Syllabus

NOTE: Where it is feasible, a syllabus (headnote) will be released, as is being done in connection with this case, at the time the opinion is issued. The syllabus constitutes no part of the opinion of the Court but has been prepared by the Reporter of Decisions for the convenience of the reader. See *United States* v. *Detroit Timber & Lumber Co.,* 200 U. S. 321, 337.

SUPREME COURT OF THE UNITED STATES

Syllabus

BILSKI ET AL. *v*. KAPPOS, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR, PATENT AND TRADEMARK OFFICE

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

No. 08–964. Argued November 9, 2009—Decided June 28, 2010

Petitioners' patent application seeks protection for a claimed invention that explains how commodities buyers and sellers in the energy market can protect, or hedge, against the risk of price changes. The key claims are claim 1, which describes a series of steps instructing how to hedge risk, and claim 4, which places the claim 1 concept into a simple mathematical formula. The remaining claims explain how claims 1 and 4 can be applied to allow energy suppliers and consumers to minimize the risks resulting from fluctuations in market demand. The patent examiner rejected the application on the grounds that the invention is not implemented on a specific apparatus, merely manipulates an abstract idea, and solves a purely mathematical problem. The Board of Patent Appeals and Interferences agreed and affirmed. The Federal Circuit, in turn, affirmed. The en banc court rejected its prior test for determining whether a claimed invention was a patentable "process" under Patent Act, 35 U. S. C. §101—*i.e.,* whether the invention produced a "useful, concrete, and tangible result," see, *e.g., State Street Bank & Trust Co* v. *Signature Financial Group, Inc.*, 149 F. 3d 1368, 1373—holding instead that a claimed process is patent eligible if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. Concluding that this "machine-or-transformation test" is the sole test for determining patent eligibility of a "process" under §101, the court applied the test and held that the application was not patent eligible.

Held: The judgment is affirmed.

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545 F. 3d 943, affirmed.

JUSTICE KENNEDY delivered the opinion of the Court, except as to Parts II–B–2 and II–C–2, concluding that petitioners' claimed invention is not patent eligible. Pp. 4–8, 10–11, 12–16.

(a) Section 101 specifies four independent categories of inventions or discoveries that are patent eligible: "process[es]," "machin[es]," "manufactur[es]," and "composition[s] of matter." "In choosing such expansive terms, . . . Congress plainly contemplated that the patent laws would be given wide scope," *Diamond* v. *Chakrabarty*, 447 U. S. 303, 308, in order to ensure that " 'ingenuity should receive a liberal encouragement,' " *id.,* at 308–309. This Court's precedents provide three specific exceptions to §101's broad principles: "laws of nature, physical phenomena, and abstract ideas." *Id.,* at 309. While not required by the statutory text, these exceptions are consistent with the notion that a patentable process must be "new and useful." And, in any case, the exceptions have defined the statute's reach as a matter of statutory *stare decisis* going back 150 years. See *Le Roy* v. *Tatham*, 14 How. 156, 174. The §101 eligibility inquiry is only a threshold test. Even if a claimed invention qualifies in one of the four categories, it must also satisfy "the conditions and requirements of this title," §101(a), including novelty, see §102, nonobviousness, see §103, and a full and particular description, see §112. The invention at issue is claimed to be a "process," which §100(b) defines as a "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material." Pp. 4–5.

(b) The machine-or-transformation test is not the sole test for patent eligibility under §101. The Court's precedents establish that although that test may be a useful and important clue or investigative tool, it is not the sole test for deciding whether an invention is a patent-eligible "process" under §101. In holding to the contrary, the Federal Circuit violated two principles of statutory interpretation: Courts " 'should not read into the patent laws limitations and conditions which the legislature has not expressed,' " *Diamond* v. *Diehr*, 450 U. S. 175, 182, and, "[u]nless otherwise defined, 'words will be interpreted as taking their ordinary, contemporary, common meaning,' " *ibid.* The Court is unaware of any ordinary, contemporary, common meaning of "process" that would require it to be tied to a machine or the transformation of an article. Respondent Patent Director urges the Court to read §101's other three patentable categories as confining "process" to a machine or transformation. However, the doctrine of *noscitur a sociis* is inapplicable here, for §100(b) already explicitly defines "process," see *Burgess* v. *United States*, 553 U. S. 124, 130, and nothing about the section's inclusion of those other categories suggests that a "process" must be tied to one of them.

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Finally, the Federal Circuit incorrectly concluded that this Court has endorsed the machine-or-transformation test as the exclusive test. Recent authorities show that the test was never intended to be exhaustive or exclusive. See, *e.g., Parker* v. *Flook*, 437 U. S. 584, 588, n. 9. Pp. 5–8.

(c) Section 101 similarly precludes a reading of the term "process" that would categorically exclude business methods. The term "method" within §100(b)'s "process" definition, at least as a textual matter and before other consulting other Patent Act limitations and this Court's precedents, may include at least some methods of doing business. The Court is unaware of any argument that the "ordinary, contemporary, common meaning," *Diehr*, *supra*, at 182, of "method" excludes business methods. Nor is it clear what a business method exception would sweep in and whether it would exclude technologies for conducting a business more efficiently. The categorical exclusion argument is further undermined by the fact that federal law explicitly contemplates the existence of at least some business method patents: Under §273(b)(1), if a patent-holder claims infringement based on "a method in [a] patent," the alleged infringer can assert a defense of prior use. By allowing this defense, the statute itself acknowledges that there may be business method patents. Section 273 thus clarifies the understanding that a business method is simply one kind of "method" that is, at least in some circumstances, eligible for patenting under §101. A contrary conclusion would violate the canon against interpreting any statutory provision in a manner that would render another provision superfluous. See *Corley* v. *United States*, 556 U. S. ___, ___. Finally, while §273 appears to leave open the possibility of some business method patents, it does not suggest broad patentability of such claimed inventions. Pp. 10–11.

(d) Even though petitioners' application is not categorically outside of §101 under the two atextual approaches the Court rejects today, that does not mean it is a "process" under §101. Petitioners seek to patent both the concept of hedging risk and the application of that concept to energy markets. Under *Benson*, *Flook*, and *Diehr*, however, these are not patentable processes but attempts to patent abstract ideas. Claims 1 and 4 explain the basic concept of hedging and reduce that concept to a mathematical formula. This is an unpatentable abstract idea, just like the algorithms at issue in *Benson* and *Flook*. Petitioners' remaining claims, broad examples of how hedging can be used in commodities and energy markets, attempt to patent the use of the abstract hedging idea, then instruct the use of well-known random analysis techniques to help establish some of the inputs into the equation. They add even less to the underlying abstract principle than the invention held patent ineligible in *Flook*. Pp. 12–

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15.

(e) Because petitioners' patent application can be rejected under the Court's precedents on the unpatentability of abstract ideas, the Court need not define further what constitutes a patentable "process," beyond pointing to the definition of that term provided in §100(b) and looking to the guideposts in *Benson*, *Flook*, and *Diehr*. Nothing in today's opinion should be read as endorsing the Federal Circuit's past interpretations of §101. See, *e.g., State Street*, 49 F. 3d, at 1373. The appeals court may have thought it needed to make the machine-or-transformation test exclusive precisely because its case law had not adequately identified less extreme means of restricting business method patents. In disapproving an exclusive machine-or-transformation test, this Court by no means desires to preclude the Federal Circuit's development of other limiting criteria that further the Patent Act's purposes and are not inconsistent with its text. P. 16.

KENNEDY, J., delivered the opinion of the Court, except for Parts II–B–2 and II–C–2. ROBERTS, C. J., and THOMAS and ALITO, JJ., joined the opinion in full, and SCALIA, J., joined except for Parts II–B–2 and II–C–2. STEVENS, J., filed an opinion concurring in the judgment, in which GINSBURG, BREYER, and SOTOMAYOR, JJ., joined. BREYER, J., filed an opinion concurring in the judgment, in which SCALIA, J., joined as to Part II.

NOTICE: This opinion is subject to formal revision before publication in the preliminary print of the United States Reports. Readers are requested to notify the Reporter of Decisions, Supreme Court of the United States, Washington, D. C. 20543, of any typographical or other formal errors, in order that corrections may be made before the preliminary print goes to press.

SUPREME COURT OF THE UNITED STATES

No. 08–964

BERNARD L. BILSKI AND RAND A. WARSAW, PETITIONERS *v.* DAVID J. KAPPOS, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR, PATENT AND TRADEMARK OFFICE

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

[June 28, 2010]

JUSTICE KENNEDY delivered the opinion of the Court, except as to Parts II–B–2 and II–C–2.*

The question in this case turns on whether a patent can be issued for a claimed invention designed for the business world. The patent application claims a procedure for instructing buyers and sellers how to protect against the risk of price fluctuations in a discrete section of the economy. Three arguments are advanced for the proposition that the claimed invention is outside the scope of patent law: (1) it is not tied to a machine and does not transform an article; (2) it involves a method of conducting business; and (3) it is merely an abstract idea. The Court of Appeals ruled that the first mentioned of these, the so-called machine-or-transformation test, was the sole test to be used for determining the patentability of a "process" under the Patent Act, 35 U. S. C. §101.

*JUSTICE SCALIA does not join Parts II–B–2 and II–C–2.

I

Petitioners' application seeks patent protection for a claimed invention that explains how buyers and sellers of commodities in the energy market can protect, or hedge, against the risk of price changes. The key claims are claims 1 and 4. Claim 1 describes a series of steps instructing how to hedge risk. Claim 4 puts the concept articulated in claim 1 into a simple mathematical formula. Claim 1 consists of the following steps:

> "(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumers;
>
> "(b) identifying market participants for said commodity having a counter-risk position to said consumers; and
>
> "(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions." App. 19–20.

The remaining claims explain how claims 1 and 4 can be applied to allow energy suppliers and consumers to minimize the risks resulting from fluctuations in market demand for energy. For example, claim 2 claims "[t]he method of claim 1 wherein said commodity is energy and said market participants are transmission distributors." *Id.,* at 20. Some of these claims also suggest familiar statistical approaches to determine the inputs to use in claim 4's equation. For example, claim 7 advises using well-known random analysis techniques to determine how much a seller will gain "from each transaction under each

historical weather pattern." *Id.,* at 21.

The patent examiner rejected petitioners' application, explaining that it "'is not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem without any limitation to a practical application, therefore, the invention is not directed to the technological arts.'" App. to Pet. for Cert. 148a. The Board of Patent Appeals and Interferences affirmed, concluding that the application involved only mental steps that do not transform physical matter and was directed to an abstract idea. *Id.,* at 181a–186a.

The United States Court of Appeals for the Federal Circuit heard the case en banc and affirmed. The case produced five different opinions. Students of patent law would be well advised to study these scholarly opinions.

Chief Judge Michel wrote the opinion of the court. The court rejected its prior test for determining whether a claimed invention was a patentable "process" under §101—whether it produces a "'useful, concrete, and tangible result'"—as articulated in *State Street Bank & Trust Co.* v. *Signature Financial Group, Inc.*, 149 F. 3d 1368, 1373 (1998), and *AT&T Corp.* v. *Excel Communications, Inc.,* 172 F. 3d 1352, 1357 (1999). See *In re Bilski,* 545 F. 3d 943, 959–960, and n. 19 (CA Fed. 2008) (en banc). The court held that "[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." *Id.,* at 954. The court concluded this "machine-or-transformation test" is "the sole test governing §101 analyses," *id.*, at 955, and thus the "test for determining patent eligibility of a process under §101," *id.,* at 956. Applying the machine-or-transformation test, the court held that petitioners' application was not patent eligible. *Id.*, at 963–966. Judge Dyk wrote a separate concurring opinion, providing historical support for the

court's approach. *Id.,* at 966–976.

Three judges wrote dissenting opinions. Judge Mayer argued that petitioners' application was "not eligible for patent protection because it is directed to a method of conducting business." *Id.,* at 998. He urged the adoption of a "technological standard for patentability." *Id.*, at 1010. Judge Rader would have found petitioners' claims were an unpatentable abstract idea. *Id.,* at 1011. Only Judge Newman disagreed with the court's conclusion that petitioners' application was outside of the reach of §101. She did not say that the application should have been granted but only that the issue should be remanded for further proceedings to determine whether the application qualified as patentable under other provisions. *Id.,* at 997.

This Court granted certiorari. 556 U. S. ___ (2009).

II

A

Section 101 defines the subject matter that may be patented under the Patent Act:

> "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."

Section 101 thus specifies four independent categories of inventions or discoveries that are eligible for protection: processes, machines, manufactures, and compositions of matter. "In choosing such expansive terms . . . modified by the comprehensive 'any,' Congress plainly contemplated that the patent laws would be given wide scope." *Diamond* v. *Chakrabarty*, 447 U. S. 303, 308 (1980). Congress took this permissive approach to patent eligibility to ensure that "'ingenuity should receive a liberal encouragement.'" *Id.,* at 308–309 (quoting 5 Writings of Thomas

Jefferson 75–76 (H. Washington ed. 1871)).

The Court's precedents provide three specific exceptions to §101's broad patent-eligibility principles: "laws of nature, physical phenomena, and abstract ideas." *Chakrabarty*, *supra*, at 309. While these exceptions are not required by the statutory text, they are consistent with the notion that a patentable process must be "new and useful." And, in any case, these exceptions have defined the reach of the statute as a matter of statutory *stare decisis* going back 150 years. See *Le Roy* v. *Tatham*, 14 How. 156, 174–175 (1853). The concepts covered by these exceptions are "part of the storehouse of knowledge of all men . . . free to all men and reserved exclusively to none." *Funk Brothers Seed Co.* v. *Kalo Inoculant Co.*, 333 U. S. 127, 130 (1948).

The §101 patent-eligibility inquiry is only a threshold test. Even if an invention qualifies as a process, machine, manufacture, or composition of matter, in order to receive the Patent Act's protection the claimed invention must also satisfy "the conditions and requirements of this title." §101. Those requirements include that the invention be novel, see §102, nonobvious, see §103, and fully and particularly described, see §112.

The present case involves an invention that is claimed to be a "process" under §101. Section 100(b) defines "process" as:

> "process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."

The Court first considers two proposed categorical limitations on "process" patents under §101 that would, if adopted, bar petitioners' application in the present case: the machine-or-transformation test and the categorical exclusion of business method patents.

