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When I was called to this profession in 1985, and I use the word “call” with deliberation, my wonderful mentor at the time, Tom Giaccherini, had fashioned a patent apprentice program within Hughes Aircraft, my first employer after college. We had daily lessons in patent law, but I will never forget that one of the first things he showed us was not one of Hughes’ patents on how to spin-stabilize a satellite, but this: the now rather famous Musmanno patent, filed by Merrill Lynch in July, 1980 (I would note the year prior to the Supreme Court decision in *Diamond v. Diehr*). And although I came from a physics background, and worked in Hughes’ optics laboratory, I understood immediately what Tom was trying to say: that the patent laws and the genius of the United States patent system was that it embraced everything that humans could create as a practical application of an idea. And that the patent office would grant patents on things as diverse as transistors, genetically modified animals, spin-stabilizing satellites, and, yes, a new method for consolidating money management in a brokerage account.

I was dazzled. And I was hooked.

When the Federal Circuit decided *State Street Bank* in 1998, the financial world and the nascent blogosphere reacted with some shock and awe, but I couldn’t really

understand the fuss. These things, I had thought, were long ago obviously patentable. It had been 16 years since Musmanno had received his patent. And, and this will be more important in a moment, no one thought that the computer portions of the claims were all that relevant to either the Musmanno system or the Signature Financial Group system in *State Street Bank*. They hadn't cracked some thorny issue in programming. What was important was that the inventors had taken what might have been an abstract idea and embodied it into a series of concrete steps in the real world, making a practical and defined application. Nothing more, but also, nothing less. *State Street Bank*, if anything, confirmed my own vision of our patent system: that with all its difficulties and issues, it still embraced the full breadth of practical human ingenuity and served as loyal servant and guard to our vibrant and diverse economy.

So it was with a measure of sadness, and indeed something like a broken heart, when I opened and read the Federal Circuit's decision in the *Bilski* case just a few weeks ago.

Their new, announced test, that to be patentable, a process needs to either: **be tied to a particular machine or apparatus, or transform a particular article into a different state or thing**, seems (to me at least) a body blow to that broader and encompassing vision of our patent laws.

- The decision forces an unnecessarily constricted view of the broad range of practical applications of ideas to human problems.

- It ignores (or just waives away) the long, interesting and vibrant history of processes and inventions that we have actually been patenting for over 200 years.
- The Court may have overreacted to what some may perceive as an anti-patent bias of the Supreme court, explaining why it cobbled isolated sentences from Supreme Court's analysis of particular cases into a specific, bright-line rule for all inventive processes for all times.

But through all this, the Federal Circuit has strangely ignored both the broader arc of Supreme Court law, as well as the very specific pronouncements of Congress.

And in this, the ***Bilski*** decision, no doubt well-intentioned and seeking certainty in a world of confusion and public harangue, comes to us very flawed.

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Boiled down to its essence, the *Bilski* majority decision (it was basically a 10 to 2 decision by the full court) relies on a single sentence in the 1981 *Diamond v. Diehr* decision:

"Transformation and reduction of an article `to a different state or thing' is **the** clue to the patentability of a process claim that does not include particular machines." (450 U.S. at 184).

The *Diehr* Court (a case about computer-controlled rubber molds) cited an 1877 case about processing wheat flour.

Rarely has so much weight been placed on the word “the”. And rather than interpret that narrowly, as the modicum of legal rule needed to decide that particular case the Federal Circuit vaults this one sentence into an absolute, bright-line test: either a process involves “particular machines” or it “transforms or reduces an article to a different state or thing”. If the process does not specifically do one of those two things, it’s just not patentable.

1.

The Federal Circuit’s new test does not handle (indeed simply rejects) the sorts of patents that the patent office has been issuing, and courts have been approving, for years, indeed centuries. For example, the Patent Office itself noted in its Business Methods White Paper, issued after *State Street Bank*, that it had long issued patents in financial methods in the 1800s and early 1900s. Admittedly some of these patents used at least paper.

Take for example, the Insurance System of Mr. Eugene Graves Adams, issued in 1907, that allowed for forming insurance contracts at distances with paper and postcards.

Now, again one can say: “well, that’s an article of manufacture (the contract and the postcard) and so it’s not what *Bilski* is about.” But *Bilski* was about forming

hedging contracts between market participants--- perhaps Chief Judge Michel can venture to clarify, if Bilski simply included in his claims paper products, like contracts and postcards, would that have satisfied their new machine or transformation test? And what about the *Comiskey* decision that did have actual claimed pieces of paper (contracts with mandatory arbitration clauses)? This all seems to vault form over substance.

