

Related to this question, I also asked Judge Rader whether there was anything that the court had learned from the *State Street* experience that prompted the *Bilski* decision. On this point, he emphasized that the Federal Circuit is not a policy maker and that he was not convinced that, at the time of *Bilski*,

---

<sup>124</sup> See *infra* App., p. 43.

<sup>125</sup> See *supra* Part 0.

<sup>126</sup> Interview with Judge Randall R. Rader, United States Court of Appeals for the Federal Circuit, Washington D.C. (Dec. 8, 2008) [hereinafter *Interview*] (on file with author).

<sup>127</sup> *Id.*

<sup>128</sup> *Id.*

the court was measuring *State Street* for its sufficiency.<sup>129</sup> *State Street*, he added, had been a response to a long series of problems that began in the 1970s with *Benson*, consisting of “miserable mishmash of case law” with opinions going in separate directions.<sup>130</sup> “*State Street* seemed to have solved the problem,” Judge Rader said, “but then, of course, along came *Lab. Corp.* . . . and so the court has kind of returned to the past.”<sup>131</sup> According to him, the court will now go back and perform the transformation test and the machine test all over again and “it won’t work.”<sup>132</sup> It will lead to the same mishmash of cases that brought to *State Street* in the first place.<sup>133</sup>

## 2. The Transformation Prong of the *Machine-Or-Transformation* Test

The second question focused on the transformation prong of the *machine-or-transformation* test and its possible negative impact on certain kinds of innovations.<sup>134</sup> Specifically, I asked Judge Rader whether the court with *Bilski* was trying to say that today’s patent system is not optimal to foster innovation in the newest technologies and that incentives for inventions in these fields should be found elsewhere.

Judges Rader strongly opposed the possibility presented in the question.<sup>135</sup> In particular, he emphasized that this was clearly not what the court intended and that, on the contrary, *Bilski* “says outright that it is not creating any broad prohibition against software patents [or] business method patents.”<sup>136</sup>

Next, I asked Judges Rader whether he thought that the patent system should be reformed and, if so, who should enact such a reform. Judge Rader was skeptical about whether a radical patent reform was necessary, at least in terms of eligibility,<sup>137</sup> and thought that perhaps just a few minor changes to make the system function better would be sufficient.

In this context, he also added that the interesting aspect is the fact that there are numerous guarantees already present in the

---

<sup>129</sup> *Id.*

<sup>130</sup> *Id.*

<sup>131</sup> *Id.*

<sup>132</sup> *Interview, supra* note 126.

<sup>133</sup> *Id.*

<sup>134</sup> *See supra* Part 0.

<sup>135</sup> *Interview, supra* note 126.

<sup>136</sup> *Id.*

<sup>137</sup> *Id.*

system, such as the novelty requirement, to avoid granting patents that are not really innovative. Thus, in order to eliminate the problem of the issuance of bad patents, there is no need to exclude an entire category of patentable subject matter, such as business methods, from the system of incentives provided by patent law.

Finally, Judge Rader stated that the problem is not the patent system *per se*, but its abuse. Analogous to the case of tort reform, the issue is individuals taking advantage of certain litigation aspects. He said that when it comes to patents, “it is all about venue; [about] people . . . going to the Eastern District of Texas [where] they are giving too big damages.”<sup>138</sup> Thus, ultimately, what is really needed appears to be litigation reform rather than patent law reform.

### 3. The Machine Prong of the *Machine-or-Transformation* Test

On the issue of the machine prong of the *machine-or-transformation* test, I asked Judge Rader whether he thought that this aspect could engender a “resurrection” of what Cohen and Lemley defined as “the doctrine of the magic words,” which I briefly described in Part II.A. Judge Rader expressly stated that this is exactly what is going to happen.<sup>139</sup> He reiterated that the Federal Circuit returned to the Supreme Court’s standards because it understood that the Court was going to rely on them. However, he added that the problem is that “the Supreme Court’s tests were failures.”<sup>140</sup>

### 4. The Supreme Court’s Grant of *Writ of Certiorari*

At the end of my conversation with Judge Rader, I asked him what he thought about the possibility of the Supreme Court granting a *writ of certiorari* on *Bilski*.