B

1

Under the Court of Appeals' formulation, an invention is a "process" only if: "(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." 545 F. 3d, at 954. This Court has "more than once cautioned that courts 'should not read into the patent laws limitations and conditions which the legislature has not expressed.'" *Diamond* v. *Diehr*, 450 U. S. 175, 182 (1981) (quoting *Chakrabarty*, *supra*, at 308; some internal quotation marks omitted). In patent law, as in all statutory construction, "[u]nless otherwise defined, 'words will be interpreted as taking their ordinary, contemporary, common meaning.'" *Diehr*, *supra*, at 182 (quoting *Perrin* v. *United States*, 444 U. S. 37, 42 (1979)). The Court has read the §101 term "manufacture" in accordance with dictionary definitions, see *Chakrabarty, supra*, at 308 (citing *American Fruit Growers, Inc.* v. *Brogdex Co.*, 283 U. S. 1, 11 (1931)), and approved a construction of the term "composition of matter" consistent with common usage, see *Chakrabarty*, *supra*, at 308 (citing *Shell Development Co.* v. *Watson*, 149 F. Supp. 279, 280 (DC 1957)).

Any suggestion in this Court's case law that the Patent Act's terms deviate from their ordinary meaning has only been an explanation for the exceptions for laws of nature, physical phenomena, and abstract ideas. See *Parker* v. *Flook*, 437 U. S. 584, 588–589 (1978). This Court has not indicated that the existence of these well-established exceptions gives the Judiciary *carte blanche* to impose other limitations that are inconsistent with the text and the statute's purpose and design. Concerns about attempts to call any form of human activity a "process" can be met by making sure the claim meets the requirements of §101.

Adopting the machine-or-transformation test as the sole

test for what constitutes a "process" (as opposed to just an important and useful clue) violates these statutory interpretation principles. Section 100(b) provides that "[t]he term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material." The Court is unaware of any "'ordinary, contemporary, common meaning,'" *Diehr*, *supra*, at 182, of the definitional terms "process, art or method" that would require these terms to be tied to a machine or to transform an article. Respondent urges the Court to look to the other patentable categories in §101—machines, manufactures, and compositions of matter—to confine the meaning of "process" to a machine or transformation, under the doctrine of *noscitur a sociis*. Under this canon, "an ambiguous term may be given more precise content by the neighboring words with which it is associated." *United States* v. *Stevens*, 559 U. S. ___, ___ (2010) (slip op., at 12) (internal quotation marks omitted). This canon is inapplicable here, for §100(b) already explicitly defines the term "process." See *Burgess* v. *United States*, 553 U. S. 124, 130 (2008) ("When a statute includes an explicit definition, we must follow that definition" (internal quotation marks omitted)).

The Court of Appeals incorrectly concluded that this Court has endorsed the machine-or-transformation test as the exclusive test. It is true that *Cochrane* v. *Deener,* 94 U. S. 780, 788 (1877), explained that a "process" is "an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing." More recent cases, however, have rejected the broad implications of this dictum; and, in all events, later authority shows that it was not intended to be an exhaustive or exclusive test. *Gottschalk* v. *Benson*, 409 U. S. 63, 70 (1972), noted that "[t]ransformation and reduction of an article 'to a different state or thing' is the clue to the pat-

entability of a process claim that does not include particular machines." At the same time, it explicitly declined to "hold that no process patent could ever qualify if it did not meet [machine or transformation] requirements." *Id.,* at 71. *Flook* took a similar approach, "assum[ing] that a valid process patent may issue even if it does not meet [the machine-or-transformation test]." 437 U. S., at 588, n. 9.

This Court's precedents establish that the machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under §101. The machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible "process."

2

It is true that patents for inventions that did not satisfy the machine-or-transformation test were rarely granted in earlier eras, especially in the Industrial Age, as explained by Judge Dyk's thoughtful historical review. See 545 F. 3d, at 966–976 (concurring opinion). But times change. Technology and other innovations progress in unexpected ways. For example, it was once forcefully argued that until recent times, "well-established principles of patent law probably would have prevented the issuance of a valid patent on almost any conceivable computer program." *Diehr*, 450 U. S., at 195 (STEVENS, J., dissenting). But this fact does not mean that unforeseen innovations such as computer programs are always unpatentable. See *id.,* at 192–193 (majority opinion) (holding a procedure for molding rubber that included a computer program is within patentable subject matter). Section 101 is a "dynamic provision designed to encompass new and unforeseen inventions." *J. E. M. Ag Supply, Inc.* v. *Pioneer Hi-Bred Int'l, Inc.*, 534 U. S. 124, 135 (2001). A categorical rule denying patent protection for "inventions in areas not

contemplated by Congress . . . would frustrate the purposes of the patent law." *Chakrabarty*, 447 U. S., at 315.

The machine-or-transformation test may well provide a sufficient basis for evaluating processes similar to those in the Industrial Age—for example, inventions grounded in a physical or other tangible form. But there are reasons to doubt whether the test should be the sole criterion for determining the patentability of inventions in the Information Age. As numerous *amicus* briefs argue, the machine-or-transformation test would create uncertainty as to the patentability of software, advanced diagnostic medicine techniques, and inventions based on linear programming, data compression, and the manipulation of digital signals. See, *e.g.,* Brief for Business Software Alliance 24–25; Brief for Biotechnology Industry Organization et al. 14–27; Brief for Boston Patent Law Association 8–15; Brief for Houston Intellectual Property Law Association 17–22; Brief for Dolby Labs., Inc., et al. 9–10.

In the course of applying the machine-or-transformation test to emerging technologies, courts may pose questions of such intricacy and refinement that they risk obscuring the larger object of securing patents for valuable inventions without transgressing the public domain. The dissent by Judge Rader refers to some of these difficulties. 545 F. 3d, at 1015. As a result, in deciding whether previously unforeseen inventions qualify as patentable "process[es]," it may not make sense to require courts to confine themselves to asking the questions posed by the machine-or-transformation test. Section 101's terms suggest that new technologies may call for new inquiries. See *Benson*, *supra*, at 71 (to "freeze process patents to old technologies, leaving no room for the revelations of the new, onrushing technology[,] . . . is not our purpose").

It is important to emphasize that the Court today is not commenting on the patentability of any particular inven-

tion, let alone holding that any of the above-mentioned technologies from the Information Age should or should not receive patent protection. This Age puts the possibility of innovation in the hands of more people and raises new difficulties for the patent law. With ever more people trying to innovate and thus seeking patent protections for their inventions, the patent law faces a great challenge in striking the balance between protecting inventors and not granting monopolies over procedures that others would discover by independent, creative application of general principles. Nothing in this opinion should be read to take a position on where that balance ought to be struck.

C

1

Section 101 similarly precludes the broad contention that the term "process" categorically excludes business methods. The term "method," which is within §100(b)'s definition of "process," at least as a textual matter and before consulting other limitations in the Patent Act and this Court's precedents, may include at least some methods of doing business. See, *e.g.,* Webster's New International Dictionary 1548 (2d ed. 1954) (defining "method" as "[a]n orderly procedure or process . . . regular way or manner of doing anything; hence, a set form of procedure adopted in investigation or instruction"). The Court is unaware of any argument that the "'ordinary, contemporary, common meaning,'" *Diehr*, *supra*, at 182, of "method" excludes business methods. Nor is it clear how far a prohibition on business method patents would reach, and whether it would exclude technologies for conducting a business more efficiently. See, *e.g.,* Hall, Business and Financial Method Patents, Innovation, and Policy, 56 Scottish J. Pol. Econ. 443, 445 (2009) ("There is no precise definition of . . . business method patents").

The argument that business methods are categorically

outside of §101's scope is further undermined by the fact that federal law explicitly contemplates the existence of at least some business method patents. Under 35 U. S. C. §273(b)(1), if a patent-holder claims infringement based on "a method in [a] patent," the alleged infringer can assert a defense of prior use. For purposes of this defense alone, "method" is defined as "a method of doing or conducting business." §273(a)(3). In other words, by allowing this defense the statute itself acknowledges that there may be business method patents. Section 273's definition of "method," to be sure, cannot change the meaning of a prior-enacted statute. But what §273 does is clarify the understanding that a business method is simply one kind of "method" that is, at least in some circumstances, eligible for patenting under §101.

A conclusion that business methods are not patentable in any circumstances would render §273 meaningless. This would violate the canon against interpreting any statutory provision in a manner that would render another provision superfluous. See *Corley* v. *United States*, 556 U. S. ___, ___ (2009) (slip op., at 9). This principle, of course, applies to interpreting any two provisions in the U. S. Code, even when Congress enacted the provisions at different times. See, *e.g., Hague* v. *Committee for Industrial Organization*, 307 U. S. 496, 529–530 (1939) (opinion of Stone, J.). This established rule of statutory interpretation cannot be overcome by judicial speculation as to the subjective intent of various legislators in enacting the subsequent provision. Finally, while §273 appears to leave open the possibility of some business method patents, it does not suggest broad patentability of such claimed inventions.

2

Interpreting §101 to exclude all business methods simply because business method patents were rarely issued

until modern times revives many of the previously discussed difficulties. See *supra*, at 8–9. At the same time, some business method patents raise special problems in terms of vagueness and suspect validity. See *eBay Inc.* v. *MercExchange, L. L. C.,* 547 U. S. 388, 397 (2006) (KENNEDY, J., concurring). The Information Age empowers people with new capacities to perform statistical analyses and mathematical calculations with a speed and sophistication that enable the design of protocols for more efficient performance of a vast number of business tasks. If a high enough bar is not set when considering patent applications of this sort, patent examiners and courts could be flooded with claims that would put a chill on creative endeavor and dynamic change.

In searching for a limiting principle, this Court's precedents on the unpatentability of abstract ideas provide useful tools. See *infra*, at 12–15. Indeed, if the Court of Appeals were to succeed in defining a narrower category or class of patent applications that claim to instruct how business should be conducted, and then rule that the category is unpatentable because, for instance, it represents an attempt to patent abstract ideas, this conclusion might well be in accord with controlling precedent. See *ibid.* But beyond this or some other limitation consistent with the statutory text, the Patent Act leaves open the possibility that there are at least some processes that can be fairly described as business methods that are within patentable subject matter under §101.

Finally, even if a particular business method fits into the statutory definition of a "process," that does not mean that the application claiming that method should be granted. In order to receive patent protection, any claimed invention must be novel, §102, nonobvious, §103, and fully and particularly described, §112. These limitations serve a critical role in adjusting the tension, ever

present in patent law, between stimulating innovation by protecting inventors and impeding progress by granting patents when not justified by the statutory design.

III

Even though petitioners' application is not categorically outside of §101 under the two broad and atextual approaches the Court rejects today, that does not mean it is a "process" under §101. Petitioners seek to patent both the concept of hedging risk and the application of that concept to energy markets. App. 19–20. Rather than adopting categorical rules that might have wide-ranging and unforeseen impacts, the Court resolves this case narrowly on the basis of this Court's decisions in *Benson*, *Flook*, and *Diehr*, which show that petitioners' claims are not patentable processes because they are attempts to patent abstract ideas. Indeed, all members of the Court agree that the patent application at issue here falls outside of §101 because it claims an abstract idea.

In *Benson*, the Court considered whether a patent application for an algorithm to convert binary-coded decimal numerals into pure binary code was a "process" under §101. 409 U. S., at 64–67. The Court first explained that "'[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.'" *Id.,* at 67 (quoting *Le Roy*, 14 How., at 175). The Court then held the application at issue was not a "process," but an unpatentable abstract idea. "It is conceded that one may not patent an idea. But in practical effect that would be the result if the formula for converting . . . numerals to pure binary numerals were patented in this case." 409 U. S., at 71. A contrary holding "would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself." *Id.,* at 72.

In *Flook*, the Court considered the next logical step after

Benson. The applicant there attempted to patent a procedure for monitoring the conditions during the catalytic conversion process in the petrochemical and oil-refining industries. The application's only innovation was reliance on a mathematical algorithm. 437 U. S., at 585–586. *Flook* held the invention was not a patentable "process." The Court conceded the invention at issue, unlike the algorithm in *Benson*, had been limited so that it could still be freely used outside the petrochemical and oil-refining industries. 437 U. S., at 589–590. Nevertheless, *Flook* rejected "[t]he notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process." *Id.,* at 590. The Court concluded that the process at issue there was "unpatentable under §101, not because it contain[ed] a mathematical algorithm as one component, but because once that algorithm [wa]s assumed to be within the prior art, the application, considered as a whole, contain[ed] no patentable invention." *Id.,* at 594. As the Court later explained, *Flook* stands for the proposition that the prohibition against patenting abstract ideas "cannot be circumvented by attempting to limit the use of the formula to a particular technological environment" or adding "insignificant postsolution activity." *Diehr*, 450 U. S., at 191–192.

Finally, in *Diehr*, the Court established a limitation on the principles articulated in *Benson* and *Flook*. The application in *Diehr* claimed a previously unknown method for "molding raw, uncured synthetic rubber into cured precision products," using a mathematical formula to complete some of its several steps by way of a computer. 450 U. S., at 177. *Diehr* explained that while an abstract idea, law of nature, or mathematical formula could not be patented, "an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection." *Id.,* at 187. *Diehr* emphasized

the need to consider the invention as a whole, rather than "dissect[ing] the claims into old and new elements and then . . . ignor[ing] the presence of the old elements in the analysis." *Id.,* at 188. Finally, the Court concluded that because the claim was not "an attempt to patent a mathematical formula, but rather [was] an industrial process for the molding of rubber products," it fell within §101's patentable subject matter. *Id.,* at 192–193.

In light of these precedents, it is clear that petitioners' application is not a patentable "process." Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk: "Hedging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class." 545 F. 3d, at 1013 (Rader, J., dissenting); see, *e.g.,* D. Chorafas, Introduction to Derivative Financial Instruments 75–94 (2008); C. Stickney, R. Weil, K. Schipper, & J. Francis, Financial Accounting: An Introduction to Concepts, Methods, and Uses 581–582 (13th ed. 2010); S. Ross, R. Westerfield, & B. Jordan, Fundamentals of Corporate Finance 743–744 (8th ed. 2008). The concept of hedging, described in claim 1 and reduced to a mathematical formula in claim 4, is an unpatentable abstract idea, just like the algorithms at issue in *Benson* and *Flook*. Allowing petitioners to patent risk hedging would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.

Petitioners' remaining claims are broad examples of how hedging can be used in commodities and energy markets. *Flook* established that limiting an abstract idea to one field of use or adding token postsolution components did not make the concept patentable. That is exactly what the remaining claims in petitioners' application do. These claims attempt to patent the use of the abstract idea of hedging risk in the energy market and then instruct the

use of well-known random analysis techniques to help establish some of the inputs into the equation. Indeed, these claims add even less to the underlying abstract principle than the invention in *Flook* did, for the *Flook* invention was at least directed to the narrower domain of signaling dangers in operating a catalytic converter.

