



2011

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Recommended Citation

Donald S. Chisum, *Patenting Intangible Methods: Revisiting Benson (1972) after Bilski (2010)*, 27 SANTA CLARA HIGH TECH. L.J. 445 (2010).

Available at: <http://digitalcommons.law.scu.edu/chtlj/vol27/iss2/5>

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ESSAY

Patenting Intangible Methods: Revisiting *Benson* (1972) After *Bilski* (2010)

Donald S. Chisum †

Abstract

The 2010 Bilski decision on business method patents and intangible methods expressly relies on a trilogy of cases, Benson (1972), Flook (1978) and Diehr (1981). In light of that reliance, it is important to review the 1972 Benson decision in its technological, industrial and legal context. Benson ruled that a presumptively novel algorithm on number conversion useful for computer programming was unpatentable. It postulated without analysis or factual support that algorithms were “ideas.” It then ruled that the claims in question were unpatentable because they covered all practical applications of the algorithm (idea). This essay shows that Benson was driven not by any sound policy analysis but rather by an anti-patent bias prevalent in the 1960s and 1970s and by the interests of the then-dominant computer hardware company (IBM), which was opposed to the creation of an independent software industry.

For its core holding in the 2010 *Bilski* decision on patent eligible subject matter,¹ the Supreme Court relies on its own precedent, primarily a hoary trilogy of cases,² *Benson* (1972),³ *Flook* (1978)⁴ and *Diehr* (1981).⁵ Given that reliance, it is wise to revisit those cases, especially *Benson*.

In the trilogy, the 1972 *Benson* decision is the most significant, and not merely because it was first. *Benson* held that claims to a

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1. *Bilski v. Kappos*, 130 S. Ct. 3218 (2010).
2. For a plenary discussion of each case, see 1 DONALD S. CHISUM, CHISUM ON PATENTS §§ 1.03[6][c], 1.03[6][e], 1.03[6][g] (2010).
3. *Gottschalk v. Benson*, 409 U.S. 63 (1972).
4. *Parker v. Flook*, 437 U.S. 584 (1978).
5. *Diamond v. Diehr*, 450 U. S. 175 (1981).

presumptively novel and useful algorithm, a step-by-step procedure for converting one form of numbers (binary-coded) into another form (binary), were unpatentable because the claims preempted an “idea.”⁶ The Court equated (questionably) an algorithm with an “idea.”⁷ The Court’s opinion suggested, in dictum, that computer programs would not be patentable unless Congress made an affirmative decision that they should be.⁸

The two subsequent cases in the trilogy involved a divided Court extending *Benson* (in *Flook*) and then limiting it (in *Diehr*).

Bilski closely tracks *Benson* by reasoning that the claims at issue, which were to a commodities hedging method, were to the “concept of hedging” and were bad because they “preempted” that concept and were, therefore, for unpatentable “abstract ideas.”⁹

Benson is a failure.¹⁰ The failure is perpetuated in *Bilski* by deadlock in the Supreme Court. The persistence of controversy over the patentability of software for thirty-eight years and the inability of a majority in the Supreme Court to provide significant guidance on the patentability of intangible methods verify the weakness of *Benson*’s reasoning. The vagueness of the reasoning in *Benson* temporarily served the interests of those opposed to software patenting, but in the long run, *Benson* served no one’s interest, certainly not the public interest. Its ambiguity allowed software patent proponents to subvert any bar that software patent opponents desired. The ambiguity also deterred legitimate inventors of software-implemented inventions from applying for patent protection.

Of importance to understanding *Benson* is its historical context. The context has technological, industrial and legal dimensions.

As of 1972, intellectual property protection for computer software technology was in a state of uncertainty. At the time, hardware technology, for example, that relating to processors and memory storage, was progressing down the road of miniaturization and ever increasing speed.¹¹ In the 1950s, digital computers were built using vacuum tubes and took up entire buildings.¹² They had

6. *Benson*, 409 U.S. at 72-73.

7. *See id.*

8. *See id.*

9. *Bilski v. Kappos*, 130 S. Ct. 3218, 3222 (2010).

10. For a detailed critique of the Court’s reasoning in *Benson*, see Donald S. Chisum, *The Patentability of Algorithms*, 47 U. PITT. L. REV. 959 (1986).

11. *See SIVARAMA P. DANDAMUDI, FUNDAMENTALS OF COMPUTER ORGANIZATION AND DESIGN* 31-33 (2003).