Concurring with many other commentators, Judge Rader did not expect that the Supreme Court would favor this option. He stated that after all *Bilski*’s “patent, [that did not deserve to be granted,was] invalidated [and that now] the Federal Circuit . . . [seemed] to be once again applying the Supreme Court’s law to the letter.”<sup>141</sup> Thus, he did not think that, at that

---

<sup>138</sup> *Id.*

<sup>139</sup> *Id.*

<sup>140</sup> *Id.*

<sup>141</sup> *Interview, supra* note 126.

point, there was really a need for the Court to get involved, because it would not have done much more than what had already been done.<sup>142</sup>

### C. A Few General Considerations

After reading the description of the conversation that I had with Judge Rader, a few general considerations emerge that appear useful to be briefly reported here. First of all, it seems that the aftermath of *State Street* left many dissatisfied with the way in which 35 U.S.C. §101 was interpreted both by the PTO and the courts. These worries apparently persisted even after the PTO introduced the “Second Pair of Eyes Review” (SPER)<sup>143</sup> for class 705,<sup>144</sup> and some scholars showed that the grant rate for patents assigned to that class was ultimately lower than that assigned to other classes.<sup>145</sup> Thus, these concerns appear to be more related to abstract considerations, i.e. the determination, *a priori*, of what subject matter “deserves” patent protection, rather than empirical data on the effective impact of specific policy choices.

As a result, the Supreme Court began expressing dissatisfaction with the patent system in a number of decisions that ultimately induced the Federal Circuit to adopt a more cautious approach to patentable subject matter. The result was the *Bilski* decision. However, the Federal Circuit did not completely exclude business methods and software innovations from patent protection.<sup>146</sup> It merely tried to “control” the persisting criticisms engendered by *State Street* by reverting to older, more stringent, standards.<sup>147</sup>

Nevertheless, now the Supreme Court has decided to grant *certiorari* in *Bilski* and it will be extremely interesting to see

---

<sup>142</sup> *Id.*

<sup>143</sup> It is a second level of review of the patent applications assigned to class 705 that was introduced in 2000 by the PTO in response to the many criticisms about the quality of the business method patents issued immediately after *State Street*. See United States Patent and Trademark Office, Patent Quality Improvement: Expansion of the Second-Pair-of-Eyes Review, <http://www.uspto.gov/web/offices/com/strat21/action/q3p17a.htm>. (last visited Jan. 7, 2010).

<sup>144</sup> *Id.*; United States Patent and Trademark Office, Class Schedule, <http://www.uspto.gov/go/classification/uspc705/sched705.htm> (last visited Jan. 7, 2010).

<sup>145</sup> Mark A. Lemley & Bhaven Sampat, *Is the Patent Office a Rubber Stamp?*, 58 EMORY L.J. 181, 199, 201–02 (2008).

<sup>146</sup> See *In re Bilski*, 545 F.3d 943, 953, 960–62 (Fed. Cir. 2008).

<sup>147</sup> *Id.* at 959–60.

what the highest Court will do with this decision that, on the one hand, reverts to a 35 U.S.C. §101 interpretation that “has the authority of years of reliance,”<sup>148</sup> and on the other, as emphasized by Judge Rader, follows its law “to the letter.”<sup>149</sup>

#### IV. THE AFTERMATH OF *BILSKI* AT THE BPAI LEVEL

Much of the remainder of this paper consists of a discussion of *Bilski* as well as speculations about the possible issues that this decision will raise. Thus, it appears appropriate to conclude with a brief investigation of the impact that *Bilski* has already had on cases decided by the Board of Patent Appeals and Interferences since November 2008. This overview will provide an interesting insight into the scenario that could characterize the analysis of patentable subject matter issues in the years to come. Indeed, particularly now that the Supreme Court has granted *certiorari*<sup>150</sup> and is about to shed light on the boundaries of such a fundamental aspect of patent law as that defined by 35 U.S.C. §101, it is important to acquire a precise sense of the effects that the *machine-or-transformation* test can produce in real life cases. Thus, the purpose of the study reported below is to give a rough indication of how patentable subject matter will be understood in the future should the Court decide to sustain the conclusions reached by the Federal Circuit in *Bilski*.

##### A. Seven Months of BPAI Decisions: Preliminary Numbers

Between October 31, 2008 and May 31, 2009, the Board has decided forty-four cases in which the *Bilski* decision has been mentioned.<sup>151</sup> The great majority of the cases concerned software inventions.<sup>152</sup> More infrequently, financial methods and business

---

<sup>148</sup> *Id.* at 993.

<sup>149</sup> *See supra* Part 0.

<sup>150</sup> *See Bilski v. Doll*, 129 S. Ct. 2735 (2009).

