transformation test can be used to affirm patent eligibility, but a process that fails to satisfy that test is not necessarily patent ineligible. Therefore, the Federal Circuit erred in interpreting these statements as supporting the adoption of the "machine-or-transformation" test as the sole standard for patent eligibility as an approximation of a preemption test. *See In re Bilski,* 545 F.3d 943, 954 (Fed. Cir. 2008) (*en banc*).

In fact, these decisions confirm that this Court has eschewed adopting a "machine-or-transformation" test for determining the threshold for patent eligibility under § 101. For example, in *Benson*, the Court stated:

> 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.*

Benson, 409 U.S. at 71 (emphasis added).

Then, in *Flook*, the Court stated:

> 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*.

Flook, 437 U.S. at 589 n.9 (emphasis added).

On the other hand, even though the Court endorsed application of the flexible test, its post-1952 cases have clarified the test in two significant respects.

First, the preemption test for "process" was clarified with respect to the relevance of the purpose of the claimed process. In its pre-1952 decision in *The Telephone Cases*, this Court held that a claim reciting a new apparatus was patentable regardless of whether the claim covered all practical uses of a principle for a particular purpose:

> It may be that electricity cannot be used at all for the transmission of speech except in the way Bell has discovered, and that therefore, *practically*, his patent *gives him its exclusive use for that purpose*, but that does not make his claim one for the use of electricity distinct from the particular process with which it is connected in his patent. It will, if true, show more clearly the great importance of his discovery, *but it will not invalidate his patent*.

126 U.S. 1, 535 (emphasis added).

In contrast, in *Tilghman*, the Court characterized the eighth claim held patent ineligible in *Morse*, as "a claim to the exclusive use of one of the powers of

nature for a particular purpose." *Tilghman*, 102 U.S. at 726.

However, in *Benson*, the Court focused on the practical effect of patent coverage for the claimed process, and found it patent ineligible because it covered all uses of a principle for its intended use in connection with a digital computer:

> It is conceded that one may not patent an idea. But in *practical* effect that would be the result if the formula for converting BCD numerals to pure binary numerals were patented in this case. The mathematical formula involved here has no substantial *practical* application except in connection with a digital computer, which means that if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.

Benson, 409 U.S. 63, 71-72 (emphasis added).

Thus, *Benson* clarified that preemption of all uses of a principle *for a particular purpose* rendered a process patent ineligible, consistent with the Court's prior holding in *Morse*, but in contrast to the approach taken in *The Telephone Cases*.

Second, in *Flook*, the Court applied a mode of analysis that treats the fundamental principle as prior art, regardless of whether it was known or not at the time of the claimed invention, and then ignores any "obvious or conventional" post-solution

As noted in *Diamond v. Diehr*, when a claim recites a fundamental principle such as "a mathematical formula (or scientific principle or phenomenon of nature), an inquiry *must* be made into whether the claim is seeking patent protection for that formula in the abstract." *Diamond v. Diehr*, 450 U.S. 175, 191 (1981) (emphasis added).

However, in *Diehr*, when faced with a technology involving physical curing of rubber as well as use of a fundamental mathematical algorithm for calculating alarm limits, the Court first applied the transformation definition of "process," and then, to address any concerns the claims preempted a fundamental principle in the form of a mathematical algorithm, it applied the preemption oriented definition of "process." *See Diehr*, 450 U.S. at 184-93.

When viewed in context, statements in *Diehr* and *Benson*, which characterize transformation or reduction of an article[4] as the "clue" to patentability, *Diehr*, 450 U.S. at 184; *Benson*, 409 U.S. at 70, merely express that aspect of the flexible test whereby the

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to a fundamental principle. *See Le Roy v. Tatham*, 55 U.S. at 175 ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.").

[4] We understand that the Court, in substituting "article" for "subject matter" in the original definition from *Cochrane*, did not intend a substantive change. However, to remove any confusion on this issue, the Court should change "article" back to "subject matter" in the transformation centered test for patent eligibility, for the reasons discussed in § II, *infra*.

principle. *See Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972); *Parker v. Flook*, 437 U.S. 584, 589-96 (1978).