* * *

Today, the Court once again declines to impose limitations on the Patent Act that are inconsistent with the Act's text. The patent application here can be rejected under our precedents on the unpatentability of abstract ideas. The Court, therefore, need not define further what constitutes a patentable "process," beyond pointing to the definition of that term provided in §100(b) and looking to the guideposts in *Benson*, *Flook*, and *Diehr*.

And nothing in today's opinion should be read as endorsing interpretations of §101 that the Court of Appeals for the Federal Circuit has used in the past. See, *e.g., State Street*, 149 F. 3d, at 1373; *AT&T Corp.*, 172 F. 3d, at 1357. It may be that the Court of Appeals thought it needed to make the machine-or-transformation test exclusive precisely because its case law had not adequately identified less extreme means of restricting business method patents, including (but not limited to) application of our opinions in *Benson, Flook*, and *Diehr*. In disapproving an exclusive machine-or-transformation test, we by no means foreclose the Federal Circuit's development of other limiting criteria that further the purposes of the Patent Act and are not inconsistent with its text.

The judgment of the Court of Appeals is affirmed.

It is so ordered.

SUPREME COURT OF THE UNITED STATES

No. 08–964

BERNARD L. BILSKI AND RAND A. WARSAW, PETITIONERS *v.* DAVID J. KAPPOS, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR, PATENT AND TRADEMARK OFFICE

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

[June 28, 2010]

JUSTICE STEVENS, with whom JUSTICE GINSBURG, JUSTICE BREYER, and JUSTICE SOTOMAYOR join, concurring in the judgment.

In the area of patents, it is especially important that the law remain stable and clear. The only question presented in this case is whether the so-called machine-or-transformation test is the exclusive test for what constitutes a patentable "process" under 35 U. S. C. §101. It would be possible to answer that question simply by holding, as the entire Court agrees, that although the machine-or-transformation test is reliable in most cases, it is not the *exclusive* test.

I agree with the Court that, in light of the uncertainty that currently pervades this field, it is prudent to provide further guidance. But I would take a different approach. Rather than making any broad statements about how to define the term "process" in §101 or tinkering with the bounds of the category of unpatentable, abstract ideas, I would restore patent law to its historical and constitutional moorings.

For centuries, it was considered well established that a series of steps for conducting business was not, in itself,

patentable. In the late 1990's, the Federal Circuit and others called this proposition into question. Congress quickly responded to a Federal Circuit decision with a stopgap measure designed to limit a potentially significant new problem for the business community. It passed the First Inventors Defense Act of 1999 (1999 Act), 113 Stat. 1501A–555 (codified at 35 U. S. C. §273), which provides a limited defense to claims of patent infringement, see §273(b), for "method[s] of doing or conducting business," §273(a)(3). Following several more years of confusion, the Federal Circuit changed course, overruling recent decisions and holding that a series of steps may constitute a patentable process only if it is tied to a machine or transforms an article into a different state or thing. This "machine-or-transformation test" excluded general methods of doing business as well as, potentially, a variety of other subjects that could be called processes.

The Court correctly holds that the machine-or-transformation test is not the sole test for what constitutes a patentable process; rather, it is a critical clue.[1] But the Court is quite wrong, in my view, to suggest that any series of steps that is not itself an abstract idea or law of nature may constitute a "process" within the meaning of §101. The language in the Court's opinion to this effect can only cause mischief. The wiser course would have been to hold that petitioners' method is not a "process" because it describes only a general method of engaging in business transactions—and business methods are not patentable. More precisely, although a process is not patent-ineligible simply because it is useful for conducting business, a claim that merely describes a method of doing

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[1] Even if the machine-or-transformation test may not define the scope of a patentable process, it would be a grave mistake to assume that anything with a "'useful, concrete and tangible result,'" *State Street Bank & Trust* v. *Signature Financial Group, Inc.,* 149 F. 3d 1368, 1373 (CA Fed. 1998), may be patented.

business does not qualify as a "process" under §101.

I

Although the Court provides a brief statement of facts, *ante*, at 1–4, a more complete explication may be useful for those unfamiliar with petitioners' patent application and this case's procedural history.

Petitioners' patent application describes a series of steps for managing risk amongst buyers and sellers of commodities. The general method, described in Claim 1, entails "managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price," and consists of the following steps:

> "(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumers;
>
> "(b) identifying market participants for said commodity having a counter-risk position to said consumers; and
>
> "(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions." App. 19–20.

Although the patent application makes clear that the "method can be used for any commodity to manage consumption risk in a fixed bill price product," *id.,* at 11, it includes specific applications of the method, particularly in the field of energy, as a means of enabling suppliers and consumers to minimize the risks resulting from fluctuations in demand during specified time periods. See *id.*, at 20–22. Energy suppliers and consumers may use that

method to hedge their risks by agreeing upon a fixed series of payments at regular intervals throughout the year instead of charging or paying prices that fluctuate in response to changing weather conditions. The patent application describes a series of steps, including the evaluation of historical costs and weather variables and the use of economic and statistical formulas, to analyze these data and to estimate the likelihood of certain outcomes. See *id.*, at 12–19.

The patent examiner rejected petitioners' application on the ground that it "is not directed to the technological arts," insofar as it "is not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem without any limitation to a practical application." App. to Pet. for Cert. 148a.

The Board of Patent Appeals and Interferences (Board) affirmed the examiner's decision, but it rejected the position that a patentable process must relate to "technological arts" or be performed on a machine. *Id.*, at 180a–181a. Instead, the Board denied petitioners' patent on two alternative, although similar, grounds: first, that the patent involves only mental steps that do not transform physical subject matter, *id.*, at 181a–184a; and, second, that it is directed to an "abstract idea," *id.*, at 184a–187a.

Petitioners appealed to the United States Court of Appeals for the Federal Circuit. After briefing and argument before a three-judge panel, the court *sua sponte* decided to hear the case en banc and ordered the parties to address: (1) whether petitioners' "claim 1 . . . claims patent-eligible subject matter under 35 U. S. C. §101"; (2) "[w]hat standard should govern in determining whether a process is patent-eligible subject matter"; (3) "[w]hether the claimed subject matter is not patent-eligible because it constitutes an abstract idea or mental process"; (4) "[w]hether a method or process must result in a physical transformation of an article or be tied to a machine to be patent-

eligible subject matter"; and (5) whether the court's decisions in *State Street Bank & Trust Co.* v. *Signature Financial Group, Inc.,* 149 F. 3d 1368 (1998) *(State Street)*, and *AT&T Corp.* v. *Excel Communications, Inc.,* 172 F. 3d 1352 (1999), should be overruled in any respect. App. to Pet. for Cert. 144a–145a.

The en banc Court of Appeals affirmed the Board's decision. Eleven of the twelve judges agreed that petitioners' claims do not describe a patentable "process," §101. Chief Judge Michel's opinion, joined by eight other judges, rejected several possible tests for what is a patent-eligible process, including whether the patent produces a "'useful, concrete and tangible result,'" whether the process relates to "technological arts," and "categorical exclusions" for certain processes such as business methods. *In re Bilski,* 545 F. 3d 943, 959–960 (2008). Relying on several of our cases in which we explained how to differentiate a claim on a "fundamental principle" from a claim on a "process," the court concluded that 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." *Id.*, at 954–955. The court further concluded that this "machine-or-transformation test" is "the *sole* test governing §101 analyses," *id.*, at 955 (emphasis added), and therefore the "test for determining patent eligibility of a process under §101," *id.*, at 956. Applying that test, the court held that petitioners' claim is not a patent-eligible process. *Id.*, at 963–966.

In a separate opinion reaching the same conclusion, Judge Dyk carefully reviewed the history of American patent law and English precedents upon which our law is based, and found that "the unpatentability of processes not involving manufactures, machines, or compositions of matter has been firmly embedded . . . since the time of the Patent Act of 1793." *Id.*, at 966. Judge Dyk observed,

moreover, that "[t]here is no suggestion in any of this early consideration of process patents that processes for organizing human activity were or ever had been patentable." *Id.*, at 972.

Three judges wrote dissenting opinions, although two of those judges agreed that petitioners' claim is not patent eligible. Judge Mayer would have held that petitioners' claim "is not eligible for patent protection because it is directed to a method of conducting business." *Id.*, at 998. He submitted that "[t]he patent system is intended to protect and promote advances in science and technology, not ideas about how to structure commercial transactions." *Ibid.* "Affording patent protection to business methods lacks constitutional and statutory support, serves to hinder rather than promote innovation[,] and usurps that which rightfully belongs in the public domain." *Ibid.*

Judge Rader would have rejected petitioners' claim on the ground that it seeks to patent merely an abstract idea. *Id.*, at 1011.

Only Judge Newman disagreed with the court's conclusion that petitioners' claim seeks a patent on ineligible subject matter. Judge Newman urged that the en banc court's machine-or-transformation test ignores the text and history of §101, *id.*, at 977–978, 985–990, is in tension with several of decisions by this Court, *id.*, at 978–985, and the Federal Circuit, *id.*, at 990–992, and will invalidate thousands of patents that were issued in reliance on those decisions, *id.*, at 992–994.

II

Before explaining in more detail how I would decide this case, I will comment briefly on the Court's opinion. The opinion is less than pellucid in more than one respect, and, if misunderstood, could result in confusion or upset settled areas of the law. Three preliminary observations may be clarifying.

First, the Court suggests that the terms in the Patent Act must be read as lay speakers use those terms, and not as they have traditionally been understood in the context of patent law. See, *e.g.*, *ante*, at 6 (terms in §101 must be viewed in light of their "'ordinary, contemporary, common meaning'"); *ante*, at 10 (patentable "method" is any "orderly procedure or process," "regular way or manner of doing anything," or "set form of procedure adopted in investigation or instruction" (internal quotation marks omitted)). As I will explain at more length in Part III, *infra*, if this portion of the Court's opinion were taken literally, the results would be absurd: Anything that constitutes a series of steps would be patentable so long as it is novel, nonobvious, and described with specificity. But the opinion cannot be taken literally on this point. The Court makes this clear when it accepts that the "atextual" machine-or-transformation test, *ante*, at 12, is "useful and important," *ante*, at 8, even though it "violates" the stated "statutory interpretation principles," *ante*, at 6; and when the Court excludes processes that tend to pre-empt commonly used ideas, see *ante*, at 14–15.

Second, in the process of addressing the sole issue presented to us, the opinion uses some language that seems inconsistent with our centuries-old reliance on the machine-or-transformation criteria as clues to patentability. Most notably, the opinion for a plurality suggests that these criteria may operate differently when addressing technologies of a recent vintage. See *ante*, at 8–9 (machine-or-transformation test is useful "for evaluating processes similar to those in the Industrial Age," but is less useful "for determining the patentability of inventions in the Information Age"). In moments of caution, however, the opinion for the Court explains—correctly—that the Court is merely restoring the law to its historical state of rest. See *ante*, at 8 ("This Court's precedents establish that the machine-or-transformation test is a useful and

important clue, an investigative tool, for determining whether some claimed inventions are processes under §101"). Notwithstanding this internal tension, I understand the Court's opinion to hold only that the machine-or-transformation test remains an important test for patentability. Few, if any, processes cannot effectively be evaluated using these criteria.

Third, in its discussion of an issue not contained in the questions presented—whether the particular series of steps in petitioners' application is an abstract idea—the Court uses language that could suggest a shift in our approach to that issue. Although I happen to agree that petitioners seek to patent an abstract idea, the Court does not show how this conclusion follows "clear[ly]," *ante*, at 15, from our case law. The patent now before us is not for "[a] principle, in the abstract," or a "fundamental truth." *Parker* v. *Flook*, 437 U. S. 584, 589 (1978) (internal quotation marks omitted). Nor does it claim the sort of phenomenon of nature or abstract idea that was embodied by the mathematical formula at issue in *Gottschalk* v. *Benson*, 409 U. S. 63, 67 (1972), and in *Flook*.

The Court construes petitioners' claims on processes for pricing as claims on "the basic concept of hedging, or protecting against risk," *ante*, at 14, and thus discounts the application's discussion of what sorts of data to use, and how to analyze those data, as mere "token postsolution components," *ante*, at 15. In other words, the Court artificially limits petitioners' claims to hedging, and then concludes that hedging is an abstract idea rather than a term that describes a category of processes including petitioners' claims. Why the Court does this is never made clear. One might think that the Court's analysis means that any process that utilizes an abstract idea is *itself* an unpatentable, abstract idea. But we have never suggested any such rule, which would undermine a host of patentable processes. It is true, as the Court observes,

that petitioners' application is phrased broadly. See *ante*, at 14–15. But claim specification is covered by §112, not §101; and if a series of steps constituted an unpatentable idea merely because it was described without sufficient specificity, the Court could be calling into question some of our own prior decisions.[2] At points, the opinion suggests that novelty is the clue. See *ante*, at 14. But the fact that hedging is "'long prevalent in our system of commerce,'" *ibid.*, cannot justify the Court's conclusion, as "the proper construction of §101 . . . does not involve the familiar issu[e] of novelty" that arises under §102. *Flook*, 437 U. S., at 588. At other points, the opinion for a plurality suggests that the analysis turns on the category of patent involved. See, *e.g.*, *ante,* at 12 (courts should use the abstract-idea rule as a "too[l]" to set "a high enough bar" "when considering patent applications of this sort"). But we have never in the past suggested that the inquiry varies by subject matter.

The Court, in sum, never provides a satisfying account of what constitutes an unpatentable abstract idea. Indeed, the Court does not even explain if it is using the machine-or-transformation criteria. The Court essentially asserts its conclusion that petitioners' application claims an abstract idea. This mode of analysis (or lack thereof) may have led to the correct outcome in this case, but it also means that the Court's musings on this issue stand for very little.

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[2] For example, a rule that broadly-phrased claims cannot constitute patentable processes could call into question our approval of Alexander Graham Bell's famous fifth claim on "'[t]he 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,'" *The Telephone Cases*, 126 U. S. 1, 531 (1888).

III

I agree with the Court that the text of §101 must be the starting point of our analysis. As I shall explain, however, the text must not be the end point as well.