<sup>151</sup> *See* Final Decisions of the Board of Patent Appeals and Interferences, [http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput\\_StartDate=10%2F31%2F2008&txtInput\\_EndDate=05%2F31%2F2009&docTextSearch=bilski+&page=60](http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput_StartDate=10%2F31%2F2008&txtInput_EndDate=05%2F31%2F2009&docTextSearch=bilski+&page=60) (last visited Jan. 16, 2010) (using search term “Bilski”).

<sup>152</sup> *See* Final Decisions of the Board of Patent Appeals and Interferences, [http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput\\_StartDate=10%2F31%2F2008&txtInput\\_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+software&page=60](http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput_StartDate=10%2F31%2F2008&txtInput_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+software&page=60) (last visited Jan. 16, 2010) (using search term “Bilski and software”).

methods, often implemented by software, were discussed.<sup>153</sup> In these decisions, the Board raised a new ground of rejection twenty-five times, twenty of which were based on patentable subject matter.<sup>154</sup> In addition, the Board reversed an Examiner's decision to reject a claim under 35 U.S.C. §101 twelve times.<sup>155</sup>

Not surprisingly, the main consideration emerging from the aforementioned data is that in the last few months the Board seemed to have developed an understanding of the 35 U.S.C. §101 function that is consistent with the more restrictive approach toward the patent system described in Part I.C. In this respect, of particular significance is the fact that in about 45% of the reviewed cases, the Board supported its decision of rejecting a claim by introducing a new ground of rejection under 35 U.S.C. §101.<sup>156</sup> This trend is even more evident if we consider that the rate of claim rejections supported by a new ground other than patentable subject matter is only about 11%.<sup>157</sup>

In Part B, I will discuss the selected cases in more detail and provide some indications of how the Board has handled specific fundamental issues related to the *machine-or-transformation*

---

<sup>153</sup> See Final Decisions of the Board of Patent Appeals and Interferences, [http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput\\_StartDate=10%2F31%2F2008&txtInput\\_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+financial+&page=60](http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput_StartDate=10%2F31%2F2008&txtInput_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+financial+&page=60) (last visited Jan. 16, 2010) (using search term "Bilski and financial"); see Final Decisions of the Board of Patent Appeals and Interferences, [http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput\\_StartDate=10%2F31%2F2008&txtInput\\_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+business&page=60](http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput_StartDate=10%2F31%2F2008&txtInput_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+business&page=60) (last visited Jan. 16, 2010) (using search term "Bilski and business").

<sup>154</sup> See Final Decisions of the Board of Patent Appeals and Interferences, [http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput\\_StartDate=10%2F31%2F2008&txtInput\\_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+reject&page=60](http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput_StartDate=10%2F31%2F2008&txtInput_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+reject&page=60) (last visited Jan. 16, 2010) (using search term "Bilski and reject").

<sup>155</sup> See Final Decisions of the Board of Patent Appeals and Interferences, [http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput\\_StartDate=10%2F31%2F2008&txtInput\\_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+reverse+and+reject+and+35+U.S.C.+%A7101+&page=60](http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput_StartDate=10%2F31%2F2008&txtInput_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+reverse+and+reject+and+35+U.S.C.+%A7101+&page=60) (last visited Nov. 16, 2009) (using search term "Bilski and reverse and reject and 35 U.S.C. § 101").

<sup>156</sup> See Final Decisions of the Board of Patent Appeals and Interferences, [http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput\\_StartDate=10%2F31%2F2008&txtInput\\_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+reverse+and+reject+and+35+U.S.C.+%A7101+and+new+ground+of+rejection&page=60](http://des.uspto.gov/Foia/DispatchBPAIServlet?Objtype=ser&SearchId=&SearchRng=decDt&txtInput_StartDate=10%2F31%2F2008&txtInput_EndDate=05%2F31%2F2009&docTextSearch=bilski+and+reverse+and+reject+and+35+U.S.C.+%A7101+and+new+ground+of+rejection&page=60) (last visited Nov. 16, 2009) (using search term "Bilski and reverse and reject and 35 U.S.C. § 101 and new ground of rejection").

<sup>157</sup> *Id.*

test.

### *B. A Closer Look at the BPAI Decision*

The main issues emerging from the in-depth reading of the selected cases can be summarized in substantially three questions:

1. What does the Board consider to be “a connection” between a process and a machine that satisfies the machine prong of the *machine-or-transformation* test?
2. What does the Board consider to be “a transformation” that satisfies the transformation prong of the *machine-or-transformation* test?
3. What kind of data does the Board consider to be “articles” whose transformation satisfies the transformation prong of the *machine-or-transformation* test?

The Board did not always seem to reach clear and consistent determinations on the aforementioned points. Nevertheless, it is possible to formulate a few general considerations that may shed light on the impact that the *Bilski* decision has thus far exerted on the issuance of patents. Each of the highlighted issues is analyzed below.