Thus, in *Benson*, the Court applied the "preemption" test in determining that a claim to a process for programming a computer by converting signals from binary-coded decimal form into pure binary form was patent ineligible because the claimed algorithm had no practical application except in combination with a computer. *Benson*, 409 U.S. at 71-72. The Court noted that "if the judgment below is affirmed, the patent would preempt the mathematical formula and, in practical effect, would be a patent on the algorithm itself." *Id.* at 72.

In *Flook*, the Court again looked at the preemption test in holding ineligible a claim containing an algorithm for setting alarm limits in a process comprising the catalytic chemical conversion of hydrocarbons. The Court determined that although the claim's recitation of the hydrocarbon field of use limitation meant that the claim did not preempt uses of the algorithm outside the field, the recitation of the field of use and "conventional or obvious" "post-solution" activity could not render the claim patent eligible. *See Flook*, 437 U.S. at 589-96.[3]

[3] Although *Flook*'s analysis raises the question of whether "preemption" is the appropriate terminology to use in referring to the test for whether a claim covers the exclusive use of a fundamental principle, it appears that the result in *Flook* is consistent with the underlying policy that § 101 precludes patent eligibility for a claim that would convey exclusive rights

(Continued on following page)

limitations in the claim in determining whether the claim is patent eligible:

> Whether the algorithm was in fact known or unknown at the time of the claimed invention, as one of the "basic tools of scientific and technological work," (citation), it is treated as though it were a familiar part of the prior art.[5]
>
> * * *
>
> We think this case must also be considered as if the principle or mathematical formula were well known.
>
> * * *
>
> Here it is absolutely clear that respondent's application contains no claim of patentable invention. The chemical processes involved in catalytic conversion of hydrocarbons are well known, as are the practice of monitoring the chemical process variables, the use of alarm limits to trigger alarms, the notion that alarm limit values must be recomputed and readjusted, and the use of computers for "automatic monitoring-alarming."

Flook, 437 U.S. at 591-92, 594.

[5] Analogously, "inherent" properties cannot constitute the novel distinction between a claimed invention and the prior art. *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003) (rejecting the contention that inherent anticipation requires recognition in the prior art).

The Court considered this mode of analysis to have its genesis in its landmark *O'Reilly v. Morse* decision, specifically in the latter Court's adoption of the reasoning from a famous English decision, *Neilson v. Harford*, Web. Pat. Cases 295, 371 (1844). *Flook*, 437 U.S. at 592. The Court rejected any hint that this mode of analysis improperly injected considerations of novelty and obviousness into the test for patent eligibility, or failed to consider the claim as a whole. *Flook*, 437 U.S. at 592-94; *see Diehr*, 450 U.S. at n.12.

To summarize, the Court's post-1952 precedents endorse and reaffirm the flexible test under which a process is patent eligible if it satisfies either definition independently applied, and is only patent ineligible if it preempts a fundamental principle. Thus, although the transformation test can be used to screen for patent eligibility, a process failing that definition is not necessarily patent ineligible, in contrast to the Federal Circuit's holding. Instead, a process claim can only fail to reach the threshold of patentability if it preempts the use of a fundamental principle, whether or not for a particular purpose.

II. THE FEDERAL CIRCUIT MAJORITY ERRED BY ADOPTING THE "MACHINE-OR-TRANSFORMATION" TEST AS THE DEFINITIVE TEST

The Federal Circuit majority adopted a "definitive" (*i.e.*, exclusive) test for patent eligibility

category of patentable subject matter because it had a more "readily grasped" meaning than "art" as interpreted by the courts. *See* H.R. Rep. No. 1923, 82d Cong., 2d Sess., 17 (1952) (" 'Process' has been used as its meaning is more readily grasped than 'art' as interpreted. . . ."); S. Rep. No. 1979, 82d Cong., 2d Sess., 17 (1952) (same).