Pursuant to its power "[t]o promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries," U. S. Const., Art. I, §8, cl. 8, Congress has passed a series of patent laws that grant certain exclusive rights over certain inventions and discoveries as a means of encouraging innovation. In the latest iteration, the Patent Act of 1952 (1952 Act), Congress has provided that "[w]hoever 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," 35 U. S. C. §101, which include that the patent also be novel, §102, and nonobvious, §103. The statute thus authorizes four categories of subject matter that may be patented: processes, machines, manufactures, and compositions of matter. Section 101 imposes a threshold condition. "[N]o patent is available for a discovery, however useful, novel, and nonobvious, unless it falls within one of the express categories of patentable subject matter." *Kewanee Oil Co.* v. *Bicron Corp.*, 416 U. S. 470, 483 (1974).

Section 101 undoubtedly defines in "expansive terms" the subject matter eligible for patent protection, as the statute was meant to ensure that "'ingenuit[ies] receive a liberal encouragement.'" *Diamond* v. *Chakrabarty*, 447 U. S. 303, 308–309 (1980); see also *J. E. M. Ag Supply, Inc.* v. *Pioneer Hi-Bred Int'l, Inc.*, 534 U. S. 124, 130 (2001). Nonetheless, not every new invention or discovery may be patented. Certain things are "free for all to use." *Bonito Boats, Inc.* v. *Thunder Craft Boats, Inc.*, 489 U. S.

141, 151 (1989).[3]

The text of the Patent Act does not on its face give much guidance about what constitutes a patentable process. The statute defines the term "process" as a "process, art or method [that] includes a new use of a known process, machine, manufacture, composition of matter, or material." §100(b). But, this definition is not especially helpful, given that it also uses the term "process" and is therefore somewhat circular.

As lay speakers use the word "process," it constitutes any series of steps. But it has always been clear that, as used in §101, the term does not refer to a "'process' in the ordinary sense of the word," *Flook*, 437 U. S., at 588; see also *Corning* v. *Burden*, 15 How. 252, 268 (1854) ("[T]he term process is often used in a more vague sense, in which it cannot be the subject of a patent"). Rather, as discussed in some detail in Part IV, *infra*, the term "process" (along with the definitions given to that term) has long accumulated a distinctive meaning in patent law. When the term was used in the 1952 Patent Act, it was neither intended nor understood to encompass *any* series of steps or any *way* to do any *thing*.

With that understanding in mind, the Government has

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[3]The Court quotes our decision in *Diamond* v. *Chakrabarty*, 447 U. S. 303 (1980), for the proposition that, "'[i]n choosing such expansive terms . . . modified by the comprehensive "any," Congress plainly contemplated that the patent laws would be given wide scope.'" *Ante*, at 4. But the Court fails to mention which terms we were discussing in *Chakrabarty:* the terms "manufacture" and "composition of matter." See 447 U. S., at 308 ("In choosing such expansive terms as 'manufacture' and 'composition of matter,' modified by the comprehensive 'any,' Congress plainly contemplated that the patent laws would be given wide scope"). As discussed herein, Congress' choice of the term "process" reflected a background understanding of what sorts of series of steps could be patented, and likely reflected an intentional design to codify that settled, judicial understanding. This may not have been the case with the terms at issue in *Chakrabarty*.

argued that because "a word" in a statute "is given more precise content by the neighboring words with which it" associates, *United States* v. *Williams*, 553 U. S. 285, 294 (2008), we may draw inferences from the fact that "[t]he other three statutory categories of patent-eligible subject matter identified in Section 101—'machine, manufacture, or composition of matter'—all 'are things made by man, and involve technology.'" Brief for Respondent 26. Specifically, the Government submits, we may infer "that the term 'process' is limited to technological and industrial methods." *Ibid.* The Court rejects this submission categorically, on the ground that "§100(b) already explicitly defines the term 'process.'" *Ante*, at 6. But §100(b) defines the term "process" by using the term "process," as well as several other general terms. This is not a case, then, in which we must *either* "follow" a definition, *ante*, at 7, *or* rely on neighboring words to understand the scope of an ambiguous term. The definition itself contains the very ambiguous term that we must define.

In my view, the answer lies in between the Government's and the Court's positions: The terms adjacent to "process" in §101 provide a clue as to its meaning, although not a very strong clue. Section 101's list of categories of patentable subject matter is phrased in the disjunctive, suggesting that the term "process" has content distinct from the other items in the list. It would therefore be illogical to "rob" the word "process" of all independent meaning. *Reiter* v. *Sonotone Corp.*, 442 U. S. 330, 338 (1979). Moreover, to the extent we can draw inferences about what is a "process" from common attributes in §101, it is a dangerous endeavor to do so on the basis of a perceived overarching theme. Given the many moving parts at work in the Patent Act, there is a risk of merely confirming our preconceived notions of what should be patentable or of seeing common attributes that track "the familiar issues of novelty and obviousness" that arise

under other sections of the statute but are not relevant to §101, *Flook*, 437 U. S., at 588. The placement of "process" next to other items thus cannot prove that the term is limited to any particular categories; it does, however, give reason to be skeptical that the scope of a patentable "process" extends to cover any series of steps at all.

The Court makes a more serious interpretive error. As briefly discussed in Part II, *supra*, the Court at points appears to reject the well-settled proposition that the term "process" in §101 is not a "'process' in the ordinary sense of the word," *Flook*, 437 U. S., at 588. Instead, the Court posits that the word "process" must be understood in light of its "ordinary, contemporary, common meaning," *ante*, at 6 (internal quotation marks omitted). Although this is a fine approach to statutory interpretation in general, it is a deeply flawed approach to a statute that relies on complex terms of art developed against a particular historical background.[4] Indeed, the approach would render §101 almost comical. A process for training a dog, a series of dance steps, a method of shooting a basketball, maybe even words, stories, or songs if framed as the steps of typing letters or uttering sounds—all would be patent-eligible. I am confident that the term "process" in §101 is not nearly so capacious.[5]

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[4] For example, if this Court were to interpret the Sherman Act according to the Act's plain text, it could prohibit "the entire body of private contract," *National Soc. of Professional Engineers* v. *United States*, 435 U. S. 679, 688 (1978).

[5] The Court attempts to avoid such absurd results by stating that these "[c]oncerns" "can be met by making sure that the claim meets the requirements of §101." *Ante*, at 6. Because the only limitation on the plain meaning of "process" that the Court acknowledges explicitly is the bar on abstract ideas, laws of nature, and the like, it is presumably this limitation that is left to stand between all conceivable human activity and patent monopolies. But many processes that would make for absurd patents are not abstract ideas. Nor can the requirements of novelty, nonobviousness, and particular description pick up the slack.

So is the Court, perhaps. What is particularly incredible about the Court's stated method of interpreting §101 (other than that the method itself may be patent-eligible under the Court's theory of §101) is that the Court deviates from its own professed commitment to "ordinary, contemporary, common meaning." As noted earlier, the Court accepts a role for the "atextual" machine-or-transformation "clue." *Ante*, at 12, 7. The Court also accepts that we have "foreclose[d] a purely literal reading of §101," *Flook*, 437 U. S., at 589, by holding that claims that are close to "laws of nature, natural phenomena, and abstract ideas," *Diamond* v. *Diehr*, 450 U. S. 175, 185 (1981), do not count as "processes" under §101, even if they can be colloquially described as such.[6] The Court attempts to justify this latter exception to §101 as "a matter of statutory *stare decisis*." *Ante*, at 5. But it is strange to think that the very same term must be interpreted literally on some occasions, and in light of its historical usage on others.

In fact, the Court's understanding of §101 is even more remarkable because its willingness to *exclude* general principles from the provision's reach is in tension with its apparent willingness to *include* steps for conducting business. The history of patent law contains strong norms against patenting these two categories of subject matter. Both norms were presumably incorporated by Congress into the Patent Act in 1952.

Cf. *ante*, at 12–13 (plurality opinion). A great deal of human activity was at some time novel and nonobvious.

[6] Curiously, the Court concedes that "these exceptions are not required by the statutory text," but urges that "they are *consistent* with the notion that a patentable process must be 'new and useful.'" *Ante*, at 5 (emphasis added). I do not see how these exceptions find a textual home in the term "new and useful." The exceptions may be consistent with those words, but they are sometimes inconsistent with the "ordinary, contemporary, common meaning," *ante,* at 6, 10 (internal quotation marks omitted), of the words "process" and "method."

IV

Because the text of §101 does not on its face convey the scope of patentable processes, it is necessary, in my view, to review the history of our patent law in some detail. This approach yields a much more straightforward answer to this case than the Court's. As I read the history, it strongly supports the conclusion that a method of doing business is not a "process" under §101.

I am, of course, mindful of the fact that §101 "is a dynamic provision designed to encompass new and unforeseen inventions," and that one must therefore view historical conceptions of patent-eligible subject matter at an appropriately high level of generality. *J. E. M. Ag Supply,* 534 U. S., at 135; see also *Chakrabarty*, 447 U. S., at 315–316. But it is nonetheless significant that while people have long innovated in fields of business, methods of doing business fall outside of the subject matter that has "historically been eligible to receive the protection of our patent laws," *Diehr*, 450 U. S., at 184, and likely go beyond what the modern patent "statute was enacted to protect," *Flook*, 437 U. S., at 593. It is also significant that when Congress enacted the latest Patent Act, it did so against the background of a well-settled understanding that a series of steps for conducting business cannot be patented. These considerations ought to guide our analysis. As Justice Holmes noted long ago, sometimes, "a page of history is worth a volume of logic." *New York Trust Co.* v. *Eisner*, 256 U. S. 345, 349 (1921).

English Backdrop

The Constitution's Patent Clause was written against the "backdrop" of English patent practices, *Graham* v. *John Deere Co. of Kansas City*, 383 U. S. 1, 5 (1966), and early American patent law was "largely based on and incorporated" features of the English patent system, E. Walterscheid, To Promote the Progress of Useful Arts:

American Patent Law and Administration, 1789–1836, p. 109 (1998) (hereinafter Walterscheid, To Promote the Progress).[7] The governing English law, the Statute of Monopolies, responded to abuses whereby the Crown would issue letters patent, "granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public." *Graham*, 383 U. S., at 5. The statute generally prohibited the Crown from granting such exclusive rights, 21 Jam. 1, c. 3, §1 (1623), in 4 Statutes of the Realm 1213 (reprint 1963), but it contained exceptions that, *inter alia*, permitted grants of exclusive rights to the "working or making of any manner of new Manufacture." §6.

Pursuant to that provision, patents issued for the "mode, method, or way of manufacturing," F. Campin, Law of Patents for Inventions 11 (1869) (emphasis deleted), and English courts construed the phrase "working or making of any manner of new manufactures" to encompass manufacturing processes, see, *e.g.*, *Boulton* v. *Bull*, 2 H. Bl. 463, 471, 492, 126 Eng. Rep. 651, 655, 666 (C. P. 1795) (holding that the term "manufacture" "applied not only to things made, but to the practice of making, to principles carried into practice in a new manner, to new results of principles carried into practice"). Thus, English courts upheld James Watt's famous patent on a method for reducing the consumption of fuel in steam engines,[8] as

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[7] See *Pennock* v. *Dialogue*, 2 Pet. 1, 18 (1829) ("[M]any of the provisions of our patent act are derived from the principles and practice, which have prevailed in the construction of that of England"); Proceedings in Congress During the Years 1789 and 1790 Relating to the First Patent and Copyright Laws, 22 J. Pat. Off. Soc. 352, 363 (1940) (explaining that the 1790 Patent Act was "framed according to the Course of Practice in the English Patent Office"); see also Walterscheid, The Early Evolution of the United States Patent Law: Antecedents, 76 J. Pat. & Trademark Off. Soc. 697, 698 (1994) (describing the role of the English backdrop).

[8] See *Hornblower* v. *Boulton,* 8 T. R. 95 (K. B. 1799).

well as a variety of patents issued for methods of synthesizing substances or building mechanical devices.[9]

Although it is difficult to derive a precise understanding of what sorts of methods were patentable under English law, there is no basis in the text of the Statute of Monopolies, nor in pre-1790 English precedent, to infer that business methods could qualify.[10] There was some debate throughout the relevant time period about what processes could be patented. But it does not appear that anyone seriously believed that one could patent "a method for organizing human activity." 545 F. 3d, at 970 (Dyk, J., concurring).[11]

There were a small number of patents issued between 1623 and 1790 relating to banking or lotteries and one for a method of life insurance,[12] but these did not constitute

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[9] See, *e.g.*, *Roebuck and Garbett* v. *William Stirling & Son* (H. L. 1774), reprinted in 1 T. Webster, Reports and Notes of Cases on Letters Patent for Inventions 45 (1844) ("method of making acid spirit by burning sulphur and saltpetre, and collecting the condensed fumes"); *id.*, at 77 ("'method of producing a yellow colour for painting in oil or water, making white lead, and separating the mineral alkali from common salt, all to be performed in one single process'"); see also C. MacLeod, Inventing the Industrial Revolution: The English Patent System, 1660–1800, pp. 84–93, 100–104, 109–110, 152–155 (1988) (listing patents) (hereinafter MacLeod).

[10] Some English cases made reference to the permissibility of patents over new "trades." But so far as I can tell, the term "trade" referred not to the methods of conducting business but rather to methods of making and using physical items or to the object of the trade. See, *e.g.*, *Clothworkers of Ipswich Case*, 78 Eng. Rep. 147, 148 (K. B. 1603) ("[I]f a man hath brought in a new invention and a new trade within the kingdom . . . [the King] may grant by charter unto him").

[11] See also Pollack, The Multiple Unconstitutionality of Business Method Patents: Common Sense, Congressional Consideration, and Constitutional History, 28 Rutgers Computer & Tech. L. J. 61, 94–96 (2002) (hereinafter Pollack) (describing English practice).

[12] See *id.,* at 95; B. Woodcroft, Alphabetical Index of Patentees of Inventions, from March 2, 1617 (14 James I) to October 1, 1852 (16 Victoriae) 383, 410 (2d ed. 1969) (hereinafter Woodcroft).

the "prevail[ing]" "principles and practice" in England on which our patent law was based, *Pennock* v. *Dialogue,* 2 Pet. 1, 18 (1829). Such patents were exceedingly rare, and some of them probably were viewed not as inventions or discoveries but rather as special state privileges[13] that until the mid-1800's were recorded alongside inventions in the patent records, see MacLeod 1–2 (explaining that various types of patents were listed together). It appears that the only English patent of the time that can fairly be described as a business method patent was one issued in 1778 on a "Plan for assurances on lives of persons from 10 to 80 years of Age." Woodcroft 324.[14] And "[t]here is no indication" that this patent "was ever enforced or its validity tested," 545 F. 3d, at 974 (Dyk, J., concurring); the patent may thus have represented little more than the whim—or error—of a single patent clerk.[15]

In any event, these patents (or patent) were probably not known to the Framers of early patent law. In an era before computerized databases, organized case law, and treatises,[16] the American drafters probably would have

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[13] See, *e.g.*, C. Ewen, Lotteries and Sweepstakes 70–71 (1932) (describing the "letters patent" to form a colony in Virginia and to operate lotteries to fund that colony).