#### 1. The Machine Prong

A first reading of the selected cases answers the question about what constitutes a connection between a process and a machine that satisfies the machine prong of the *machine-or-transformation* test by emphasizing that adding a general purpose computer to the claims is not sufficient to circumvent the *Bilski* requirement.

However, a more careful analysis of the decisions allows one to conclude that, in this respect, the Board is substantially concerned with three issues:

1. whether the recited machine *imposes any meaningful limits* on the claim’s scope;<sup>158</sup>
2. whether the recited machine is *required* to perform the

---

<sup>158</sup> With this point, the Board is applying the *Bilski* decision to the letter. See *In re Bilski*, 545 F.3d 943, 961 (Fed. Cir. 2008) (“[T]he use of a specific machine or transformation of an article must impose meaningful limits on the claim’s scope to impart patent-eligibility.”).

claimed process;<sup>159</sup>

3. whether the recited storage medium encompasses intangible waves or signals.<sup>160</sup>

A positive determination on Points 1 and 2 combined with a negative determination on Point 3 appear to satisfy the Board's interpretation of the requirement imposed by the machine prong of the *machine-or-transformation* test. A brief description of few illustrative cases seems useful to better clarify the Board's position on these issues.

In *Ex parte Srinivas Gutta*,<sup>161</sup> for instance, the claims rejected by the Examiner were directed to "a system for recommending items to a target user, based at least in part on the selection history of a third party."<sup>162</sup> The applicant appealed to the Board which then entered a new ground of rejection under 35 U.S.C. §101 and concluded that the mere recitation of a computerized method performed by a data processor is not sufficient to satisfy the machine prong of the *machine-or-transformation* test.<sup>163</sup> This conclusion is warranted because the recited data processor "adds nothing more than a general purpose computer that is associated with the steps of the process in an *unspecified* manner."<sup>164</sup> Indeed, according to the Board, this kind of recitation "fails to impose any meaningful limits on the claim's scope."<sup>165</sup>

---

<sup>159</sup> *Id.* at 954.

<sup>160</sup> Here the Board is concerned with the result of *In re Nuijten*. See *In re Bilski* 545 F.3d at 995 (citing *In re Nuijten*, 500 F.3d 1346, 1353–54 (Fed. Cir. 2007)).

<sup>161</sup> B.P.A.I. Appeal No. 2008-3000 (Jan. 15, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&flNm=fd20083000-01-14-2009-1>.

<sup>162</sup> *Id.* at 2.

<sup>163</sup> *Id.* at 5.

<sup>164</sup> *Id.* at 5 (emphasis added).

<sup>165</sup> *Id.* (emphasis added). On the same point, consider also: *Ex parte* Robert F. Enekel, where the Board said that "the mere recitation of a generic 'machine processing unit' in the method does not tie the method to a 'particular' machine or apparatus." *Ex parte* Robert F. Enekel, B.P.A.I. Appeal No. 2008-2239 at 9 (Apr. 6, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&flNm=fd20082239-04-03-2009-1>; *Ex parte* R. Mark Halligan, where the Board said that the mere recitation of a "a method performed on a programmed computer . . . fails to impose any meaningful limits on the claim's scope as it adds nothing more than a general purpose computer that has been programmed in an *unspecified* manner to implement the functional steps recited in the claims." *Ex parte* R. Mark Halligan, B.P.A.I. Appeal No. 2008-2823 at 23 (Apr. 8, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&flNm=fd20082823-04-08-2009-1> (emphasis added); *Ex parte* Rodney Daughtrey where the Board said that

[t]he fact that the data is rendered on a monitor fails to impose any meaningful limits on the claim's scope as it adds nothing more than a

In *Ex parte Nick M. Mitchell*,<sup>166</sup> on the other hand, the Board was confronted with the issue of whether the claimed method for identifying memory leaks constituted patentable subject matter under 35 U.S.C. §101.<sup>167</sup> The said method comprised the steps of receiving information and classifying constituents,<sup>168</sup> the Board determined that they required “no more than the human mind [to be performed].”<sup>169</sup> It also added that it was true that the claim under consideration was “broad enough to [also] cover machine implementation.”<sup>170</sup> However, the Board concluded that the fact that the claim *might* encompass also “statutory embodiments does not mean that . . . [it] passes muster under §101.”<sup>171</sup>

On the same issue in *Ex parte Tetsuya Hoya*,<sup>172</sup> the Board stated that the claims under consideration were “not statutory because they do not *require* a tangible device.”<sup>173</sup> In that case, the invention consisted of a memory system used to create models of psychological functions of the brain.<sup>174</sup> The claims comprised elements defined in the specification as models, networks and units.<sup>175</sup> The Board underscored the fact that an artisan would have appreciated that such elements could refer “either to tangible structures . . . [or] to the intangible data structures underpinning the tangible structures.”<sup>176</sup> Thus, it was clear that the claims did not necessarily *require* a tangible

---

general purpose display device that is capable of displaying data generally.