Thus, Congress intended to codify the prior judicial interpretations of "process," including the flexible test for patent eligibility of a "process" that had evolved in this Court's pre-1952 precedents. At that time, Congress also enacted 35 U.S.C. § 100(b), defining a "process" to mean "process, art, or method." Through this action as well, Congress intended to codify the prior judicial interpretations of "process," including the flexible test for patent eligibility of a "process" that had evolved in this Court's pre-1952 precedents. *See* H.R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952); S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952).

C. This Court's Post-1952 Precedents

This Court, in analyzing patent eligibility under § 101 in its post-1952 decisions, further endorsed the flexible test of its pre-1952 precedents. In *Gottschalk v. Benson* and *Parker v. Flook*, when faced with new technology involving manipulation of intangible data by computer software, the Court again looked to whether the process preempted a fundamental

elemental action alone, with mechanical action excluded).

It is only when a process satisfies neither definition, *i.e.*, does not use a machine nor achieve a transformation *and* covers the exclusive use of a fundamental principle, as was the case with the eighth claim in *Morse*, that the Court has found the process ineligible for patenting. 56 U.S. at 112-20.

Accordingly, under this flexible approach, a process is patent eligible if it satisfies either definition independently applied, and is only patent ineligible if it preempts a fundamental principle. Thus, although the "machine-or-transformation" test can be used to screen for patent eligibility, in contrast to the Federal Circuit's holding, a process failing that definition is not necessarily patent ineligible. Instead, a process claim can only stumble at the threshold of patentability if it preempts the use of a fundamental principle.

B. The Legislative History

Congress did not intend to disturb the Court's flexible test for patent eligibility in 1952 when it enacted 35 U.S.C. § 101.

Before 1952, a process historically enjoyed patent protection as a form of "art," the term used in the pre-1952 statutes. *See Corning v. Burden*, 56 U.S. 252, 267-68 (1854). In 1952, when Congress enacted 35 U.S.C. § 101, it substituted "process" for "art" as a

under which "[a] claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing," and is patent-ineligible if it does not. *Bilski*, 545 F.3d at 954.

By adopting a rigid text that always applies the same "machine-or-transformation" test for all cases and for all technologies as the sole proxy for a preemption test, the Federal Circuit overrode Congressional intent, misread this Court's precedent, and foreclosed patent eligibility for processes which do not preempt or exclude the use of a fundamental principle.

The Federal Circuit majority also ignored the limitation of this test in *Diehr*, requiring that a court *must* apply the preemption centered definition when the claim recites a fundamental principle such as mathematical algorithm (or scientific principle or natural phenomenon).[6]

Without basis, the Federal Circuit majority concludes that this Court considers the "machine-or-transformation" test to be the definitive test. *Bilski*, 545 F.3d at 954 ("The Supreme Court, however, has

[6] *Diehr*, 450 U.S. at 191 ("We recognize, of course, that when a claim recites a mathematical formula (or scientific principle or phenomenon of nature), an inquiry *must* be made into whether the claim is seeking patent protection for that formula in the abstract.") (emphasis added).

enunciated a definitive test to determine whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself.")

However, to the contrary, as shown in § I(A), *supra*, this Court's pre-1952 precedents adopt a flexible test for analyzing patent eligibility, pursuant to which the machine-transformation definition of "process" is only one of two possible definitions, and this Court's post-1952 precedents embrace and build upon this flexible test, as explained in § I(C), *supra*.

To support its conclusion, the Federal Circuit majority also claims that a preemption test is too difficult to apply with respect to nascent, incorporeal 21st century technologies that purportedly cannot easily be analogized with the technologies involved in *Diehr* and *Benson*:

> The question before us then is whether Applicants' claim recites a fundamental principle and, if so, whether it would pre-empt substantially all uses of that fundamental principle if allowed. Unfortunately, this inquiry is hardly straightforward. How does one determine whether a given claim would pre-empt all uses of a fundamental principle? Analogizing to the facts of *Diehr* or *Benson* is of limited usefulness because the more challenging process claims of the twenty-first century are seldom so clearly

Thus, as in *Morse*, the Court analyzed patent eligibility by looking at the way in which the claimed method utilized a fundamental principle to effect a useful result, holding that a process that preempted a fundamental principle, even for a particular purpose, was not patent eligible.