Judge Newman, in her extensive dissent, points out that the ostensibly exhaustive concurrence by Judges Dyk and Linn, focused on the British and early US antecedents to the modern US patent system, ignores the fact that on an early list of issued British patents (the Woodcroft list) there are clearly patents to what we would consider "pure" financial or business methods:

- "plan for assurances on lives of persons from 10 to 80 years of age."
- "Securing to the purchasers of shares and chances of state-lottery tickets any prize drawn in their favor.";
- "Securing the property of persons purchasing shares of State-lottery tickets."

And Judge Newman correctly notes, as several amici did as well, that the seminal Supreme Court case on statutory subject matter from the 1800s, the Samuel Morse telegraphy case, clearly shows that one can get process patents on more than just what is embodied in machines or transforms articles.

As is well known, the Morse decision rejected claim 8 for “the use of the motive power of the electro or galvanic current, which I call electromagnetism, however developed, for making or printing intelligible characters, signs or letters at any distances...”.

This was rejected under one of the three well-recognized and clear exceptions to patenting: natural phenomena, abstract ideas or laws of nature.

The Supreme Court held that this claim swept in such a broad set of future rights and developments, “to use a manner and process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent.”

Abstract, over-broad, indefinite.

But the Court, in an opinion directly focused on subject matter, allowed Morse’s claim 5 without comment, where Morse simply claimed:

“The system of signs, consisting of dots and spaces, and horizontal lines, for numerals, letters, words or sentences, substantially as herein set forth and illustrated, for telegraphic purposes.”

It’s difficult, as Judge Newman notes, to square this approval by the Supreme Court, for that sort of claim, with the specific bright-line test the Federal Circuit has now set down in *Bilski*.

2.

The new *Bilski* test not only fails to cover subject matter clearly allowed by both the patent office and the Supreme Court, but also directly contradicts the Supreme Court's own cautions about 101 jurisprudence. While relying on that single sentence in *Diehr*, and similar sentences in the prior Supreme Court *Flook* and *Benson* decisions, the majority tries to argue away the fact that the Supreme Court has itself treaded very cautiously and refused any sort of bright-line tests here.

For example, in *Benson*:

It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a "different state or thing." **We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.** It is said that the decision precludes a patent for any program servicing a computer. **We do not so hold.** 409 U.S. at 71.

And in *Flook*:

The statutory definition of "process" is broad. An argument can be made, however, that this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a "different state or thing." As in *Benson* **we assume that a valid process patent may issue even if it does not meet one of these**

qualifications of our earlier precedents. 437 U.S. at 589 n.9 (quoting Cochrane, 94 U.S. at 787).

The *Bilski* majority waives these cautions away, arguing that since the *Diehr* Court did not repeat these same caveats, "we (the Federal Circuit in *Bilski*) believe our reliance" on the "machine-or-transformation test ... is sound." Slip op. at 14. A rather unconventional argument that the *Diehr* decision was apparently more conservative and restrictive than either *Benson* or *Flook*.

Yet, the *Bilski* majority ignores that *Diehr* Court did just the opposite: that the, *Diamond v. Diehr* majority, in addressing among other things the somewhat radical concerns of the minority led by Justice Stevens (who argued that essentially all software-based patents were suspect, given the prior holdings in *Flook* and *Benson*), expressly limited those holdings even further and forswore any bright-line tests:

"[A] new mineral discovered in the earth or a new plant found in the wild is not patentable subject matter. Likewise, Einstein could not patent his celebrated law that $E=mc^2$.; nor could Newton have patented the law of gravity. Such discoveries are `manifestations of . . . nature, free to all men and reserved exclusively to none.'" *Diamond v. Chakrabarty*, [447 U.S., at 309](#), quoting *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, *supra*, at 130.

Our recent holdings in *Gottschalk v. Benson*, *supra*, and *Parker v. Flook*, *supra*, both of which are

computer-related, **stand for no more** than these long-established principles. 450 U.S. at 186.

So the Federal Circuit, in attempting to scrupulously follow Supreme Court guidance in this area, has erected a bright line test when the Supreme Court, **in those very cases** has specifically warned that no such test exists.

And, worse, the Federal Circuit seems to forget all the recent reversals of its other precedent by the Supreme Court, where in so many other areas the Supreme Court has said there are no bright line tests.

Let's walk through some of those:

- In *eBay v. MercExchange*, the Supreme Court rejected what they termed the Federal Circuit's "general rule", that a permanent injunction normally issues once infringement and validity are proved.
- In *KSR v. Teleflex*, rejecting the rigid application of the teaching, suggestion, motivation (TSM) test for obviousness.
- In *Quanta v. LG Electronics*, rejecting a rigid rule that exhaustion could never apply to method claims.
- In *Medimmune v. Genentech*, rejecting a rigid rule that patent licensees could never file DJ actions while their license was still in good standing.