12. *See generally* ALEXIS LEON ET AL., *INTRODUCTION TO COMPUTERS* 5.3-5.5 (1999).

less computing power than a 2010 handheld device such as an iPhone.¹³

During World War II, coordinated research fostered the basic technologies for programmed digital computing.¹⁴ After the War, large companies in the United States competed for the computing market, including Sperry Rand, Honeywell, RCA, NCR, Burroughs, Control Data, GE, Philco-Ford, and IBM.¹⁵ This struggle for the computing market included litigation over patents. A landmark was a 1973 decision on the “Eckert-Mauchly” patent, which was based on the “ENIAC” (electronic numerical integrator and computer).¹⁶ From this competition, IBM emerged dominant, the dominance stemming more from IBM’s marketing prowess than its technological achievements.¹⁷

Through the 1960s, programming (software) for the giant computers was perceived as a *service* that a computer vendor, such as IBM, would provide so as to adapt a computer system to a customer’s particular needs.¹⁸ There was essentially no distinct software industry or market, and it was not in the interest of the vendors that there be one.¹⁹ A big vendor did not relish being subject to copyright or patent claims by smaller companies and independent inventors.²⁰ Hence, in that era, IBM opposed both copyright and patent protection for software. Subsequently, as its interests changed, IBM changed its positions. In a dispute with a Japanese rival, Fujitsu, over mainframe computer operating systems, IBM championed copyright protection for software in the United States and around the world.²¹ With its development of the “PC” personal computer, IBM pursued patents on

13. See generally DANDAMUDI, *supra* note 11, at 31-34.

14. See generally KENNETH FLAMM, *CREATING THE COMPUTER: GOVERNMENT, INDUSTRY, AND HIGH TECHNOLOGY* 11-20 (1988).

15. See *id.* at 101-05.

16. See *Honeywell Inc. v. Sperry Rand Corp.*, 180 U.S.P.Q. 673 (D. Minn. 1973) (concerning U.S. Patent No. 3,120,606 (filed June 26, 1947)). For a discussion of the *Honeywell* litigation, see 6 DONALD S. CHISUM, *CHISUM ON PATENTS* § 18.07[6][c][i] (2010).

17. See FLAMM, *supra* note 14, at 103.

18. See generally Thomas Haigh, *Software in the 1960s as Concept, Service, and Product*, 24 IEEE ANNALS OF THE HIST. OF COMPUTING 5, 5-13 (2002).

19. See generally *id.*

20. See Donald R. Dunner et al., *Nonstatutory Subject Matter*, 14 JURIMETRICS J. 113, 118 (1973).

21. See Anita Stork, *The Use of Arbitration in Copyright Disputes: IBM v. Fujitsu*, 3 HIGH TECH. L.J. 241, 243, 254, 256-57 (1988) (“IBM did not register copyright protection on its operating system software until 1978, the year the National Commission on New Technological Uses of Copyrighted Works (CONTU) recommended that copyright protection be extended to computer programs.”) (internal citations omitted).

the PC system and successfully licensed them.²²

Pre-1972, policy and practice in the Patent Office favored IBM's no-patents-on-software position.²³ Supporting the position was a recommendation in 1966 by a "President's Commission on the Patent System."²⁴

The Benson algorithm patent application arose from the activities of one of the few large, non-vendor entities doing independent research that would be applicable to computer programming: Bell Laboratories of AT&T (American Telephone and Telegraph, the then telephone monopoly).²⁵ Consistent with its policy, the Patent Office rejected the application.²⁶ The rejection of two claims (Claim 8 and Claim 13) was appealed to the Court of Customs and Patent Appeals (CCPA).²⁷

Meanwhile, in the 1969 to 1971 time frame, the CCPA had been moving in a direction opposite that of the Patent Office, issuing decisions disapproving of non-statutory *per se* exclusions from patentability, including the exclusion of claims to "mental steps."²⁸

22. See *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1328 (Fed. Cir. 2009) (describing a licensing agreement concerning IBM's "patent portfolio protecting its one-time dominance in the personal computer market" and noting that, in 1988, "conventional wisdom instructed that selling IBM clones required a license to IBM's patent portfolio").

23. See *In re Benson*, 441 F.2d 682, 686 (C.C.P.A. 1971) (describing the Patent Office's "blanket policy"), *rev'd sub nom.* *Gottschalk v. Benson*, 409 U.S. 63 (1972).