Accordingly, these cases flexibly apply alternative definitions of "process," depending on the circumstances and the technology involved. For example, in *Cochrane* and *New Process Fermentation*, which involved physical transformation of tangible subject matter, the Court applied the transformation test, while in *Morse* and *The Telephone Cases*, which involved the use of fundamental, natural forces, and in *Tilghman*, which involved the use of chemical principles, the Court applied the preemption test.

Conversely, this Court has never *denied* patent eligibility to a process that failed to satisfy the transformation test,[2] and it vigilantly struck down efforts to impose rigid bars to patent eligibility under the Patent Act of 1793. *See Expanded Metal Co. v. Bradford*, 214 U.S. 366, 385-86 (1909) (quelling any suggestion that a patent eligible process must achieve a useful result through chemical or other similar

[2] However, several pre-1952 decisions by lower courts did deny patent eligibility based on failure to meet the transformation test. *E.g., Greenwalt v. Stanley Co.*, 54 F.2d 195 (3d Cir. 1931); *Myers v. Coe*, 83 F.2d 708 (D.C. Cir. 1936); *Halliburton Oil Well Cementing Co. v. Walker,* 146 F.2d 817 (9th Cir. 1944); *In re Yuan*, 188 F.2d 377 (C.C.P.A. 1951).

therefore patent eligible. *The Telephone Cases*, 126 U.S. at 531. Unlike Morse's eighth claim, Bell's fifth claim was not a claim "for the use of a current of electricity in its natural state" but "for putting a continuous current, in a closed circuit, into a certain specified condition suited to the transmission of vocal and other sounds" to accomplish the transmission of speech, which was the application of the principle to achieve a useful result. *Id.* at 531-35.

In *Tilghman v. Proctor*, a case involving a process for breaking down fats, the Court again focused on "the true distinction between a mere principle, as the subject of a patent, and a process by which a principle is applied to effect a useful result," and whether the claim preempted the use of a chemical principle. 102 U.S. 707, 724 & 726-28 (1881). This indicates that application of the test for whether a claim preempts a fundamental principle is not limited to use with intangible technologies.

Moreover, in analyzing the patent eligibility of a process for reacting fats with water at high temperature and pressure to break them down into their constituent components (fatty acids and glycerin), the *Tilghman* Court analyzed the method's use of the known chemical principle that a "fatty body" could react with water to yield its constituent components, concluding that the claimed process used a particular mode of carrying out this reaction to achieve a useful result, and was therefore patent eligible. *Id.*

> limited in scope as the highly specific, plainly corporeal industrial manufacturing process of *Diehr*; nor are they typically as broadly claimed or purely abstract and mathematical as the algorithm of *Benson*.

Bilski, 545 F.3d at 954.

However, in *Morse* and *The Telephone Cases*, this Court had no problem applying a preemption test to the then-nascent technologies involving intangible manipulation of electromagnetic energy at issue in those cases, which perhaps are more analogous to the incorporeal 21st century technologies the Federal Circuit majority has in mind. Therefore, based on the guidance provided in these cases, it should not be unduly difficult to apply a preemption centered test to 21st century technologies involving intangible, incorporeal manipulation of data and signals.

Certainly, with respect to Bilski's commodity hedging claims, it should not be overly challenging to apply a preemption test. As a threshold matter, if methods of doing business are considered to be patent eligible, then we see no reason why fundamental business principles should not be added to the categories of excluded subject matter that are included in the umbrella term "fundamental principle." Assuming that the use of forward or futures contracts to hedge against the risk of commodity price movements in other (*e.g.*, spot or cash) markets for the same commodity qualifies as a

fundamental principle, given its prevalence and the length of time it has been practiced,[7] then it should be relatively easy to apply to the Bilski claims the preemption centered analysis in *Flook*, whereby one looks to see if any extra-solution limitations in the claim are conventional or obvious in view of the fundamental principle treated as prior art.