[14] See also Renn, John Knox's Plan for Insuring Lives: A Patent of Invention in 1778, 101 J. Inst. Actuaries 285, 286 (1974) (hereinafter Renn) (describing the patent).

[15] "The English patent system" at that time "was one of simple registration. Extensive scrutiny was not expected of the law officers administering it." MacLeod 41. Thus, as one scholar suggested of the patent on life insurance, "perhaps the Law Officer was in a very good humour that day, or perhaps he had forgotten the wording of the statute; most likely he was concerned only with the promised 'very considerable Consumption of [Revenue] Stamps' which [the patent holder] declared, would 'contribute to the increase of the Public Revenues.'" Renn 285.

[16] See *Markman* v. *Westview Instruments, Inc.*, 517 U. S. 370, 381 (1996) ("[T]he state of patent law in the common-law courts before 1800 led one historian to observe that 'the reported cases are destitute of any decision of importance'" (quoting Hulme, On the Consideration of the

known about particular patents only if they were well publicized or subject to reported litigation. So far as I am aware, no published cases pertained to patents on business methods.

Also noteworthy is what was *not* patented under the English system. During the 17th and 18th centuries, Great Britain saw innovations in business organization,[17] business models,[18] management techniques,[19] and novel solutions to the challenges of operating global firms in which subordinate managers could be reached only by a long sea voyage.[20] Few if any of these methods of conducting business were patented.[21]

Patent Grant, Past and Present, 13 L. Q. Rev. 313, 318 (1897))); MacLeod 1, 61–62 (explaining the dearth of clear case law); see also *Boulton* v. *Bull,* 2 H. Bl. 463, 491, 126 Eng. Rep. 651, 665 (C. P. 1795) (Eyre, C. J.) ("Patent rights are no where that I can find accurately discussed in our books").

[17] See, *e.g.*, A. DuBois, The English Business Company After the Bubble Act, 1720–1800, pp. 38–40, 435–438 (1938); Harris, The Bubble Act: Its Passage and its Effects on Business Organization, 54 J. Econ. Hist. 610, 624–625 (1994).

[18] See Pollack 97–100. For example, those who held patents on oil lamps developed firms that contracted to provide street lighting. See M. Falkus, Lighting in the Dark Ages of English Economic History: Town Streets before the Industrial Revolutions, in Trade, Government, and Economy in Pre-Industrial England 249, 255–257, 259–260 (D. Coleman & A. John eds. 1976).

[19] See, *e.g.*, G. Hammersley, The State and the English Iron Industry in the Sixteenth and Seventeenth Centuries, in *id.,* at 166, 173, 175–178 (describing the advent of management techniques for efficiently running a major ironworks).

[20] See, *e.g.*, Carlos & Nicholas, Agency Problems in Early Chartered Companies: The Case of the Hudson's Bay Company, 50 J. Econ. Hist. 853, 853–875 (1990).

[21] Nor, so far as I can tell, were business method patents common in the United States in the brief period between independence and the creation of our Constitution—despite the fact that it was a time of great business innovation, including new processes for engaging in risky trade and transport, one of which has been called "the quintessential business innovation of the 1780s." T. Doerflinger, A Vigorous Spirit of

Early American Patent Law

At the Constitutional Convention, the Founders decided to give Congress a patent power so that it might "promote the Progress of . . . useful Arts." Art. I, §8, cl. 8. There is little known history of that Clause.[22] We do know that the Clause passed without objection or debate.[23] This is striking because other proposed powers, such as a power to grant charters of incorporation, generated discussion about the fear that they might breed "monopolies."[24] Indeed, at the ratification conventions, some States recommended amendments that would have prohibited Congress from granting "'exclusive advantages of commerce.'"[25] If the original understanding of the Patent

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Enterprise: Merchants and Economic Development in Revolutionary Philadelphia 291 (1986) (describing new methods of conducting and financing trade with China).

[22] See Seidel, The Constitution and a Standard of Patentability, 48 J. Pat. Off. Soc. 5, 10 (1966) (hereinafter Seidel); Walterscheid, To Promote the Progress of Science and Useful Arts: The Background and Origin of the Intellectual Property Clause of the United States Constitution, 2 J. Intell. Prop. L. 1, 26 (1994) (hereinafter Walterscheid, Background and Origin); Walterscheid, To Promote the Progress 59, and n. 12; Prager, A History of Intellectual Property From 1545 to 1787, 26 J. Pat. Off. Soc. 711, 746 (1944).

[23] Walterscheid, Background and Origin 26; 2 Records of the Federal Convention of 1787, pp. 509–510 (M. Farrand ed. 1966).

[24] J. Madison, Notes of Debates in the Federal Convention of 1787, pp. 638–639 (Ohio Univ. Press ed. 1966).

[25] See Walterscheid, Background and Origin 38, n. 124, 55–56 (collecting sources); see also The Objections of Hon. George Mason, One of the Delegates from Virginia, in the Late Continental Convention, to the Proposed Federal Constitution, Assigned as His Reasons For Not Signing the Same, 2 American Museum or Repository of Ancient and Modern Fugitive Pieces, etc. 534, 536 (1787) (reprint 1965); Ratification of the New Constitution by the Convention of the State of New York, 4 *id.,* at 153, 156 (1789); Remarks on the Amendments to the Federal Constitution Proposed by The Conventions of Massachusetts, New Hampshire, New York, Virginia, South and North Carolina, with the Minorities of Pennsylvania and Maryland by the Rev. Nicholas Collin,

Clause included the authority to patent methods of doing business, it might not have passed so quietly.

In 1790, Congress passed the first Patent Act, an "Act to promote the progress of useful Arts" that authorized patents for persons who had "invented or discovered any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used," if "the invention or discovery [was] sufficiently useful and important." 1 Stat. 109–110. Three years later, Congress passed the Patent Act of 1793 and slightly modified the language to cover "any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter." 1 Stat. 319.

The object of the constitutional patent power and the statutory authorization for process patents in the early patent Acts was the term "useful art." It is not evident from the face of the statutes or the Constitution whether the objects of the patent system were "arts" that are also useful, or rather a more specific category, the class of arts known as "useful arts." Cf. *Graham*, 383 U. S., at 12 (describing the "'new and useful' tests which have always existed in the statutory scheme" and apply to all categories of subject matter). However, we have generally assumed that "useful art," at least as it is used in the Patent Act, is itself a term of art. See *Burden*, 15 How., at 267–268.

The word "art" and the phrase "useful arts" are subject to many meanings. There is room on the margins to debate exactly what qualifies as either. There is room, moreover, to debate at what level of generality we should understand these broad and historical terms, given that "[a] rule that unanticipated inventions are without protection would conflict with the core concept of the patent

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D. D., 6 *id.,* at 303, 303.

law," *Chakrabarty*, 447 U. S., at 316. It appears, however, that regardless of how one construes the term "useful arts," business methods are not included.

Noah Webster's first American dictionary[26] defined the term "art" as the "disposition or modification of *things* by human skill, to answer the purpose intended," and differentiated between "useful or mechanic" arts, on the one hand, and "liberal or polite" arts, on the other. 1 An American Dictionary of the English Language (1828) (facsimile edition) (emphasis added). Although other dictionaries defined the word "art" more broadly,[27] Webster's definition likely conveyed a message similar to the meaning of the word "manufactures" in the earlier English statute. And we know that the term "useful arts" was used in the founding era to refer to manufacturing and similar applied trades.[28] See Coulter, The Field of the

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[26] Some scholars suggest that Webster's "close proximity to the Constitutional Convention coupled with his familiarity with the delegates makes it likely that he played some indirect role in the development" of the Constitution's Intellectual Property Clause—a Clause that established not only the power to create patents but also copyrights, a subject in which Webster had great interest. Donner, Copyright Clause of the U. S. Constitution: Why Did the Framers Include It With Unanimous Approval? 36 Am. J. Legal. Hist. 361, 372 (1992). But there is no direct evidence of this fact. See Walterscheid, Background and Origin 40–41.

[27] See, *e.g.*, 1 S. Johnson, Dictionary of the English Language (1773) (reprint 1978) (listing as definitions of an "art":"[t]he power of doing something not taught by nature and instinct," "[a] science; as, the liberal *arts*," "[a] trade," "[a]rtfulness; skill; dexterity," "[c]unning," and "[s]peculation"). One might question the breadth of these definitions. This same dictionary offered as an example of "doing something not taught by nature and instinct," the art of "dance"; and as an example of a "trade," the art of "making sugar." *Ibid.*

[28] For examples of this usage, see Book of Trades or Library of Useful Arts (1807) (describing in a three-volume work 68 trades, each of which is the means of creating a product, such as feather worker or cork cutter); 1 J. Bigelow, The Useful Arts Considered in Connexion with the Applications of Science (1840) (surveying a history of what we would

Statutory Useful Arts, 34 J. Pat. Off. Soc. 487, 493–500 (1952); see also Thomas, The Patenting of the Liberal Professions, 40 Boston College L. Rev. 1139, 1164 (1999) ("[The Framers of the Constitution] undoubtedly contemplated the industrial, mechanical and manual arts of the late eighteenth Century, in contrast to the seven 'liberal arts' and the four 'fine arts' of classical learning"). Indeed, just days before the Constitutional Convention, one delegate listed examples of American progress in "manufactures and the useful arts," all of which involved the creation or transformation of physical substances. See T. Coxe, An Address to an Assembly of the Friends of American Manufactures 17–18 (1787) (listing, *inter alia*, meal, ships, liquors, potash, gunpowder, paper, starch, articles of iron, stone work, carriages, and harnesses). Numerous scholars have suggested that the term "useful arts" was widely understood to encompass the fields that we would now describe as relating to technology or "technological arts."[29]

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today call mechanics, technology, and engineering). See also D. Defoe, A General History of Discoveries and Improvements, in Useful Arts (1727); T. Coxe, An Address to an Assembly of the Friends of American Manufactures 17–18 (1787); G. Logan, A Letter to the Citizens of Pennsylvania, on the Necessity of Promoting Agriculture, Manufactures, and the Useful Arts 12–13 (2d ed. 1800); W. Kenrick, An Address to the Artists and Manufacturers of Great Britain 21–38 (1774); cf. *Corning* v. *Burden*, 15 How. 252, 267 (1854) (listing the "arts of tanning, dyeing, making water-proof cloth, vulcanizing India rubber, [and] smelting ores").

[29] See, *e.g.*, 1 D. Chisum, Patents G1–23 (2010); Lutz, Patents and Science: A Clarification of the Patent Clause of the U. S. Constitution, 18 Geo. Wash. L. Rev. 50, 54 (1949–1950); Samuelson, *Benson* Revisited: The Case Against Patent Protection for Algorithms and Other Computer-Related Inventions, 39 Emory L. J. 1025, 1033, n. 24 (1990); Seidel 10, 13; see also *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U. S. 147, 154 (1950) (Douglas, J., concurring) (explaining that in the Framers' view, an "invention, to justify a patent, had to serve the ends of science—to push back the frontiers of chemis-

Thus, fields such as business and finance were not generally considered part of the "useful arts" in the founding Era. See, *e.g.*, The Federalist No. 8, p. 69 (C. Rossiter ed. 1961) (A. Hamilton) (distinguishing between "the arts of industry, and the science of finance"); 30 The Writings of George Washington 1745–1799, p. 186 (J. Fitzpatrick ed. 1939) (writing in a letter that "our commerce has been considerably curtailed," but "the useful arts have been almost imperceptible pushed to a considerable degree of perfection"). Indeed, the same delegate to the Constitutional Convention who gave an address in which he listed triumphs in the useful arts distinguished between those arts and the conduct of business. He explained that investors were now attracted to the "manufactures and the useful arts," much as they had long invested in "commerce, navigation, stocks, banks, and insurance companies." T. Coxe, A Statement of the Arts and Manufactures of the United States of America for the Year 1810, (1814), in 2 American State Papers, Finance 666, 688 (1832).

Some scholars have remarked, as did Thomas Jefferson, that early patent statutes neither included nor reflected any serious debate about the precise scope of patentable

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try, physics, and the like; to make a distinctive contribution to scientific knowledge"); *In re Waldbaum*, 457 F. 2d 997, 1003 (CCPA 1972) (Rich, J., concurring) ("'The phrase "technological arts," as we have used it, is synonymous with the phrase "useful arts" as it appears in Article I, Section 8 of the Constitution'"); *Paulik* v. *Rizkalla*, 760 F. 2d 1270, 1276 (CA Fed. 1985) (explaining that "useful arts" is "the process today called technological innovation"); Thomas, The Post-Industrial Patent System, 10 Fordham Intell. Prop. Media & Ent. L. J. 3, 32–55 (1999) (cataloguing early understandings of technological arts). This view may be supported, for example, by an 1814 grant to Harvard University to create a "Professorship on the Application of Science to the Useful Arts," something that today might be akin to applied science or engineering. See M. James, Engineering an Environment for Change: Bigelow, Peirce, and Early Nineteenth-Century Practical Education at Harvard, in Science at Harvard University: Historical Perspectives 59 (C. Elliott & M. Rossiter eds. 1992).

subject matter. See, *e.g.*, *Graham*, 383 U. S., at 9–10 (discussing Thomas Jefferson's observations). It has been suggested, however, that "[p]erhaps this was in part a function of an understanding—shared widely among legislators, courts, patent office officials, and inventors—about what patents were meant to protect. Everyone knew that manufactures and machines were at the core of the patent system." Merges, Property Rights for Business Concepts and Patent System Reform, 14 Berkeley Tech. L. J. 577, 585 (1999) (hereinafter Merges). Thus, although certain processes, such as those related to the technology of the time, might have been considered patentable, it is possible that "[a]gainst this background, it would have been seen as absurd for an entrepreneur to file a patent" on methods of conducting business. *Ibid.*

Development of American Patent Law

During the first years of the patent system, no patents were issued on methods of doing business.[30] Indeed, for some time, there were serious doubts as to "the patentability of processes per se," as distinct from the physical end product or the tools used to perform a process. *Id.,* at 581–582.[31]

Thomas Jefferson was the "'first administrator of our patent system'" and "the author of the 1793 Patent Act." *Graham*, 383 U. S., at 7. We have said that his "conclusions as to conditions of patentability . . . are worthy of note." *Ibid.* at 7. During his time administering the system, Jefferson "saw clearly the difficulty" of deciding what

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[30] See Walterscheid, To Promote the Progress 173–178; Pollack 107–108.