24. PRESIDENT'S COMMISSION ON THE PATENT SYSTEM, TO PROMOTE THE PROGRESS OF USEFUL ARTS, REPORT TO THE SENATE JUDICIARY COMMITTEE, S. DOC. NO. 5, 90th Cong., (1st Sess. 1967), Recommendation IV.

25. In attempting to patent the Benson-Tabbot algorithm, Bell Labs lost in the Supreme Court. It had mixed results in its pursuit of patent protection in Europe. See, e.g., *Patent Act (PatG), Sec. 1 - "BCD Conversion,"* 5 INT'L REV. INDUS. PROP. & COPYRIGHT L. 211, 211-16 (1974) (summarizing a German Federal Patent Court decision); Birgitt A. Pagenburg, *Patentability of Computer Programs on the National and International Level*, 5 INT'L REV. INDUS. PROP. & COPYRIGHT L. 1 (1974); Friedrich-Karl Beier, *Future Problems of Patent Law*, 3 INT'L REV. INDUS. PROP. & COPYRIGHT L. 423, 432-36 (1972). Despite *Benson*, Bell Labs continued to seek patents on new and useful algorithms. For example, it succeeded in obtaining a patent on the "Karmarkar" algorithm for solving the notorious "Traveling Salesman Problem." See U.S. Patent No. 4,744,028 (filed Apr. 19, 1985) (issued May 10, 1988). Bell Lab's patents devolved to Lucent when AT&T was dismembered for antitrust reasons. Lucent continues to litigate patents from Bell Lab's research. See, e.g., *Lucent*, 580 F.3d at 1301, 1308 (Fed. Cir. 2009).

26. See *In re Benson*, 441 F.2d 670 at 687 (C.C.P.A. 1971).

27. See *id.*

28. E.g., *In re Musgrave*, 431 F.2d 882, 895 (C.C.P.A. 1970); *In re Mahony*, 421 F.2d 742, 745-46, 777 (C.C.P.A. 1970); *In re Bernhart*, 417 F.2d 1395 (C.C.P.A. 1969); *In re Prater*, 415 F.2d 1378 (C.C.P.A. 1968), *aff'd in part and rev'd in part on reh'g*, 415 F.2d 1393 (C.C.P.A. 1969). See also *In re McIlroy*, 442 F.2d 1397 (C.C.P.A. 1971); *In re Foster*, 438 F.2d 1011 (C.C.P.A. 1971). This line of cases is discussed in DONALD S. CHISUM, CHISUM ON PATENTS § 1.03[b] (2010).

Consistent with the trend of CCPA decisions, Judge Giles Rich, in a masterful opinion by that great judge, reversed the Office's rejections of the Benson-Tabbot claims.²⁹

Claim 8 was to the algorithm implemented by operation of "signals" on a "reentrant shift register."³⁰ Thus, it covered "only a machine-implemented process." Judge Rich rejected the Patent Office arguments that the claim was not a Section 101 "process" because a "programmable computer is merely a 'tool of the mind' and the method's 'workstuff' is 'numbers which are mathematical abstractions.'"³¹ Judge Rich noted: "Cash registers, bookkeeping machines, and adding machines also work only with numbers but this has never been considered a ground for taking them out of the 'machine' category of section 101."³²

Claim 13 did not refer to an apparatus.³³ Judge Rich read the claim as encompassing, at least "in theory," the carrying out of the BCD conversion algorithm with "any kind of writing implement and any kind of recording medium."³⁴ This gave some credence to the Patent Office argument that the claimed method was "basically 'mental' in character." Judge Rich gave, essentially, two responses. First, even when carried out manually by an operator (or by a law professor in a patent law class!), the claimed method required no "exercise of judgment" or "decision as between alternatives."³⁵ An operator must "think . . . only to the extent necessary to assure that he is doing what the claim tells him to do."³⁶ Second, the Claim 13 method had "no practical use other than the more effective operation . . . of a . . . digital computer."³⁷ This placed the claimed method squarely within "the technological or useful arts."³⁸

In *Benson*, the government sought certiorari review, which the Supreme Court granted. At that time, there was an intellectual property section in the Antitrust Division of the United States Department of Justice. The section's chief, Richard H. Stern, was instrumental in the decision to seek review of the "pro-patent" *Benson*

29. See *In re Benson*, 441 F.2d 670 (C.C.P.A. 1971).

30. *Id.* at 683.