Thus, it can be seen that the Federal Circuit majority grievously erred. Moreover, the error is material because it effectively forecloses patent eligibility for the sizable group of processes that fail to satisfy the Federal Circuit majority's "machine-or-transformation" test, and yet satisfy the preemption test for "process," *i.e.*, the class of processes that are neither tied to a machine nor transform or reduce subject matter to a different state or thing, but yet achieve a useful result or effect and avoid preempting a fundamental principle.

However, correcting the error does not require a wholesale rejection of the Federal Circuit majority's

[7] According to a 1998 edition of a Chicago Board of Trade Trading Manual, the use of forward contracts to hedge against commodity price movements in spot markets for the same commodity has been practiced since the 13th century in Europe, the 18th century in Japan, and the 19th century in the United States. *See* Chicago Board of Trade Commodity Trading Manual, Peter J. Catania, *et al.* (1998 ed.), pages 2-3, 5. In the United States, the use of futures contracts (a standardized form of a forward contract) as a hedging tool has been practiced since 1848, when the Chicago Board of Trade was formed. *Id.* at page 5.

However, for patent claims reciting a process utilizing a fundamental principle, such as the natural force of electromagnetism, the Court looked to whether the claim achieved a useful result and avoided preemption of the fundamental principle. *E.g.*, *O'Reilly v. Morse*, 56 U.S. 62, 112-20 (1854); *The Telephone Cases*, 126 U.S. 1, 531-35 (1888); *Tilghman v. Proctor*, 102 U.S. 707, 724-30 (1881).

In *O'Reilly v. Morse*, the Court analyzed Morse's eighth claim to "the use of . . . electromagnetism . . . for marking or printing intelligible characters, signs, or letters, at any distances" which expressly disclaimed a limitation "to the specific machinery" described in the specification. *Morse*, 56 U.S. at 112. In its determination of patent eligibility, the Court focused on whether the claim preempted the principle of using electromagnetism as a motive force to achieve the desired effect, concluded that the claim did cover all uses for that purpose, and accordingly denied patent eligibility. *Id.* at 112-13.

Further, in *The Telephone Cases*, involving Alexander Graham Bell's fifth claim to the "method of, and apparatus for, transmitting vocal or other sounds telegraphically, as herein described, by causing electrical undulations, similar in form to the vibrations of the air accompanying the said vocal or other sounds, substantially as set forth," this Court focused on whether the claim preempted the principle of using electromagnetic energy to convey speech over long distances, concluding that it did not and was

In the seminal case of *Cochrane v. Deener*, for example, the Court determined that the claimed method for manufacturing flour was a patent-eligible "process" because it met the following test for transforming subject matter:

> That a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed. . . . A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.

Cochrane, 94 U.S. 780, 788 (1877).

Similarly, in *New Process Fermentation Co. v. Maus*, the Court determined that the claimed "process" for fermenting beer was patent-eligible, by applying the transformation test articulated in *Cochrane*:

> This is, as was said in *Cochrane v. Deener*, "a mode of treatment of certain materials to produce a given result," and "an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing," and "requires that certain things should be done with certain substances, and in a certain order." It is, therefore, a process or art.

New Process Fermentation, 122 U.S. 413, 428 (1887).

"machine-or-transformation" test. Rather, it only requires recognizing that this test is no longer the exclusive or definitive test for patent eligibility, but instead becomes, subject to the qualification in *Diehr*, an affirmative test for patent eligibility, pursuant to which a process, if it satisfies this test, is patent eligible, but, if it fails the test, is not necessarily patent ineligible, within an overall test or standard for patent eligibility that is based on a preemption analysis.

In addition to this, we respectfully submit that two other changes should be made to the Federal Circuit majority's test.

First, the term "article" in the transformation prong of the test should be changed to "subject matter" to conform with the original enunciation of the transformation centered definition set forth in *Cochrane*[8], reproduced below:

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[8] Although the term "article" was inexplicably substituted for "subject matter" in this Court's restatement of the *Cochrane* definition in *Benson*, reproduced below, that no substantive change was intended is demonstrated by the fact that this restatement of the definition appears immediately after a quotation of the *Cochrane* definition from which it originated:

> 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.