[31] These doubts ended by the time of *Cochrane* v. *Deener*, 94 U. S. 780 (1877), in which we held that "a process may be patentable irrespective of the particular form of the instrumentalities used," and therefore one may patent "an act, or series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing." *Id.*, at 788.

should be patentable.[32] *Id.*, at 9. He drafted the 1793 Act, *id.*, at 7, and, years later, explained that in that Act "'the whole was turned over to the judiciary, to be matured into a system, under which every one might know when his actions were safe and lawful,'" *id.*, at 10 (quoting Letter to Issac McPherson, in VI Writings of Thomas Jefferson 181–182 (H. Washington ed. 1861)). As the Court has explained, "Congress agreed with Jefferson . . . that the courts should develop additional conditions for patentability." *Graham,* 383 U. S., at 10. Thus "[a]lthough the Patent Act was amended, revised or codified some 50 times between 1790 and 1950, Congress steered clear" of adding statutory requirements of patentability. *Ibid.* For nearly 160 years, Congress retained the term "useful arts," see, *e.g.*, Act of July 4, 1836, ch. 357, 5 Stat. 117, leaving "wide latitude for judicial construction . . . to keep pace with industrial development," Berman, Method Claims, 17 J. Pat. Off. Soc. 713, 714 (1935) (hereinafter Berman).

Although courts occasionally struggled with defining what was a patentable "art" during those 160 years, they consistently rejected patents on methods of doing business. The rationales for those decisions sometimes varied. But there was an overarching theme, at least in dicta: Business methods are not patentable arts. See, *e.g.*, *United States Credit Sys. Co.* v. *American Credit Indem. Co.,* 53 F. 818, 819 (CC NY 1893) ("method of insuring against loss by bad debts" could not be patented "as an art"); *Hotel Security Checking Co.* v. *Lorraine Co.*, 160 F. 467, 469 (CA2 1908) ("A system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term,

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[32] A skeptic of patents, Jefferson described this as "drawing a line between things which are worth to the public the embarrassment of a patent, and those which are not." 13 Writings of Thomas Jefferson 335 (Memorial ed. 1904).

an art"); *Guthrie* v. *Curlett*, 10 F. 2d 725, 726 (CA2 1926) (method of abbreviating rail tariff schedules, "if it be novel, is not the kind of art protected by the patent acts"); *In re Patton*, 127 F. 2d 324, 327–328 (CCPA 1942) (holding that novel "'interstate and national fire-fighting system'" was not patentable because, *inter alia*, "a system of transacting business, apart from the means for carrying out such system is not" an art within the meaning of the patent law, "nor is an abstract idea or theory, regardless of its importance or . . . ingenuity"); *Loew's Drive-In Theatres, Inc.* v. *Park-In Theatres, Inc.*, 174 F. 2d 547, 552 (CA1 1949) ("[A] system for the transaction of business, such, for example, as the cafeteria system for transacting the restaurant business . . . however novel, useful, or commercially successful is not patentable apart from the means for making the system practically useful, or carrying it out"); *Joseph E. Seagram & Sons, Inc.* v. *Marzall*, 180 F. 2d 26, 28 (CADC 1950) (method of focus-group testing for beverages is not patentable subject matter); see also *In re Howard*, 394 F. 2d 869, 872 (CCPA 1968) (Kirkpatrick, J., concurring) (explaining that a "method of doing business" cannot be patented). Between 1790 and 1952, this Court never addressed the patentability of business methods. But we consistently focused the inquiry on whether an "art" was connected to a machine or physical transformation,[33] an inquiry that would have excluded methods of doing business.

By the early 20th century, it was widely understood that a series of steps for conducting business could not be patented. A leading treatise, for example, listed "'systems' of business" as an "unpatentable subjec[t]." 1 A. Deller,

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[33] See, *e.g.*, *Expanded Metal Co.* v. *Bradford*, 214 U. S. 366, 383, 385–386 (1909); *The Telephone Cases*, 126 U. S., at 533–537; *Cochrane*, 94 U. S., at 787–788; *Burden*, 15 How., at 267–268.

Walker on Patents §18, p. 62 (1937).[34] Citing many of the cases listed above, the treatise concluded that a "method of transacting business" is not an "'art.'" *Id.*, §22, at 69; see also L. Amdur, Patent Law and Practice §39, p. 53 (1935) (listing "Methods of doing business" as an "Unpatentable [A]r[t]"); Berman 718 ("[C]ases have been fairly unanimous in denying patentability to such methods"); Tew, Method of Doing Business, 16 J. Pat. Off. Soc. 607 (1934) ("It is probably settled by long practice and many precedents that 'methods of doing business,' as these words are generally understood, are unpatentable"). Indeed, "[u]ntil recently" it was still "considered well established that [business] methods were non-statutory." 1 R. Moy, Walker on Patents §5:28, p. 5–104 (4th ed. 2009).[35]

Modern American Patent Law

By the mid-1900's, many courts were construing the term "art" by using words such as "method, process, system, or like terms." Berman 713; see *Expanded Metal Co.* v. *Bradford*, 214 U. S. 366, 382 (1909) ("The word 'process' has been brought into the decisions because it is supposedly an equivalent form of expression or included in the

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[34] See also 1 A. Deller, Walker on Patents §26, p. 152 (2d ed. 1964) (A "'system' or method of transacting business is not [a process], nor does it come within any other designation of patentable subject matter").

[35] Although a few patents issued before 1952 that related to methods of doing business, see United States Patent and Trademark Office, Automated Financial or Management Data Processing Methods, online at http://www.uspto.gov/web/menu/busmethp/index.html (all Internet materials as visited June 26, 2010, and available in Clerk of Court's case file), these patents were rare, often issued through self-registration rather than any formalized patent examination, generally were not upheld by courts, and arguably are distinguishable from pure patents on business methods insofar as they often involved the manufacture of new objects. See *In re Bilski*, 545 F. 3d 943, 974, and n. 18 (CA Fed. 2008) (case below) (Dyk, J., concurring); Pollack 74–75; Walterscheid, To Promote the Progress 243.

statutory designation of a new and useful art").[36] Thus in 1952, when Congress updated the patent laws as part of its ongoing project to revise the United States Code, it changed the operative language in §101, replacing the term "art" with "process" and adding a definition of "process" as a "process, art or method," §100(b).

That change was made for clarity and did not alter the scope of a patentable "process." See *Diehr*, 450 U. S., at 184. The new terminology was added only in recognition of the fact that courts had been interpreting the category "art" by using the terms "process or method"; Congress thus wanted to avoid "the necessity of explanation that the word 'art' as used in this place means 'process or method.'" S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952) (hereinafter S. Rep. 1979); accord, H. R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952) (hereinafter H. R. Rep. 1923); see also *id.,* at 17 (explaining that "the word 'art'" in §101 "has been interpreted by the courts as being practically synonymous with process or method," and that the switch to the word "[p]rocess" was intended only for clarity).[37]

It appears that when Congress changed the language in §101 to incorporate the prevailing judicial terminology, it merely codified the prevailing judicial interpretation of that category of subject matter. See *Diehr*, 450 U. S., at 184; see also *Barber* v. *Gonzales*, 347 U. S. 637, 641 (1954) ("While it is true that statutory language should be interpreted whenever possible according to common usage, some terms acquire a special technical meaning by a process of judicial construction"). Both the Senate and House Committee Reports explained that the word "proc-

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[36] For examples of such usage, see *The Telephone Cases*, 126 U. S., at 533, and *Burden*, 15 How., at 267.

[37] See also 98 Cong. Rec. A415 (1952) (remarks of Rep. Bryson) (describing, after the fact, the 1952 Patent Act, and explaining that "[t]he word 'art' was changed to 'process' in order to clarify its meaning. No change in substance was intended").

ess" was used in §101 "to clarify the present law as to the patentability of certain types of processes or methods as to which some insubstantial doubts have been expressed." S. Rep. 1979, at 5; accord, H. Rep. 1923, at 6. And both noted that those terms were used to convey the prevailing meaning of the term "art," "as interpreted" by courts, S. Rep. 1979, at 17; accord, H. Rep. 1923, at 17. Indeed, one of the main drafters of the Act explained that the definition of the term "process" in §100(b) reflects "how the courts have construed the term 'art.' " Tr. of address by Judge Giles S. Rich to the New York Patent Law Association 7–8 (Nov. 6, 1952).

As discussed above, by this time, courts had consistently construed the term "art" to exclude methods of doing business. The 1952 Act likely captured that same meaning.[38] Cf. *Graham*, 383 U. S., at 16–17 (reasoning that because a provision of the 1952 Act "paraphrases language which has often been used in decisions of the courts" and was "added to the statute for uniformity and definiteness," that provision should be treated as "a codification of judicial precedents").[39] Indeed, Judge Rich, the main drafter

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[38]The 1952 Act also retained the language "invents or discovers," which by that time had taken on a connotation that would tend to exclude business methods. See B. Evans & C. Evans, A Dictionary of Contemporary Usage 137 (1957) (explaining that "discover; invent" means "to make or create something new, especially, in modern usage, something ingeniously devised to perform mechanical operations").

[39]As explained in Part II, *supra*, the Court engages in a Jekyll-and-Hyde form of interpretation with respect to the word "process" in §101. It rejects the interpretation I proffer because the words "process" and "method" do not, on their face, distinguish between different series of acts. *Ante*, at 10. But it also rejects many sorts of processes without a textual basis for doing so. See *ante*, at 4–5, 7, 12–15. And while the Courts rests a great deal of weight on *Parker* v. *Flook,* 437 U. S. 584 (1978), for its analysis of abstract ideas, the Court minimizes *Flook*'s rejection of "a purely literal reading of §101," as well as *Flook*'s reliance on the historical backdrop of §101 and our understanding of what "the statute was enacted to protect," *id.,* at 588–590, 593; see also *Diamond*

of the 1952 Act, later explained that "the invention of a more effective organization of the materials in, and the techniques of teaching a course in physics, chemistry, or Russian is not a patentable invention because it is outside of the enumerated categories of 'process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.'" Principles of Patentability, 28 Geo. Wash. L. Rev. 393, 394 (1960). "Also outside that group," he added, was a process for doing business: "the greatest inventio[n] of our times, the diaper service." *Ibid.*[40]

"Anything Under the Sun"

Despite strong evidence that Congress has consistently authorized patents for a limited class of subject matter and that the 1952 Act did not alter the nature of the then-existing limits, petitioners and their *amici* emphasize a single phrase in the Act's legislative history, which suggests that the statutory subject matter "'include[s] anything under the sun that is made by man.'" Brief for Petitioners 19 (quoting *Chakrabarty*, 447 U. S., at 309, in turn quoting S. Rep. 1979, at 5). Similarly, the Court relies on language from our opinion in *Chakrabarty* that was based in part on this piece of legislative history. See *ante*, at 4, 6.

This reliance is misplaced. We have never understood

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v. *Diehr*, 450 U. S. 175, 192 (1981) (explaining that a "claim satisfies the requirements of §101" when it "is performing a function which the patent laws were designed to protect").

[40] Forty years later, Judge Rich authored the *State Street* opinion that some have understood to make business methods patentable. But *State Street* dealt with whether a piece of software could be patented and addressed only claims directed at machines, not processes. His opinion may therefore be better understood merely as holding that an otherwise patentable process is not unpatentable simply because it is directed toward the conduct of doing business—an issue the Court has no occasion to address today. See *State Street,* 149 F. 3d, at 1375.

that piece of legislative history to mean that any series of steps is a patentable process. Indeed, if that were so, then our many opinions analyzing what is a patentable process were simply wastes of pages in the U. S. Reports. And to accept that errant piece of legislative history as widening the scope of the patent law would contradict other evidence in the congressional record, as well as our presumption that the 1952 Act merely codified the meaning of "process" and did not expand it, see *Diehr*, 450 U. S., at 184.

Taken in context, it is apparent that the quoted language has a far less expansive meaning. The full sentence in the Committee Reports reads: "A person may have 'invented' a machine or a manufacture, which may include anything under the sun that is made by man, but it is not necessarily patentable under section 101 unless the conditions of [this] title are fulfilled." S. Rep. 1979, at 5; H. R. Rep. 1923, at 6. Viewed as a whole, it seems clear that this language does not purport to explain that "anything under the sun" is patentable. Indeed, the language may be understood to state the exact opposite: that "[a] person may have 'invented' . . . anything under the sun," but that thing "is not necessarily patentable under section 101." Thus, even in the *Chakrabarty* opinion, which relied on this quote, we cautioned that the 1952 Reports did not "suggest that §101 has no limits or that it embraces every discovery." 447 U. S., at 309.

Moreover, even if the language in the Committee Reports was meant to flesh out the meaning of any portion of §101, it did not purport to define the term "process." The language refers only to "manufacture[s]" and "machine[s]," tangible objects "made by man." It does not reference the "process" category of subject matter (nor could a process be comfortably described as something "*made* by man"). The language may also be understood merely as defining the term "invents" in §101. As Judge Dyk explained in his

opinion below, the phrase "made by man" "is reminiscent" of a 1790's description of the limits of English patent law, that an "invention must be 'made by man'" and cannot be "'a philosophical principle only, neither organized or capable of being organized' from a patentable manufacture." 545 F. 3d, at 976 (quoting *Hornblower* v. *Boulton,* 8 T. R. 95, 98 (K. B. 1799)).

The 1952 Act, in short, cannot be understood as expanding the scope of patentable subject matter by suggesting that any series of steps may be patented as a "process" under §101. If anything, the Act appears to have codified the conclusion that subject matter which was understood not to be patentable in 1952 was to remain unpatentable.

Our recent case law reinforces my view that a series of steps for conducting business is not a "process" under §101. Since Congress passed the 1952 Act, we have never ruled on whether that Act authorizes patents on business methods. But we have cast significant doubt on that proposition by giving substantial weight to the machine-or-transformation test, as general methods of doing business do not pass that test. And more recently, Members of this Court have noted that patents on business methods are of "suspect validity." *eBay Inc.* v. *MercExchange, L. L. C.*, 547 U. S. 388, 397 (2006) (KENNEDY, J., concurring).