31. *Id.* at 687.

32. *Id.*

33. See *id.* at 683.

34. *Id.* at 688.

35. *Id.*

36. *Id.*

37. *Id.*

38. *Id.*

decision. He leveraged his unique credentials—a degree in electrical engineering and service as the first law clerk to Supreme Court Justice White—to promote the Court’s review.

In *Benson*, as in *Bilski*, there were multiple amici curiae. Consistent with their positions, as described above, the computer hardware vendors (Burroughs, Honeywell and IBM) opposed the CCPA decision and urged reversal. Supporters of the pro-patent position included organizations of patent attorneys, such as the American Patent Law Association, and, interestingly enough, Mobil Oil Corp.

The Supreme Court truncated itself to six voting Justices. Three Justices (Stewart, Blackmun and Powell) recused themselves. Typically, no reason is given for a Justice’s recusal, but one can speculate: at the time, the stock of AT&T, the owner of Bell Labs and hence of the Benson application, was regarded as the ultimately safe investment and it was widely held in personal and family portfolios. One can also wonder whether the participation of three more justices might have improved the quality of the reasoning in *Benson*.

In 1972, an interested observer of the patent system, awaiting the result in *Benson*, would not have had immediate electronic access to the opinion, as is now true with Supreme Court opinions, which are virtually instantly available through Internet blogs, such as “SCOTUS.” The blogs allowed us to begin shaking our heads about the *Bilski* opinions only minutes after 10:00AM on June 28, 2010. But even without instant access to *Benson*, an interested observer would have been immediately concerned by the announcement of the opinion for at least two reasons. First, the opinion came down on November 20, 1972, only a month after argument (October 16, 1972), hardly long enough for a thoughtful deliberation (and in contrast to *Bilski*, which took over six months to emerge after oral argument on November 9, 2009). Second, and more importantly, the author of the opinion was Justice William O. Douglas. Justice Douglas was notoriously hostile toward the patent system. That Justice Douglas was unreasonably biased against patents is supported by the fact that two provisions of the 1952 Patent Act were intended to correct hyperbolic statements in Douglas’ opinions.³⁹

39. Section 103 provides: “Patentability shall not be negated by the manner in which the invention was made.” 35 U.S.C. § 103(a) (2004). This was in response to Justice Douglas’ statement in *Cuno Eng’r. Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 90-92 (1941), that to be patentable, a useful new device “must reveal the flash of creative genius.” See 2 DONALD S. CHISUM, CHISUM ON PATENTS § 5.04[2]. Section 271(d) limits the misuse doctrine. 35 U.S.C. § 271(d) (2010). This was in response to Justice Douglas’ opinion in *Mercoird Corp. v. Mid-*

Justice Douglas' *Benson* opinion begins with a clear and accurate description of the Benson-Tabbot application and claims.⁴⁰ One suspects the description was written by a law clerk, not the Justice.

After the description, the opinion quotes a number of Supreme Court decisions.⁴¹ The opinion glues together words and phrases from those decisions in positively misleading ways to reach propositions that are not supported by the decisions' actual facts and holdings.

Consider the oft-quoted sentence from *Benson*:

Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.⁴²

How did the Court derive this supposedly well-established triple exclusion? First, the "phenomena of nature" exclusion comes from decisions such as the 1948 *Funk* case.⁴³ But the Court makes no attempt to explain how a natural phenomenon exclusion relates to the algorithm claims in question. If a newly created algorithm is a "phenomenon of nature," so must be all human inventive activity. That cannot be true. Humans are indeed "part of nature," but there could be no patent system if all human inventions are phenomena of nature.

Second, the Court refers to "mental processes" as unpatentable but cites no authority, even though there was extensive prior case law

Continent Inv. Co., 320 U.S. 661 (1944), applying that doctrine so as to severely limit the remedy for contributory infringement. See *Dawson Chem. v. Rohm & Haas*, 448 U.S. 176 (1980).