Benson, 409 U.S. at 70 (emphasis added).

> A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the *subject-matter* to be transformed and reduced to a different state or thing.

94 U.S. 780, 788 (1877) (emphasis added).

We believe that such a change is necessary to avoid any confusion by lower courts and the patent community regarding whether certain transformations of intangible subject matter are included in the definition, and to conform the test so that it is better suited to the incorporeal 21st century technologies that most concerned the Federal Circuit majority.

For example, based on its precedents, the Federal Circuit majority held that certain transformations of intangible subject matter (data, signals), *i.e.*, those representative of or constituting physical activity or objects, are patent eligible transformations:

> The raw materials of many information-age processes, however, are electronic signals and electronically-manipulated data.
>
> * * *
>
> Which, if any, of these processes qualify as a transformation or reduction of an article into a different state or thing constituting patent-eligible subject matter?
>
> Our case law has taken a measured approach to this question, and we see no reason here to expand the boundaries of

> either of them an exclusive right. Nor can an exclusive right exist to a new power, should one be discovered in addition to those already known.
>
> * * *
>
> This, by creating monopolies, would discourage arts and manufactures, against the avowed policy of the patent laws.

Le Roy v. Tatham, 55 U.S. 156, 175 (1852); *see* U.S. Constitution, Art. I. § 8, cl. 8; *see also Parker v. Flook*, 437 U.S. 584, 589-96 (1978) ("The rule that the discovery of a law of nature cannot be patented rests, not on the notion that natural phenomena are not processes, but rather on the more fundamental understanding that they are not the kind of 'discoveries' that the statute was enacted to protect.").

Later precedents reveal that this Court did not intend to apply a single, rigid test in all circumstances and to all technologies. Rather, the Court has used a flexible approach to determine whether a claimed "process" is patent eligible, depending on the circumstances and the technology involved.

Thus, in cases addressing eligibility of processes involving the physical manipulation of tangible subject matter without specifying the means used, the Court held the processes were patent eligible where they transformed or reduced subject matter to a different state or thing. *E.g.*, *Cochrane v. Deener*, 94 U.S. 780, 788 (1877); *New Process Fermentation Co. v. Maus*, 122 U.S. 413, 428 (1887).

ARGUMENT

I. THE LEGISLATIVE HISTORY AND THIS COURT'S PRECEDENTS SUPPORT A FLEXIBLE TEST FOR PATENT ELIGIBILITY THAT CONSIDERS ALTERNATIVE DEFINITIONS OF "PROCESS"

The legislative history of 35 U.S.C. § 101 and this Court's interpretation of § 101 and its antecedents reveal that Congress and this Court intended that patent eligibility be governed by a flexible test, pursuant to which a process is patent eligible if it transforms subject matter or uses a machine, and is patent ineligible only if it covers the exclusive use of a fundamental principle (natural phenomenon, law of nature, or abstract idea).

The starting point for discerning the proper test for patent eligibility of a "process" is the Court's pre-1952 precedents interpreting eligible processes under the predecessor Patent Act of 1793, because those decisions inform what Congress intended when it added "process" to the categories of patent eligible subject matter under § 101 of the Patent Act of 1952.

A. This Court's Pre-1952 Precedents

This Court has long recognized that patent policy excludes only "fundamental truths" from patent eligibility:

> A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in

what constitutes patent-eligible transformations of articles.

Our predecessor court's mixed result in Abele illustrates this point. There, we held unpatentable a broad independent claim reciting a process of graphically displaying variances of data from average values. That claim did not specify any particular type or nature of data; nor did it specify how or from where the data was obtained or what the data represented. (citations). In contrast, we held one of Abele's dependent claims to be drawn to patent-eligible subject matter where it specified that "said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner." This data clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly-claimed process patent-eligible.