- And, most pertinently, in the *Festo* case, the Court rejected the Federal Circuit's bright line rule for determining when claim amendments barred application of the doctrine of equivalents.

In that case, like in *Bilski*, the Federal Circuit's own prior case law had not previously imposed an absolute bar, instead employed a flexible case-by-case analysis.

There as here, the Federal Circuit then decided that its case-by-case approach had proved "unworkable", requiring a more limited bright line test. Over fervent objections of some vocal brethren, the Federal Circuit adopted the narrow "absolute bar" test, which was then roundly struck down by a unanimous (supposedly anti-patent) Supreme Court. In doing so, the Supreme Court voiced concerns equally relevant for the *Bilski* case:

- "Courts must be cautious before adopting changes that disrupt the settled expectations of the inventing community." *Festo*, 535 U.S. at 739
- "The responsibility for changing [the law] rests with Congress." *Id.*
- "To change so substantially the rules of the game now could very well subvert the various balances the PTO sought to strike when issuing the numerous patents which have not yet expired and which would be affected by our decision." *Id.*

To date, more than 15,000 patents have issued in Class 705, which the USPTO characterizes as the business

methods class, and countless others in areas of novel education, training, and other process-related inventions.

3.

So the *Bilski* machine-or-transformation test fails to gather together what courts and the patent office have actually allowed over the years, and violates yet again the repeated remonstrations by the Supreme Court that the patent laws usually do not admit of hard-and-fast, bright line tests. But perhaps most importantly, the decision (strangely? studiously?) simply ignores the clear intent of Congress in this area. And this is a statute after all.

Section 101, as noted time and again, is broad and clear:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

This statutory power was granted by the constitution to Congress, not the Federal Judiciary. And as noted, the Supreme Court has repeatedly emphasized really only three exceptions to Congress' broad "any": abstract ideas, naturally occurring phenomena, and physical laws.

But time didn't stand still, either in 1952 with the drafting of the modern patent act. Nor with the Supreme Court *Benson*, *Flook* or *Diehr* cases of the 70's and early 80's. Rather, two more critical events undercut the *Bilski* holding: the Federal Circuit's own decision in *State Street Bank*, and the response by Congress in 1999.

For those who remember, the fights over the American Inventor Protection Act, or AIPA, extended for years and years (a caution to those concerned about how long new patent reform efforts are taking). But Congress finally passed the AIPA in 1999. And in a coincidence, Congress had been debating providing some form of a prior user right for some time. When *State Street Bank* came down, the same folks upset now with its broad holding were upset then, and went to Congress for some form of redress. They argued the same things: they didn't know you could patent financial methods or ways of managing businesses (notwithstanding Amazon's One Click patent or indeed *Musmanno*); they had been caught flat-footed; the case would cost their industries a huge amount of money; the decision was wrong and overbroad, etc. etc.

But hearing those issues, and concerns, and rather than amend section 101, Congress simply granted them a specific prior user right. 35 U.S.C. § 273. Congress did what Congress is provided to do under the Constitutional grant of Section 1, Article 8: balance policy issues and provide patent laws that "secure to inventors exclusive rights to their discoveries."

According to Congress, section 273 was enacted to strike “an equitable balance between the interests of U.S. inventors who have invented and commercialized business methods and processes, many of which until recently were thought not to be patentable, and U.S. or foreign inventors who later patent[ed] the methods and processes.” This is from the official legislative record, the Joint Conference Report of the House and Senate for the bill.

New section 273 provided the prior user right for all business methods where business method was defined as “a method of doing or conducting business”, full stop. While the Federal Circuit majority might argue (despite having wholly ignored this law in its opinion) that it can reconcile the right with its holding: that it only applies to method embodied in specific machines or which transform an article, that is just simply belied by the Congressional Joint Conference report that lays forth exactly what Congress meant by “a method of doing or conducting business.”

Congress found, quote:

“As the Court [in *State Street Bank*] noted, the reference to the business method exception had been improperly applied to a wide variety of processes, blurring the essential question of whether the invention produced a ‘useful, concrete, and tangible result.’ In the wake of *State Street*,

thousands of methods and processes used internally are now being patented.” *Id.*

Congress further elaborated that in light of the *State Street Bank* decision, the 1999 Act

“focuses on methods for doing and conducting business, including methods used in connection with internal commercial operations as well as those used in connection with the sale or transfer of useful end results – whether in the form of physical products, or in the form of services, or in the form of some other useful results; for example, results produced through the manipulation of data or other inputs to produce a useful result.”