The monitor has not been *specifically* configured to make it capable of rendering the particular data recited in claims 25-28.

*Ex parte* Rodney Daughtrey, B.P.A.I. Appeal No. 2008-0202 at 12 (Apr. 8, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&flNm=fd20080202-04-08-2009-2> (emphasis added).

<sup>166</sup> B.P.A.I. Appeal No. 2008-2012 (Feb. 23, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&flNm=fd20082012-02-23-2009-1>.

<sup>167</sup> *Id.* at 3.

<sup>168</sup> *See id.* at 5 (noting that the claim failed to require “that the steps of ‘receiving information’ and ‘classifying’ constituents relating to data structures be performed on, or by, a particular machine or apparatus[,]” and as such failed the first prong of the “machine-or-transformation test” requirement).

<sup>169</sup> *Id.* at 6.

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*

<sup>172</sup> B.P.A.I. Appeal No. 2008-0024 (Feb. 26, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&flNm=fd20080024-02-26-2009-1>.

<sup>173</sup> *Id.* at 13 (emphasis added).

<sup>174</sup> *Id.* at 2 (examples of said psychological functions are intuition, consciousness or awareness, memory-chaining and emotion expression).

<sup>175</sup> *Id.* at 14.

<sup>176</sup> *Id.*

embodiment and failed the *machine-or-transformation* test.<sup>177</sup>

Finally, in *Ex parte John H. Zybura*,<sup>178</sup> the invention consisted of a method for synchronizing information in namespaces.<sup>179</sup> In that context, the Board affirmed the Examiner's rejection of a claim that "recite[d] a data structure encoded in a computer readable medium"<sup>180</sup> and noted that such a medium could encompass carrier waves or signals whose nature is transitory.<sup>181</sup> The Board concluded that embodiments of a data structure into carrier waves or signals are transitory as well;<sup>182</sup> thus, they cannot constitute patentable subject matter.<sup>183</sup>

On the other hand, when the use of a machine seemed to be structurally required by the claimed method, the Board has reversed the Examiner's rejection. Thus, in *Ex parte Howard Borenstein*,<sup>184</sup> the Board refused to sustain the Examiner's conclusion on two independent claims because they "recit[ed] . . . a structured relationship between multiple stores that requires 'path information'"<sup>185</sup> that "inherently implie[d]" its storage on a computer or database.<sup>186</sup> The invention in that case consisted of "systems and methods for providing catalog

---

<sup>177</sup> *Id.* On the same point, consider also *Ex parte* Cyrus Shahabi, where the Board said that in its view "the two steps of 'processing' and 'performing' could be performed as mental steps" and that the claim under consideration did not meet "the machine prong set forth in *Bilski*[,] "*Ex parte* Cyrus Shahabi, B.P.A.I. Appeal No. 2008-2472 at 8 (Apr. 20, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fINm=fd20082472-04-20-2009-1>; *Ex parte* Andreas Arining, where the Board concluded that the claim failed the first branch of the *machine-or-transformation* test because it did not "recite, or require, that the steps of 'determining,' and 'comparing' be performed on, or by, a particular machine or apparatus." *Ex parte* Andreas Arining, B.P.A.I. Appeal No. 2008-3008 at 5 (Mar. 30, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fINm=fd20083008-03-30-2009-1> (emphasis added).

<sup>178</sup> B.P.A.I. Appeal No. 2008-2195 (Feb. 3, 2009) available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fINm=fd20082195-02-03-2009-1>.

<sup>179</sup> *Id.* at 2.

<sup>180</sup> *Id.* at 10.

<sup>181</sup> *Id.*

<sup>182</sup> *Id.*

<sup>183</sup> *Id.* On the same point, consider also *Ex parte* Cyrus Shahabi, where the Board concluded that some of the claims under consideration were not statutory material because "a computer-readable medium recited in the claims may be interpreted as a transitory, propagating signal which is not a process, machine, manufacture, or composition of matter." *Ex parte* Cyrus Shahabi, B.P.A.I. Appeal No. 2008-2472 at 8 (Apr. 20, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fINm=fd20082472-04-20-2009-1>.