We further note for clarity that the electronic transformation of the data itself into a visual depiction in Abele was sufficient; the claim was not required to involve any transformation of the underlying physical object that the data represented. We believe this is faithful to the concern the Supreme Court articulated as the basis for the machine-or-transformation test, namely the prevention of pre-emption of fundamental principles. So

> long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Bilski, 545 F.3d at 962-63 (citations omitted).

The same conclusion was reached in an earlier Federal Circuit decision, *In re Schrader*, based on the same and other precedents (*e.g.*, *The Telephone Cases*):

> The claims in *Arrhythmia* involved the manipulation of electrical signals and data representative of human cardiac activity; it was held that they recited patentable subject matter. For purposes of § 101, the claims were indistinguishable from the claims involving the manipulation of data representing CAT scan images held patentable in *In re Abele*, or the claims involving the manipulation of signals representative of reflected seismic energy held patentable in *In re Taner*.
>
> These claims all involved the transformation or conversion of subject matter representative of or constituting *physical activity or objects.* In *Arrhythmia,* it was electrocardiograph signals representative of human cardiac activity; in *Abele*, it was X-ray attenuation data representative of CAT scan

eligibility will directly impact the ability to patent, develop and commercialize other technologies.

By adopting the "machine-or-transformation" test for rigid application to all cases involving all technologies, the Federal Circuit overrode Congressional intent, misread this Court's precedent, and foreclosed patent eligibility for processes whose patent protection promotes the sciences and useful arts, by applying fundamental principles in useful ways. The SDIPLA has an interest in ensuring that the test for patent eligibility remains a flexible threshold to patentability that will continue to promote innovation.

Although this Court has looked to whether a claimed process uses a "machine" or transforms subject matter as a clue for patent eligibility, this Court has never adopted or suggested that the "machine-or-transformation" test is the sole test for eligibility. While it remains an affirmative indicator of patent eligibility, the outer boundary for patent eligibility excludes only fundamental principles, and claims that preempt all uses of such principles.

STATEMENT OF INTEREST OF *AMICUS CURIAE*[1]

The San Diego Intellectual Property Law Association (SDIPLA) is a non-profit association whose members have significant ties to San Diego's world-class research institutions, and leading wireless, biotechnology, and solar industries. Patent protection for innovative technologies has driven capital investment in San Diego and the commercialization of vital technologies. The primary goal of the SDIPLA in serving the San Diego community is providing continuing legal education services. Comprising about 500 registered members, the SDIPLA has grown to become one of the largest regional intellectual property bar organizations in the country.

SUMMARY OF ARGUMENT

At issue in this case is the threshold for patent eligibility of a "process" under 35 U.S.C. § 101. Although Bilski's patent claims relate to "business methods," the standard applied to determine patent

[1] This brief was prepared by members of the SDIPLA Amicus Committee on a *pro bono* basis. Counsel for a party did not author this brief in whole or in part. Nor did counsel for a party make a monetary contribution intended to fund the preparation or submission of the brief.

All counsel of record were timely notified of SDIPLA's intention to file this brief, and written consent on behalf of all parties was granted.

> images of physical objects; and in *Taner,* it was seismic reflection signals representative of discontinuities below the earth's surface.

In re Schrader, 22 F.3d 290, 294 (Fed. Cir. 1994) (citations omitted).

> In *The Telephone Cases,* the Court upheld the validity of a claim directed to a method for transmitting speech by impressing acoustic vibrations representative of speech onto electrical signals. If there was a requirement that a physical *object be* transformed or reduced, the claim would not have been patentable.
>
> * * *
>
> Thus, it is apparent that changes to *intangible* subject matter representative of or constituting physical activity or objects are included in the [*Cochrane*] definition.

Id. at 295 n.12 (citations omitted).

We believe the logic of these passages to be sound, and therefore, to eliminate any confusion regarding whether these transformations of intangible subject are patent eligible transformations, this Court should expressly substitute "subject matter" for "article" in the transformation centered definition of process.

Second, the "machine" prong of the "machine-or-transformation" test should be broadened to include the other two statutory classes ("manufacture" and "composition of matter") because utilization in a

process of other products "made by man" provides equally compelling evidence of patent eligibility, whether the product is a machine, a manufacture or a composition of matter—there is no good reason to limit this prong of the test to "machines."