Congress clearly adopted the broad holding in *State Street Bank*, the holding that the Federal Circuit has now disavowed in *Bilski*. But the Federal Circuit has got things completely backwards. Once Congress has spoken, the Courts must interpret Congress’ words and discern Congress’ intent, not vice versa.

The Supreme Court has repeatedly cautioned that “courts `should not read into the patent laws limitations and conditions which the legislature has not expressed.”

Less than a decade ago, in direct response to the Federal Circuit’s *State Street Bank* decision, Congress added the words “business method” to the Patent Code, provided a limited prior user right to protect companies caught up

short, and far from overruling the Federal Circuit's decision, adopted it in its joint legislative history to explain the actions it had taken.

The Federal Circuit's *Bilski* majority decision wholly ignores all of this. The majority decision ignores the fact that Congress clearly underscored that business methods are patentable (it's hard to have a prior user defense for something that doesn't exist), ignores the fact that Congress defined business methods as extraordinarily broad, including transactions between entities and manipulations of data to achieve a useful result, and instead cobbles together a few sentences from 30-year-old Supreme Court cases to severely limit section 101 processes to a cramped "machine-or-transformation" test, simply ignoring Congress and disregarding Supreme Court guidance.

Conclusion

I remind us all that in the 70's and early 80's, when Benson, Flook and Diehr were decided, most people's views of computers were of mainframes; when *Diamond v. Diehr* was decided personal computers still looked like the (Altair computer in 1975, or the Radio Shack TRS 80 in 1977).

It was still years and decades until IBM released its first personal computer (August 1981) , and we didn't yet have the Macintosh Windows , iPods, full-featured ATMs, PDAs, the Internet for finding information or shopping for

products, or any of the other revolutions in people, processes, communications and computing power that we've developed since 1981 and which we take for granted. And certainly at least some members of the *Diehr* court were therefore unfamiliar how software, general purposes computers and communications networks would eventually be capable of radically changing everything about how commerce, information, the economy and human interactions are conducted.

And as we noted in our amicus brief, and as RDC corporation noted in theirs, the last 100 years or more has been deeply enriched by the application of scientific and statistical principles to, in Accenture's case, applied industrial engineering, the science of business management, and in RDC's case, financial engineering, the science of finance.

And these disciplines are taught in the engineering departments of some of our best schools. And the Federal Circuit's *Bilski* decision has ruled much of that scientific and engineering development away, unpatentable.

Bilski seems to be a solution in search of a problem. For those who've complained about supposed runaway patent suits, the fact is the rate of patent suits has not even kept pace with our economy. For those concerned about so-called patent trolls, or patents of poor quality, the new *Bilski* rigid rule would not eliminate hardly any of them: the grand-daddies of Lemelson and Katz involved scanning machines and call centers; Data Treasury involves scanning and faxing checks;

MercExchange involved internet networks and computers. The Smuckers Un crustables obviously transform matter; the swinging swing obviously swung a swing. I frankly don't know of any important patent suit, or troll or worrisome patent of poor quality that this test pertinently addresses.

The real problem that the Federal Circuit touches upon and attempts to solve is not unique to processes or methods.

It's the same issue that was at issue in Morse and with pioneering inventions like Bardeen et al.s' transistor: When does the claimed invention claim more than they invented, covering an abstract principle vs. a specific application of the idea? Can Bardeen get a patent covering every NPN and PNP junction from 1950 to 1967? Or just his specific embodiment?

When does the invention improperly attempt to preempt the entire field? Has Bilski tried to claim all hedging or just a specific application in a specific field?

These issues are thorny, and difficult, and require *judgment*. But they are absolutely not amenable to some simple, bright-line test that gets the patent office and the courts off the hook from making those difficult judgments. It's a decision requiring an understanding of the claimed invention in context with its prior art surroundings and the general field. It requires comparisons. It requires a full record. And it requires hard work.

While failing to handle any of these supposed problems with the patent system, the *Bilski* machine-or-transformation test ignores history, ignores relevant Supreme Court precedent, and ignores Congress. And most troubling, *Bilski* ignores the fact that fields like financial services and industrial engineering, rigorous and scientific long-standing disciplines, and taught in the engineering schools of our best universities, are critical to our modern information and services-based economy. And that the fruits of these disciplines don't always involve machines or transform objects to different states. Thousands and thousands of patents have been filed in these areas for years, well before *State Street Bank* even. And the expectations of those inventors and organizations have been needlessly upset, and the ability to protect and bring new and valuable innovations in these areas has been disrupted, for no good reason, at all.