<sup>184</sup> B.P.A.I. Appeal No. 2008-3475 (Mar. 30, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fINm=fd20083475-03-28-2009-1>.

<sup>185</sup> *Id.* at 10.

<sup>186</sup> *Id.*

information . . . to a user of a store in an electronic commerce system.”<sup>187</sup> The Board determined that the *particular* computer or database required to perform the claimed method constituted sufficient structure to satisfy the machine prong of the *machine-or transformation* test.<sup>188</sup>

## 2.The Transformation Prong

On the issue of what constitutes “a transformation” that satisfies the transformation prong of the *machine-or-transformation* test, the Board does not provide a clear standard, but rather, answers this question on a case by case basis.<sup>189</sup> Thus, from the reading of the selected BPAI decisions, a list of steps emerges, ranging from “parsing and modifying metadata,”<sup>190</sup> “calculating numbers”<sup>191</sup> and “comparing data to a computer database,”<sup>192</sup> that do not constitute “a transformation”

---

<sup>187</sup> *Id.* at 2.

<sup>188</sup> *Id.* at 10. On the same point, consider also *Ex parte* Sandeep Nawathe, where the Board said that the recitation of “a physical apparatus with physical modules for transforming a data structure into a fixed set of tables, it is not a [sic] directed to an abstract idea.” *Ex parte* Sandeep Nawathe, B.P.A.I Appeal No. 2007-3360, at 9 (Feb. 9, 2009), available at <http://des.uspto.gov/Foia/ReterivePdf?system=BPAI&fINm=fd20073360-02-09-2009-1>.

<sup>189</sup> See generally *Ex parte* Berkun, B.P.A.I. Appeal 2008-3005 at 2, 10–12 (Mar. 31, 2009) (deciding that the appellants’ “method and system for enhancing metadata associated with media” is not a transformation while espousing no clear standard for this determination); *Ex parte* Enenkel, B.P.A.I. Appeal No. 2008-2239 at 2, 9–10 (Apr. 6, 2009) (deciding that the appellants’ “method and apparatus for computing values of mathematical expressions” is a process, but that it “does not appear to be a type of ‘transformation’ that is recognized”, while failing to state what type of transformations would be recognized. The board also cited *In re Biliski* and noted the determination of patent-eligibility is set forth by a “‘useful, concrete and tangible result’ inquiry”); *Ex parte* Busche, B.P.A.I. Appeal No. 2008-004750 at 2, 19 (May 28, 2009) (deciding that the appellant’s “way of predicting customer behavior based on data network geography” does not include data that “represent[s] physical and tangible objects” and is thus not a transformation because “[g]enerating . . . recommendations transforms nothing”, but failing to set a standard for what would be considered a transformation).

<sup>190</sup> See *Ex parte* Berkun, at 11 (deciding that “‘parsing’ and ‘modifying’ metadata[] does not appear to be a type of ‘transformation’ that is recognized by our reviewing court, or by the U.S. Supreme Court, [as being] sufficient to render a claimed method patent-eligible.”).

<sup>191</sup> See *Ex parte* Enenkel, at 9–10 (deciding that “[t]he calculation of a number . . . does not appear to be a type of ‘transformation’ that is recognized by our reviewing court, or by the U.S. Supreme Court, [as being] sufficient to render a claimed method patent-eligible.”).

<sup>192</sup> See *Ex parte* Busche, at 19 (deciding that “[a]lthough the data is compared to a customer database, the customer database is not transformed. Thus, the

able to impart patentability to a claimed process.

In *Ex parte Rodney Daughtrey*,<sup>193</sup> for instance, the invention consisted of “a user interface method, and computer program to be used in travel planning.”<sup>194</sup> The Board sustained the Examiner’s rejection of certain claims because it determined that “the sole step of merely rendering data on a monitor does not involve transformation of the data into a different state or thing.”<sup>195</sup> Consequently, the recited claims failed the *machine-or-transformation* test.

Furthermore, in *Ex parte Daniela Giacchetti*,<sup>196</sup> the Board affirmed the Examiner’s rejection by saying that “nothing must be transformed, not even data, when the steps [constituting the claimed process] are construed as encompassing no more than providing access or aiding.”<sup>197</sup> In that case, the invention was a method for “simulati[ng a] cosmetic counter experience,” in which customers could “virtually apply . . . products [to their] facial image.”<sup>198</sup> Thus, this method simply involved allowing customers to access a wide variety of products and receive information about the impact of said products on their appearance.<sup>199</sup>

---

process of [the claim under consideration] and the claims depending therefrom fails the machine-or-transformation test and is not patent-eligible under 35 U.S.C. § 101.”)