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Since at least the days of Assyrian merchants, people have devised better and better ways to conduct business. Yet it appears that neither the Patent Clause, nor early patent law, nor the current §101 contemplated or was publicly understood to mean that such innovations are patentable. Although it may be difficult to define with precision what is a patentable "process" under §101, the historical clues converge on one conclusion: A business method is not a "process." And to the extent that there is ambiguity, we should be mindful of our judicial role. "[W]e

must proceed cautiously when we are asked to extend patent rights" into an area that the Patent Act likely was not "enacted to protect," *Flook*, 437 U. S., at 596, 593, lest we create a legal regime that Congress never would have endorsed, and that can be repaired only by disturbing settled property rights.

V

Despite the strong historical evidence that a method of doing business does not constitute a "process" under §101, petitioners nonetheless argue—and the Court suggests in dicta, *ante*, at 10–11—that a subsequent law, the First Inventor Defense Act of 1999, "must be read together" with §101 to make business methods patentable. Brief for Petitioners 29. This argument utilizes a flawed method of statutory interpretation and ignores the motivation for the 1999 Act.

In 1999, following a Federal Circuit decision that intimated business methods could be patented, see *State Street*, 149 F. 3d 1368, Congress moved quickly to limit the potential fallout. Congress passed the 1999 Act, codified at 35 U. S. C. §273, which provides a limited defense to claims of patent infringement, see §273(b), regarding certain "method[s] of doing or conducting business," §273(a)(3).

It is apparent, both from the content and history of the Act, that Congress did not in any way ratify *State Street* (or, as petitioners contend, the broadest possible reading of *State Street*). The Act merely limited one potential effect of that decision: that businesses might suddenly find themselves liable for innocently using methods they assumed could not be patented. The Act did not purport to amend the limitations in §101 on eligible subject matter. Indeed, Congress placed the statute in Part III of Title 35, which addresses "Patents and Protection of Patent Rights," rather than in Part II, which contains §101 and

addresses "Patentability of Inventions and Grant of Patents." Particularly because petitioners' reading of the 1999 Act would expand §101 to cover a category of processes that have not "historically been eligible" for patents, *Diehr*, 450 U. S., at 184, we should be loath to conclude that Congress effectively amended §101 without saying so clearly. We generally presume that Congress "does not, one might say, hide elephants in mouseholes." *Whitman* v. *American Trucking Assns., Inc.*, 531 U. S. 457, 468 (2001).

The Act therefore is, at best, merely evidence of 1999 legislative views on the meaning of the earlier, 1952 Act. "[T]he views of a subsequent Congress," however, "form a hazardous basis for inferring the intent of an earlier one." *United States* v. *Price*, 361 U. S. 304, 313 (1960). When a later statute is offered as "an expression of how the . . . Congress interpreted a statute passed by another Congress . . . a half century before," "such interpretation has very little, if any, significance." *Rainwater* v. *United States*, 356 U. S. 590, 593 (1958).

Furthermore, even assuming that Congress' views at the turn of the 21st century could potentially serve as a valid basis for interpreting a statute passed in the mid-20th century, the First Inventor Defense Act does not aid petitioners because it does not show that the later Congress itself understood §101 to cover business methods. If anything, it shows that a few judges on the Federal Circuit understood §101 in that manner and that Congress understood what those judges had done. The Act appears to reflect surprise and perhaps even dismay that business methods might be patented. Thus, in the months following *State Street*, congressional authorities lamented that "business methods and processes . . . until recently were thought not to be patentable," H. R. Rep. No. 106–464, p. 121 (1999); accord, H. R. Rep. No. 106–287, pt. 1, p. 31

(1999).[41] The fact that Congress decided it was appropriate to create a new *defense* to claims that business method patents were being infringed merely demonstrates recognition that such claims could create a significant new problem for the business community.

The Court nonetheless states that the 1999 Act "acknowledges that there may be business method patents," thereby "clarify[ing]" its "understanding" of §101. *Ante*, at 11. More specifically, the Court worries that if we were to interpret the 1952 Act to exclude business methods, our interpretation "would render §273 meaningless." *Ibid.* I agree that "[a] statute should be construed so that effect is given to all its provisions." *Corley* v. *United States*, 556 U. S. ___, ___ (2009) (slip op., at 9) (internal quotation marks omitted). But it is a different matter altogether when the Court construes one statute, the 1952 Act, to give effect to a different statute, the 1999 Act. The canon on which the Court relies is predicated upon the idea that "[a] statute is passed as a whole." 2A N. Singer & J. Singer, Statutes and Statutory Construction §46:5, p. 189 (7th ed. 2007). But the two statutes in question were not passed as a whole.

Put another way, we ordinarily assume, quite sensibly, that Congress would not in one statute include two provisions that are at odds with each other. But as this case shows, that sensible reasoning can break down when

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[41] See also 145 Cong. Rec. 30985 (1999) (remarks of Sen. Schumer) (explaining that "[i]n *State Street,* the Court did away with the so-called 'business methods' exception to statutory patentable subject matter," and "[t]he first inventor defense will provide . . . important, needed protections in the face of the uncertainty presented by . . . the *State Street* case"); *id.,* at 31007 (remarks of Sen. DeWine) ("Virtually no one in the industry believed that these methods or processes were patentable"); *id.,* at 19281 (remarks of Rep. Manzullo) ("Before the State Street Bank and Trust case . . . it was universally thought that methods of doing or conducting business were not patentable items").

applied to different statutes.[42] The 1999 Act was passed to limit the impact of the Federal Circuit's then-recent statements on the 1952 Act. Although repudiating that judicial dictum (as we should) might effectively render the 1999 Act a nullity going forward, such a holding would not mean that it was a nullity when Congress enacted it. Section 273 may have been a technically unnecessary response to confusion about patentable subject matter, but it appeared necessary in 1999 in light of what was being discussed in legal circles at the time.[43] Consider the logical implications of the Court's approach to this question: If, tomorrow, Congress were to conclude that patents on business methods are so *important* that the special infringement defense in §273 ought to be abolished, and thus repealed that provision, this could paradoxically strengthen the case *against* such patents because there would no longer be a §273 that "acknowledges . . . business method patents," *ante*, at 11. That is not a sound method of statutory interpretation.

In light of its history and purpose, I think it obvious

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[42] The Court opines that "[t]his principle, *of course*, applies to interpreting any two provisions in the U. S. Code, even when Congress enacted the provisions at different times." *Ante*, at 11 (emphasis added). The only support the Court offers for this proposition is a 1937 opinion for three Justices, in *Hague* v. *Committee for Industrial Organization*, 307 U. S. 496, 528–530 (1939) (opinion of Stone, J.). But that opinion is inapposite. Although Justice Stone stated that two provisions "must be read together," *id.*, at 530, he did so to explain that an ambiguity in a later-in-time statute must be understood in light of the earlier-in-time framework against which the ambiguous statute was passed, *id.*, at 528–530, particularly because the later statute explicitly stated that it "shall not be construed to apply" to the provision created by an earlier Act, *id.*, at 528.

[43] I am not trying to "overcome" an "established rule of statutory interpretation" with "judicial speculation as to the subjective intent of various legislators," *ante*, at 11, but, rather, I am explaining why the Court has illogically expanded the canon upon which it relies beyond that canon's logical underpinnings.

that the 1999 Congress would never have enacted §273 if it had foreseen that this Court would rely on the provision as a basis for concluding that business methods are patentable. Section 273 is a red herring; we should be focusing our attention on §101 itself.

VI

The constitutionally mandated purpose and function of the patent laws bolster the conclusion that methods of doing business are not "processes" under §101.

The Constitution allows Congress to issue patents "[t]o promote the Progress of . . . useful Arts," Art. I, §8, cl. 8. This clause "is both a grant of power and a limitation." *Graham*, 383 U. S., at 5. It "reflects a balance between the need to encourage innovation and the avoidance of monopolies which stifle competition without any concomitant advance in the 'Progress of Science and useful Arts.'" *Bonito Boats,* 489 U. S., at 146. "This is the standard expressed in the Constitution and it may not be ignored. And it is in this light that patent validity 'requires reference to [the] standard written into the Constitution.'" *Graham*, 383 U. S., at 6 (quoting *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U. S. 147, 154 (1950) (Douglas, J., concurring) (emphasis deleted)); see also *Grant* v. *Raymond*, 6 Pet. 218, 241–242 (1832) (explaining that patent "laws which are passed to give effect to this [constitutional] purpose ought, we think, to be construed in the spirit in which they have been made").[44]

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[44] See also *Quanta Computer, Inc.* v. *LG Electronics, Inc.*, 553 U. S. 617, 626 (2008) ("'[T]he primary purpose of our patent laws is not the creation of private fortunes for the owners of patents but is "to promote the progress of science and useful arts"'" (quoting *Motion Picture Patents Co.* v. *Universal Film Mfg. Co.*, 243 U. S. 502, 511 (1917))); *Pfaff* v. *Wells Electronics, Inc.*, 525 U. S. 55, 63 (1998) ("[T]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in

Thus, although it is for Congress to "implement the stated purpose of the Framers by selecting the policy which in its judgment best effectuates the constitutional aim," *Graham*, 383 U. S., at 6, we interpret ambiguous patent laws as a set of rules that "wee[d] out those inventions which would not be disclosed or devised but for the inducement of a patent," *id.*, at 11, and that "embod[y]" the "careful balance between the need to promote innovation and the recognition that imitation and refinement through imitation are both necessary to invention itself and the very lifeblood of a competitive economy," *Bonito Boats*, 489 U. S., at 146. And absent a discernible signal from Congress, we proceed cautiously when dealing with patents that press on the limits of the "'standard written into the constitution,'" *Graham*, 383 U. S., at 6, for at the "fringes of congressional power," "more is required of legislatures than a vague delegation to be filled in later," *Barenblatt* v. *United States*, 360 U. S. 109, 139–140 (1959) (Black, J., dissenting); see also *Greene* v. *McElroy*, 360 U. S. 474, 507 (1959) ("[D]ecisions of great constitutional import and effect" "requir[e] careful and purposeful consideration by those responsible for enacting and implementing our laws"). We should not casually risk exceeding the constitutional limitation on Congress' behalf.

The Court has kept this "constitutional standard" in mind when deciding what is patentable subject matter under §101. For example, we have held that no one can patent "laws of nature, natural phenomena, and abstract ideas." *Diehr*, 450 U. S., at 185. These "are the basic tools of scientific and technological work," *Benson*, 409 U. S., at 67, and therefore, if patented, would stifle the very progress that Congress is authorized to promote, see, *e.g.*, *O'Reilly*, 15 How., at 113 (explaining that Morse's patent on electromagnetism for writing would preempt a wide

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technology").

swath of technological developments).

Without any legislative guidance to the contrary, there is a real concern that patents on business methods would press on the limits of the "standard expressed in the Constitution," *Graham*, 383 U. S., at 6, more likely stifling progress than "promot[ing]" it. U. S. Const., Art. I, §8, cl. 8. I recognize that not all methods of doing business are the same, and that therefore the constitutional "balance," *Bonito Boats,* 489 U. S., at 146, may vary within this category. Nevertheless, I think that this balance generally supports the historic understanding of the term "process" as excluding business methods. And a categorical analysis fits with the purpose, as Thomas Jefferson explained, of ensuring that "'every one might know when his actions were safe and lawful,'" *Graham*, 383 U. S., at 10; see also *Festo Corp.* v. *Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U. S. 722, 730–731 (2002) ("The monopoly is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress"); *Diehr*, 450 U. S., at 219 (STEVENS, J., dissenting) (it is necessary to have "rules that enable a conscientious patent lawyer to determine with a fair degree of accuracy" what is patentable).

On one side of the balance is whether a patent monopoly is necessary to "motivate the innovation," *Pfaff* v. *Wells Electronics, Inc.,* 525 U. S. 55, 63 (1998). Although there is certainly disagreement about the need for patents, scholars generally agree that when innovation is expensive, risky, and easily copied, inventors are less likely to undertake the guaranteed costs of innovation in order to obtain the mere possibility of an invention that others can copy.[45] Both common sense and recent economic scholarship suggest that these dynamics of cost, risk, and reward

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[45] See generally W. Landes & R. Posner, The Economic Structure of Intellectual Property Law 13–15 (2003).

vary by the type of thing being patented.[46] And the functional case that patents promote progress generally is stronger for subject matter that has "historically been eligible to receive the protection of our patent laws," *Diehr*, 450 U. S., at 184, than for methods of doing business.

Many have expressed serious doubts about whether patents are necessary to encourage business innovation.[47] Despite the fact that we have long assumed business methods could not be patented, it has been remarked that "the chief business of the American people, is business."[48] Federal Express developed an overnight delivery service and a variety of specific methods (including shipping through a central hub and online package tracking) without a patent. Although counterfactuals are a dubious form of analysis, I find it hard to believe that many of our entrepreneurs forwent business innovation because they could not claim a patent on their new methods.

"[C]ompanies have ample incentives to develop business methods even without patent protection, because the competitive marketplace rewards companies that use more efficient business methods." Burk & Lemley 1618.[49] Innovators often capture advantages from new business methods notwithstanding the risk of others copying their innovation. Some business methods occur in secret and

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[46] See, *e.g.*, Burk & Lemley, Policy Levers in Patent Law, 89 Va. L. Rev. 1575, 1577–1589 (2003) (hereinafter Burk & Lemley).

[47] See, *e.g.*, Burk & Lemley 1618; Carrier, Unraveling the Patent-Antitrust Paradox, 150 U. Pa. L. Rev. 761, 826 (2002) (hereinafter Carrier); Dreyfuss, Are Business Methods Patents Bad for Business? 16 Santa Clara Computer & High Tech. L. J. 263, 274–277 (2000) (hereinafter Dreyfuss); Posner, The Law and Economics of Intellectual Property, 131 Daedalus 5 (Spring 2002).

[48] C. Coolidge, The Press Under a Free Government, in Foundations of the Republic: Speeches and Addresses 187 (1926).

[49] See also Pollack 75–76 ("Since business methods are 'useful' when they directly earn revenue, they are inherently unlikely to be underproduced").

therefore can be protected with trade secrecy.[50] And for those methods that occur in public, firms that innovate often capture long-term benefits from doing so, thanks to various first mover advantages, including lockins, branding, and networking effects.[51] Business innovation, moreover, generally does not entail the same kinds of risk as does more traditional, technological innovation. It generally does not require the same "enormous costs in terms of time, research, and development," *Bicron*, 416 U. S., at 480, and thus does not require the same kind of "compensation to [innovators] for their labor, toil, and expense," *Seymour* v. *Osborne*, 11 Wall. 516, 533–544 (1871).[52]

Nor, in many cases, would patents on business methods promote progress by encouraging "public disclosure." *Pfaff*, 525 U. S., at 63; see also *Brenner* v. *Manson*, 383 U. S. 519, 533 (1966) ("[O]ne of the purposes of the patent system is to encourage dissemination of information concerning discoveries and inventions"). Many business methods are practiced in public, and therefore a patent does not necessarily encourage the dissemination of anything not already known. And for the methods practiced in private, the benefits of disclosure may be small: Many such methods are distributive, not productive—that is, they do not generate any efficiency but only provide a means for competitors to one-up each other in a battle for pieces of the pie. And as the Court has explained, "it is

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[50] See R. Levin et al., Appropriating the Returns from Industrial Research and Development, in 3 Brookings Papers on Econ. Activity 794–795 (1987).