Indicative of Justice Douglas' high standard of patentability is his concurring opinion in the 1950 *A&P* decision, the Supreme Court's last before the 1952 Act. Justice Douglas opined that a patentable invention must be one almost in the running for a Nobel Prize. Said he:

Every patent is the grant of a privilege of exacting tolls from the public. The Framers plainly did not want those monopolies freely granted. The invention, to justify a patent, had to serve the ends of science—to push back the frontiers of chemistry, physics, and the like; to make a distinctive contribution to scientific knowledge. That is why through the years the opinions of the Court commonly have taken "inventive genius" as the test. . . . It is not enough that an article is new and useful. The Constitution never sanctioned the patenting of gadgets. Patents serve a higher end—the advancement of science. An invention need not be as startling as an atomic bomb to be patentable. But it has to be of such quality and distinction that masters of the scientific field in which it falls will recognize it as an advance.

Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp., 340 U.S. 147, 154-55 (1950).

40. See *Gottschalk v. Benson*, 409 U.S. 64, 64-67 (1972).

41. See *id.* at 67-71.

42. *Id.* at 67.

43. *Funk Bros. Seed Co. v. Kalo Co.*, 333 U.S. 127 (1948).

on the “mental steps doctrine” in the lower courts.

Third, and most distressingly, the Court’s exclusion of “abstract intellectual concepts” stems from an out-of-context combination of two statements from old cases that did not even involve intangible processes. The first statement—“an idea of itself is not patentable”—is from the 1874 *Rubber-Tip Pencil* decision.⁴⁴ The second statement—“a principle, in the abstract” is not patentable—is from the 1852 *Le Roy* opinion.⁴⁵ The tenor of the two cases is, contrary to the implication of *Benson*, a positive one: that an “idea” or a “principle” is patentable when applied to create a novel and useful process or product even though the idea or principle itself is not patentable because it is either well known or too abstract. *Rubber-Tip Pencil* held that a patent on attaching a rubber eraser to a pencil was invalid for lack of novelty.⁴⁶ The *Benson*-quoted phrase—“An idea of itself is not patentable”—was meant, in context, to say that a “good idea” for a product (good from a business or marketing point of view) did not meet the patentability requirements if the product itself lacked novelty (or was an obvious modification of the prior art from a technical point of view).⁴⁷ *Le Roy* held that an inventor who discovered a property of lead—that it would form a perfect bond if poured under certain pressure and temperature conditions—could not, based on that discovery, claim old machinery that could be used in accordance with the discovered property.⁴⁸

44. *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507 (1874).

45. *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 174 (1852).

46. *Rubber-Tip*, 87 U.S. at 505-07.

47. *See id.* at 507. The full context of the “idea-is-not-patentable statement” carries a different connotation than that created by the quotation in *Benson*. In *Rubber-Tip Pencil*, the Court stated: “An idea of itself is not patentable, but a new device by which it may be made practically useful is. The idea of this patentee was a good one, but his device to give it effect, though useful, was not new.” *Id.*

In *Rubber-Tip Pencil*, the Court spoke in terms of lack of novelty. However, at that time, the courts did not distinguish between lack of novelty and obviousness as carefully as they do today.

48. *Le Roy*, 55 U.S. at 174-77. As in the later *Rubber-Tip* decision, the Court in *Le Roy* emphasized that the key for patentable subject matter was useful application as opposed to abstraction. The Court noted:

The word principle is used by elementary writers on patent subjects, and sometimes in adjudications of courts, with such a want of precision in its application, as to mislead. It is admitted, that principle is not patentable. 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. Nor can an exclusive right exist to a new power, should one be discovered in addition to those already known. Through the agency of machinery a new steam power may be said to have been generated. But no one can appropriate this power exclusively to himself, under the patent laws. The same may be said of electricity, and of any other power in nature, which is alike open to all, and may be applied to useful purposes by the use of machinery.

Having, supposedly, established that “abstract” ideas are not patentable, the next logical step would be to explain why the Benson-Tabbot claims, which are to precise steps for manipulating numbers, are to abstract ideas rather than to useful processes. On this, the Court states only that the claimed process is abstract because (1) it is broad, having both known and unknown uses, and (2) it can “be performed through any existing machinery or future-devised machinery or without any apparatus.”⁴⁹ The problem with the former is that almost all patents have claimed inventions with at least some unknown uses. The problem with the latter is that it undermines the very concept of making processes patentable, as Section 101 clearly does. The Bell Telephone Patent case,⁵⁰ which the Court discusses two paragraphs later, involved, precisely, a claim to a process that could be (and was) performed by “future-devised machinery.”⁵¹