<sup>193</sup> B.P.A.I. Appeal No. 2008-0202 at 2 (Apr. 8, 2009).

<sup>194</sup> *Id.* at 2.

<sup>195</sup> *Id.* at 13.

<sup>196</sup> *Ex parte Daniela Giacchetti*, B.P.A.I. Appeal No. 2008-2866 (Mar. 11, 2009).

<sup>197</sup> *Id.* at 15.

<sup>198</sup> *Id.* at 2.

<sup>199</sup> *Id.* On the same point, consider *Ex parte* Busche, at 19, in which the Board said that “[g]enerating . . . recommendations transforms nothing. It merely creates abstract subject matter, which is given no patentable weight.”; *Ex parte* Peter K.L. Mau, Kuansan Wang, & Alejandro Acero, B.P.A.I. Appeal No. 2009-0065 at 23 (May 1, 2009), in which the Board said that “the step of identifying a semantic object and being indicative of a semantic meaning and a semantic result property does not change the semantic object into an article or transform an article into a different state or thing.” *Id.* at 23; *Ex parte* Paul Thomas Schultz, in which the Board said that “[s]inging is an entirely human activity that does not involve an article at all, let alone a particular article that is transformed to a different state or thing . . . . Likewise, sending the ‘voice transmission’ to the listener (user) within earshot for aural perception via an acoustic interface also would not transform a particular article into another state or thing.” B.P.A.I. Appeal No. 2009-1044 at 24–25 (Mar. 25, 2009); *Ex parte* Scott Alan Isaacson, Stephen R. Carter, & Frank Allan Nutt, in which the Board said that “[t]he features of accessing and assembling are not tied to another statutory class of invention, such as a machine or computer and do not transform any underlying tangible subject matter to a different state or thing.” B.P.A.I. Appeal No. 2008-1884 at 10 (Feb. 26, 2009) (emphasis added); *Ex parte*

### 3.The Transformation of Data

Finally, also on the issue of determining what data constitute articles whose transformation satisfies the transformation prong of the *machine-or-transformation* test, the Board answers in negative terms by identifying those items that cannot be taken into consideration, i.e., items that do not constitute data whose transformation impart patentability to a claimed process.

Examples of these kinds of items are data representing information about abstract floating-point numbers,<sup>200</sup> data representing information about user selection histories,<sup>201</sup> data representing information about a trade secret,<sup>202</sup> data representing information about fares and fare rules<sup>203</sup> and data representing information about generic training and testing data sets.<sup>204</sup>

Thus, for instance, in *Ex parte John Delta and Donald Bosic*,<sup>205</sup>

---

Juergen Scholl & Dirk Rohdemann, in which the Board said that “[the] steps [of ‘receiving’ and ‘associating’] do not result in the transformation of an article to a different state or thing under the machine-or-transformation test laid out in *Bilski*.” B.P.A.I. Appeal No. 2008-2308 at 13 (Feb. 4, 2009).

<sup>200</sup> *Ex parte* Marius A. Cornea-Hasegan, where the Board specifically said that “[a]ppellant’s claim . . . also fails the second prong of the machine-or-transformation test because the data acted on by the method does not represent physical and tangible objects. Rather, the data represents information about an abstract floating-point number, which is intangible.” B.P.A.I. Appeal No. 2008-4742 at 9 (Jan. 13, 2009).

<sup>201</sup> *Ex parte* Srinivas Gutta, B.P.A.I. Appeal No. 2008-3000 at 6 (Jan. 15, 2009). The Board specifically said that “[t]he steps of process claims . . . [under consideration] also fail the second prong of the machine-or-transformation test because the data does not represent physical and tangible objects. Rather, the data represents information about user selection histories, an intangible.”

<sup>202</sup> *Ex parte* R. Mark Halligan & Richard Weyand, B.P.A.I. Appeal No. 2008-2823 at 23 (Apr. 8, 2009). The Board specifically said that “[t]he steps of process . . . [recited in the claim] also fail the second prong of the machine-or-transformation test because the data does not represent physical and tangible objects. Rather, the data represents information about a trade secret, which is an intangible asset.”

<sup>203</sup> *Ex parte* Rodney Daughtrey, B.P.A.I. Appeal No. 2008-0202 at 11 (Apr. 8, 2009). The Board specifically said that “[t]he steps of [the] method [under consideration] . . . also fail the second prong of the machine-or-transformation test because the data does not represent physical and tangible objects. Rather, the data represents intangible information about fares and fare rules.”