[51] See Burk & Lemley 1618; Dreyfuss 275; see generally Carrier 821–823. Concededly, there may some methods of doing business that do not confer sufficient first-mover advantages. See Abramowicz & Duffy, Intellectual Property for Market Experimentation, 83 N. Y. U. L. Rev. 337, 340–342 (2008).

[52] See Burk & Lemley 1618; Carrier 826; Olson, Taking the Utilitarian Basis for Patent Law Seriously: The Case For Restricting Patentable Subject Matter, 82 Temp. L. Rev. 181, 231 (2009).

hard to see how the public would be benefited by disclosure" of certain business tools, since the nondisclosure of these tools "encourages businesses to initiate new and individualized plans of operation," which "in turn, leads to a greater variety of business methods." *Bicron*, 416 U. S., at 483.

In any event, even if patents on business methods were useful for encouraging innovation and disclosure, it would still be questionable whether they would, on balance, facilitate or impede the progress of American business. For even when patents encourage innovation and disclosure, "*too much* patent protection can impede rather than 'promote the Progress of . . . useful Arts.'" *Laboratory Corp. of America Holdings* v. *Metabolite Laboratories, Inc.*, 548 U. S. 124, 126–127 (2006) (BREYER, J., dissenting from dismissal of certiorari). Patents "can discourage research by impeding the free exchange of information," for example, by forcing people to "avoid the use of potentially patented ideas, by leading them to conduct costly and time-consuming searches of existing or pending patents, by requiring complex licensing arrangements, and by raising the costs of using the patented" methods. *Id.*, at 127. Although "[e]very patent is the grant of a privilege of exacting tolls from the public," *Great Atlantic*, 340 U. S., at 154 (Douglas, J., concurring), the tolls of patents on business methods may be especially high.

The primary concern is that patents on business methods may prohibit a wide swath of legitimate competition and innovation. As one scholar explains, "it is useful to conceptualize knowledge as a pyramid: the big ideas are on top; specific applications are at the bottom." Dreyfuss 275. The higher up a patent is on the pyramid, the greater the social cost and the greater the hindrance to further innovation.[53] Thus, this Court stated in *Benson*

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[53] See Dreyfuss 276; Merges & Nelson, On the Complex Economics of

that "[p]henomena of nature . . . , mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work," 409 U. S., at 67; see also, *Joseph E. Seagram & Sons, Inc.*, 180 F. 2d, at 28 ("To give appellant a monopoly, through the issuance of a patent, upon so great an area . . . would in our view impose without warrant of law a serious restraint upon the advance of science and industry"). Business methods are similarly often closer to "big ideas," as they are the basic tools of *commercial* work. They are also, in many cases, the basic tools of further business innovation: Innovation in business methods is often a sequential and complementary process in which imitation may be a "*spur* to innovation" and patents may "become an *impediment*." Bessen & Maskin, Sequential Innovation, Patents, and Imitation, 40 RAND J. Econ. 611, 613 (2009).[54] "Think how the airline industry might now be structured if the first company to offer frequent flyer miles had enjoyed the sole right to award them." Dreyfuss 264. "[I]mitation and refinement through imitation are both necessary to invention itself and the very lifeblood of a competitive economy." *Bonito Boats*, 489 U. S., at 146.

If business methods could be patented, then many business decisions, no matter how small, could be *potential* patent violations. Businesses would either live in constant fear of litigation or would need to undertake the costs of searching through patents that describe methods of doing business, attempting to decide whether their innovation is one that remains in the public domain. See Long, Information Costs in Patent and Copyright, 90 Va. L. Rev. 465,

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Patent Scope, 90 Colum. L. Rev. 839, 873–878 (1990).

[54] See also Raskind, The *State Street Bank* Decision, The Bad Business of Unlimited Patent Protection for Methods of Doing Business, 10 Fordham Intell. Prop. Media & Ent. L. J. 61, 102 (1999) ("Interactive emulation more than innovation is the driving force of business method changes").

487–488 (2004) (hereinafter Long). But as we have long explained, patents should not "embaras[s] the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to lawsuits and vexatious accountings for profits made in good faith." *Atlantic Works* v. *Brady*, 107 U. S. 192, 200 (1883).[55]

These effects are magnified by the "potential vagueness" of business method patents, *eBay Inc.*, 547 U. S., at 397 (KENNEDY, J., concurring). When it comes to patents, "clarity is essential to promote progress." *Festo Corp.*, 535 U. S., at 730–731. Yet patents on methods of conducting business generally are composed largely or entirely of intangible steps. Compared to "the kinds of goods . . . around which patent rules historically developed," it thus tends to be more costly and time consuming to search through, and to negotiate licenses for, patents on business methods. See Long 539, 470.[56]

The breadth of business methods, their omnipresence in our society, and their potential vagueness also invite a particularly pernicious use of patents that we have long criticized. As early as the 19th century, we explained that the patent laws are not intended to "creat[e] a class of

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[55] There is substantial academic debate, moreover, about whether the normal process of screening patents for novelty and obviousness can function effectively for business methods. The argument goes that because business methods are both vague and not confined to any one industry, there is not a well-confined body of prior art to consult, and therefore many "bad" patents are likely to issue, a problem that would need to be sorted out in later litigation. See, *e.g.*, Dreyfuss 268–270; Eisenberg, Analyze This: A Law and Economics Agenda for the Patent System, 53 Vand. L. Rev. 2081, 2090 (2000); Merges 589–590.

[56] See also J. Bessen & M. Meurer, Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk 46–72 (2008) (hereinafter Bessen & Meurer); P. Menell & S. Scotchmer, Intellectual Property Law, in 2 Handbook of Law and Economics 1500–1501, 1506 (M. Polinsky & S. Shavell eds. 2007). Concededly, alterations in the remedy structure, such as the First Inventor Defense Act of 1999, §4301 *et seq.,* 113 Stat. 1536, codified at 35 U. S. C. §273, mitigate these costs.

speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the arts." *Atlantic Works*, 107 U. S., at 200. Yet business method patents may have begun to do exactly that. See *eBay Inc.*, 547 U. S., at 396–397 (opinion of KENNEDY, J.).

These many costs of business method patents not only may stifle innovation, but they are also likely to "stifle competition," *Bonito Boats,* 489 U. S., at 146. Even if a business method patent is ultimately held invalid, patent holders may be able to use it to threaten litigation and to bully competitors, especially those that cannot bear the costs of a drawn out, fact-intensive patent litigation.[57] That can take a particular toll on small and upstart businesses.[58] Of course, patents always serve as a barrier to competition for the type of subject matter that is patented. But patents on business methods are patents on business itself. Therefore, unlike virtually every other category of patents, they are by their very nature likely to depress the dynamism of the marketplace.[59]

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[57] See generally Farrell & Shapiro, How Strong Are Weak Patents? 98 Amer. Econ. Rev. 1347 (2008); Meurer, Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation, 44 Boston College L. Rev. 509 (2003); Moore, Populism and Patents, 82 N. Y. U. L. Rev. 69, 90–91 (2007).

[58] See Bessen & Meurer 176; Lessig, The Death of Cyberspace, 57 Wash. & Lee L. Rev. 337, 346–347 (2000).

[59] Congress and the courts have worked long and hard to create and administer antitrust laws that ensure businesses cannot prevent each other from competing vigorously. If methods of conducting business were themselves patentable, then virtually any novel, nonobvious business method could be granted a federally protected monopoly. The tension this might create with our antitrust regime provides yet another reason for skepticism that Congress would have wanted the patent laws to extend to business methods.

* * *

The constitutional standard for patentability is difficult to apply with any precision, and Congress has significant discretion to "implement the stated purpose of the Framers by selecting the policy which in its judgment best effectuates the constitutional aim," *Graham*, 383 U. S., at 6. But Congress has not, either explicitly or implicitly, determined that patents on methods of doing business would effectuate this aim. And as I understand their practical consequences, it is hard to see how they would.

VII

The Constitution grants to Congress an important power to promote innovation. In its exercise of that power, Congress has established an intricate system of intellectual property. The scope of patentable subject matter under that system is broad. But it is not endless. In the absence of any clear guidance from Congress, we have only limited textual, historical, and functional clues on which to rely. Those clues all point toward the same conclusion: that petitioners' claim is not a "process" within the meaning of §101 because methods of doing business are not, in themselves, covered by the statute. In my view, acknowledging as much would be a far more sensible and restrained way to resolve this case. Accordingly, while I concur in the judgment, I strongly disagree with the Court's disposition of this case.

SUPREME COURT OF THE UNITED STATES

No. 08–964

BERNARD L. BILSKI AND RAND A. WARSAW, PETITIONERS *v.* DAVID J. KAPPOS, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR, PATENT AND TRADEMARK OFFICE

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

[June 28, 2010]

JUSTICE BREYER, with whom JUSTICE SCALIA joins as to Part II, concurring in the judgment.

I

I agree with JUSTICE STEVENS that a "general method of engaging in business transactions" is not a patentable "process" within the meaning of 35 U. S. C. §101. *Ante,* at 2 (STEVENS, J., concurring in judgment). This Court has never before held that so-called "business methods" are patentable, and, in my view, the text, history, and purposes of the Patent Act make clear that they are not. *Ante*, at 10–47. I would therefore decide this case on that ground, and I join JUSTICE STEVENS' opinion in full.

I write separately, however, in order to highlight the substantial *agreement* among many Members of the Court on many of the fundamental issues of patent law raised by this case. In light of the need for clarity and settled law in this highly technical area, I think it appropriate to do so.

II

In addition to the Court's unanimous agreement that the claims at issue here are unpatentable abstract ideas, it is my view that the following four points are consistent

with both the opinion of the Court and JUSTICE STEVENS' opinion concurring in the judgment:

First, although the text of §101 is broad, it is not without limit. See *ante*, at 4–5 (opinion of the Court); *ante,* at 10 (STEVENS, J., concurring in judgment). "[T]he underlying policy of the patent system [is] that 'the things which are worth to the public the embarrassment of an exclusive patent,' . . . must outweigh the restrictive effect of the limited patent monopoly." *Graham* v. *John Deere Co. of Kansas City*, 383 U. S. 1, 10–11 (1966) (quoting Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813), in 6 Writings of Thomas Jefferson 181 (H. Washington ed.)). The Court has thus been careful in interpreting the Patent Act to "determine not only what is protected, but also what is free for all to use." *Bonito Boats, Inc.* v. *Thunder Craft Boats, Inc.*, 489 U. S. 141, 151 (1989). In particular, the Court has long held that "[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable" under §101, since allowing individuals to patent these fundamental principles would "wholly pre-empt" the public's access to the "basic tools of scientific and technological work." *Gottschalk* v. *Benson*, 409 U. S. 63, 67, 72 (1972); see also, *e.g., Diamond* v. *Diehr*, 450 U. S. 175, 185 (1981); *Diamond* v. *Chakrabarty*, 447 U. S. 303, 309 (1980).

Second, in a series of cases that extend back over a century, the Court has stated that "[t]ransformation 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." *Diehr*, *supra*, at 184 (emphasis added; internal quotation marks omitted); see also, *e.g., Benson*, *supra*, at 70; *Parker* v. *Flook*, 437 U. S. 584, 588, n. 9 (1978); *Cochrane* v. *Deener*, 94 U. S. 780, 788 (1877). Application of this test, the so-called "machine-or-transformation test," has thus repeatedly helped the Court to determine what is "a patentable 'process.'" *Flook*, *supra,*

at 589.

Third, while the machine-or-transformation test has always been a "useful and important clue," it has never been the "sole test" for determining patentability. *Ante,* at 8; see also *ante,* at 1 (STEVENS, J., concurring in judgment); *Benson*, *supra*, at 71 (rejecting the argument that "no process patent could ever qualify" for protection under §101 "if it did not meet the [machine-or-transformation] requirements"). Rather, the Court has emphasized that a process claim meets the requirements of §101 when, "considered as a whole," it "is performing a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing)." *Diehr*, *supra,* at 192. The machine-or-transformation test is thus an *important example* of how a court can determine patentability under §101, but the Federal Circuit erred in this case by treating it as the *exclusive test*.

Fourth, although the machine-or-transformation test is not the only test for patentability, this by no means indicates that anything which produces a "'useful, concrete, and tangible result,'" *State Street Bank & Trust Co.* v. *Signature Financial Group, Inc.,* 149 F. 3d 1368, 1373 (CA Fed. 1998), is patentable. "[T]his Court has never made such a statement and, if taken literally, the statement would cover instances where this Court has held the contrary." *Laboratory Corp. of America Holdings* v. *Metabolite Laboratories, Inc.*, 548 U. S. 124, 136 (2006) (BREYER, J., dissenting from dismissal of certiorari as improvidently granted); see also, *e.g.*, *O'Reilly* v. *Morse*, 15 How. 62, 117 (1854); *Flook*, *supra*, at 590. Indeed, the introduction of the "useful, concrete, and tangible result" approach to patentability, associated with the Federal Circuit's *State Street* decision, preceded the granting of patents that "ranged from the somewhat ridiculous to the truly absurd." *In re Bilski*, 545 F. 3d 943, 1004 (CA Fed. 2008) (Mayer, J., dissenting) (citing patents on, *inter alia*, a

"method of training janitors to dust and vacuum using video displays," a "system for toilet reservations," and a "method of using color-coded bracelets to designate dating status in order to limit 'the embarrassment of rejection'"); see also Brief for Respondent 40–41, and n. 20 (listing dubious patents). To the extent that the Federal Circuit's decision in this case rejected that approach, nothing in today's decision should be taken as disapproving of that determination. See *ante*, at 16; *ante*, at 2, n. 1 (STEVENS, J., concurring in judgment).

In sum, it is my view that, in reemphasizing that the "machine-or-transformation" test is not necessarily the *sole* test of patentability, the Court intends neither to de-emphasize the test's usefulness nor to suggest that many patentable processes lie beyond its reach.

III

With these observations, I concur in the Court's judgment.