With these changes made to the Federal Circuit majority's "machine-or-transformation" test, and with this test incorporated into the flexible test as outlined above, the flexible test would appear as follows (with the changes made as a result of the incorporation of the Federal Circuit test emphasized for clarity):

1. A tribunal has the freedom to select between alternative definitions or tests for patent eligibility, one transformation centered, the other preemption oriented, depending on the circumstances and technology involved, except that when the claim recites a fundamental principle such as a mathematical algorithm (or scientific principle or natural phenomenon), the tribunal must apply the preemption centered definition.

2. Under the transformation centered definition, a process is patent eligible if *(1)* it transforms or reduces subject matter to a different state or thing, *where transformations or reductions of intangible subject matter (data, signals) representative of or constituting physical activity or objects are patent eligible transformations, or (2) is tied to a*

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machine, manufacture, or composition of matter.

3. Under the preemption oriented definition, a process is patent eligible if it achieves a useful effect or result and avoids preempting a fundamental principle (natural phenomenon, law of nature, abstract idea), except that a claim reciting a fundamental principle impermissibly preempts that fundamental principle when it (1) covers all practical uses of that principle for a particular purpose, or (2) any extra-solution limitations of the claim are obvious over the fundamental principle treated as prior art.

4. A process that satisfies either definition of "process" independently applied is patent eligible. That is, a process is only patent ineligible if it satisfies neither definition of "process."

In practice, the preemption centered definition will be the definitive standard for patent eligibility, with the transformation centered definition being an affirmative test to screen for patent eligibility. Moreover, when the claim recites a fundamental principle, the preemption test must be applied, although the "machine-or-transformation" test may still provide an inference (or presumption) of patent eligibility.

III. ANSWERS TO THE QUESTIONS RAISED

Question No. 1: Whether 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 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."

Answer: Yes, the Federal Circuit erred for the reasons set forth in § II, *supra*.

Question No. 2: 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." 35 U.S.C. § 273.

Answer: SDIPLA takes no position on whether 35 U.S.C. § 273 represents a clear Congressional intent that patents protect methods of doing business or whether the Federal Circuit's test is inconsistent with such intent, if expressed in 35 U.S.C. § 273. SDIPLA's position is that the Federal Circuit majority's test is inconsistent with the legislative history of 35 U.S.C. § 101 set forth in § I(B), *supra*, showing that Congress, when it substituted "process" for "art" in the 1952 Patent Act, intended to codify the flexible

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QUESTIONS PRESENTED

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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." 35 U.S.C. § 273.

test for patent eligibility of processes that had evolved in this Court's pre-1952 precedents.

IV. SDIPLA TAKES NO POSITION ON WHETHER THE BILSKI CLAIMS ARE PATENT ELIGIBLE UNDER THE FLEXIBLE TEST

SDIPLA takes no position on whether the Bilski claims are patent eligible under the flexible test, other than to note that, if the use of forward or futures contracts to hedge commodity price movements in other (*e.g.*, spot or cash) markets for the same commodity is sufficiently prevalent and long-standing to qualify as a fundamental principle, *see* n.7, *supra*, then the patent eligibility of the Bilski claims can be determined under the mode of analysis set forth in *Flook*, pursuant to which one assumes that the principle recited by a claim is prior art, and then determines whether the remaining extra-solution limitations recited in the claim are conventional or obvious in view of this assumed prior art.

CONCLUSION

For all the foregoing reasons, the Federal Circuit's "machine-or-transformation" test for patent eligibility should be rejected, and replaced with the flexible test outlined in § II, *supra*.

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In The
Supreme Court of the United States

BERNARD L. BILSKI and RAND A. WARSAW,

Petitioners,

v.

JOHN J. DOLL, ACTING UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND ACTING DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF OF *AMICUS CURIAE* SAN DIEGO INTELLECTUAL PROPERTY LAW ASSOCIATION IN SUPPORT OF NEITHER PARTY ON THE MERITS

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