<sup>204</sup> See *Ex parte* Busche, at 19, where the Board specifically said that the “steps of [the] process claims [under consideration] also fail the second prong of the machine-or-transformation test because the data does not represent physical and tangible objects. Rather, the data represents information about a generic training and testing data set, which are intangible data.”

<sup>205</sup> *Ex parte* John Delta & Donald Bosic, B.P.A.I. Appeal No. 2009-000982 (May 26, 2009).

the invention consisted of “[a] computer system [that] execut[es] a trade filtering process for identifying suspect trades.”<sup>206</sup> The Board decided to enter a new ground of rejection under 35 U.S.C. §101 and determined that the steps of the method claims under consideration “fail[ed] the second prong of the machine-or-transformation test because the data involved . . . [did] not represent physical and tangible objects . . . Rather, [said] data . . . represent[ed] intangible information about a stock trade price . . . .”<sup>207</sup>

## V. CONCLUSIONS

*Bilski* brought the importance of correctly determining the boundaries of patentable subject matter to everyone’s attention. For several years, this aspect of the patent system has been almost completely disregarded. Now, the Supreme Court has granted *certiorari* on a 35 U.S.C. §101 case and is expected to issue a decision that will provide balance to the system and, hopefully, will also take the needs of the newest fields of endeavor into account.

Based on my conversations with Judge Rader, it appears that *Bilski* was not the result of a precise determination of the inefficiencies of *State Street*’s test, but rather the response to a series of concerns expressing a lack of satisfaction with the level of scrutiny provided by the USPTO and the judges under 35 U.S.C. §101. However, these criticisms did not seem to be based on a clear understanding of the modern environment and the mechanisms of its scientific and technological development. Thus, they did not seem to be in line with the central purpose of the patent system as it is described in the Constitution: the promotion of the “Progress of Science and useful Art.”<sup>208</sup>

Finally, the analysis of the BPAI cases indicates that the sector that up until now has been affected the most by the aftermath of *Bilski* is software. Indeed, the Board has taken the “new” and selective role of 35 U.S.C. §101 very seriously and, with it, the need for of a “high degree of physicality” of the invention. However, the software industry flourished under *State Street* and its interpretation of patentable subject matter to the point of becoming central to the U.S. economy. Thus, this preliminary

---

<sup>206</sup> *Id.* at 2.

<sup>207</sup> *Id.* at 15.

<sup>208</sup> See U.S. CONST. art. I, § 8, cl. 8.

result also appears to indicate a certain degree of inconsistency with the specific goal of the patent system in fostering innovation. Consequently, the conclusions of the *Bilski* decision should be reconsidered and more attention should be paid to those elements that can, in fact, promote innovation in the modern world.

#### VI. APPENDIX: QUESTIONS FOR JUDGE RADER

1. Why *Bilski*, why now. Why did the court decide to deal with business method patents in the context of *In re Bilski* and why ten years subsequent *State Street*? If we think about *State Street* as an “experiment” in fostering innovation in a certain industry through the adoption of patent protection, what did the court learn from it? What did the court observe in the past ten years that prompted today’s decision on the patentability of business methods?

2. *In re Bilski* introduced a new test for the patentability of processes: the “machine-or-transformation test.” Regarding the transformation prong of the test, of particular significance appears to be the fact that the relevant transformation has to involve something with a close relationship to a physical object or substance. Both Judge Newman and Judge Rader, as well as a few other commentators, have expressed concerns about this point of the “machine-or-transformation test” because they consider it difficult to reconcile with the very nature of the newest technologies. Is the court trying to say with this decision that today’s patent system is not the optimal solution to foster innovation in these new technologies and that the incentives for these fields should be found elsewhere? Should the patent system be reformed to accommodate the needs of these new technologies? If so, who should instigate such a reform? Why?

3. In its majority opinion, the court did not discuss the machine prong of the test, but a few scholars have already highlighted the possibility that this decision could determine a “resurrection” of what in 2001 Cohen and Lemley called “the doctrine of the magic words.” According to these scholars, during the 80’s and 90’s applicants were able to obtain patents on almost any software innovation as long as they used the “right words” in their patent application and pretended to patent something completely

different than software. What do you think about this possibility of circumventing today's Federal Circuit attempt to limit patentable subject matter?

4. In its majority opinion, the court discussed the possibility of a Supreme Court intervention on the patentability of processes. At this point, do you think that this intervention would be desirable; if so, why? If not, why not?