The Court next discusses and quotes, at length, its 19th and 20th Century decisions on “processes.”⁵² The Court then cautions that it was *not* holding “that no process patent could ever qualify if it did not meet the requirements of our prior precedents.”⁵³ In particular, it indicates that it is *not* adopting a “MORT” test, which would require that “a process patent must either be tied to a particular machine or apparatus or must operate to change articles or articles or materials to a ‘different state or thing.’”⁵⁴ In the recent *Bilski* decision, the Court confirmed that MORT was not a necessary requirement for a patent eligible process.⁵⁵

In *Benson*, the Court makes more disclaimers as to what it was *not* holding. It does *not* “preclude[] a patent for any program servicing

In all such cases, the processes used to extract, modify, and concentrate natural agencies, constitute the invention. The elements of the power exist; the invention is not in discovering them, but in applying them to useful objects.

Id. at 174-75.

49. *Benson*, 409 U.S. at 68.

50. *Dolbear v. Am. Bell Tel. Co.*, 126 U.S. 1 (1888).

51. *Benson*, 409 U.S. at 68-69. For a discussion of the historic Bell Telephone Patent Case, see 1 DONALD S. CHISUM, CHISUM ON PATENTS § 1.03[2][c] (2010).

52. *Benson*, 409 U.S. at 69-71. In the order of their description in *Benson*, the cases are:

1. *O'Reilly v. Morse*, 56 U.S. (15 How.) 62 (1854).

2. *Dolbear*, 126 U.S.

3. *Corning v. Burden*, 56 U.S. (15 How.) 252 (1853).

4. *Cochrane v. Deener*, 94 U.S. 780 (1877).

5. *Tilghman v. Proctor*, 102 U.S. 707 (1881).

6. *Expanded Metal Co. v. Bradford*, 214 U.S. 366 (1909).

7. *Smith v. Snow*, 294 U.S. 1 (1935).

8. *Waxham v. Smith*, 294 U.S. 20 (1935).

53. *Benson*, 409 U.S. at 71.

54. *Id.* at 71-72.

55. See *Bilski v. Kappos*, 130 S. Ct. 3218, 3222 (2010).

a computer.”⁵⁶ It does *not* “extend our holding to programs for analog computers.”⁵⁷ It does *not* “freeze process patents to old technologies, leaving no room for the revelations of the new, onrushing technology.”⁵⁸

So, the reader well might have asked the Court at this point: what *are* you holding? The Court offers a “nutshell:”

It is conceded that one may not patent an idea. But in practical effect that would be the result if the formula for converting BCD numerals to pure binary numerals were patented in this case. The mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.⁵⁹

There are several flaws in this “nutshell.” First, the algorithm at issue in *Benson* is not a “mathematical formula,” at least not in a technical sense, and not in the sense in which the Supreme Court had discussed a “mathematical expression” of a “scientific truth” in the cited *MacKay* decision.⁶⁰ Second, the Court did not explain who “conceded” that one cannot patent an “idea.” Third, the Court provided no explanation of why a precise step-by-step algorithm is an “idea,” much less an “abstract idea.”

In the “nutshell,” the Court’s reasoning is circular. The applicants Benson and Tabbot asked for a claim to the algorithm itself as a new and useful process that did not reflect any natural law or scientific truth. The Court responded to this question, in effect saying: the claim to an algorithm cannot be allowed because if it is, the claim will be to the algorithm. Also, the Court’s emphasis on the claim “preempting” the algorithm is most peculiar in the context of patent law. Preempting is what patents are all about.

56. *Benson*, 409 U.S. at 71.

57. *Id.*

58. *Id.*

59. *Id.* at 71-72.

60. *MacKay Co. v. Radio Corp.*, 306 U.S. 86 (1939). *MacKay* involved a true “mathematical formula” that bore no relation to the step-by-step algorithm at issue in *Benson*. The patent was on a V-type radio antenna system in which the length and angle of the wires was computed by a variation on a known formula (the Abraham formula). *Id.* at 91. The Abraham formula described “the scientific truth that when radio activity is projected from a charged wire of finite length, i.e., one having standing waves, and having a length of a multiple of half wave lengths, the angle between the direction of the principal radio activity and the wire is dependent on wave length and wire length, which is a multiple of half wave lengths.” *Id.* at 93-94. The Court confirmed that “a novel and useful structure created with the aid of knowledge of scientific truth may be” a patentable invention. *Id.* at 94.

The Court, per Justice Douglas, concluded the short opinion with a discussion of the then-raging debate on patenting computer programs.⁶¹ It quoted the Presidential Commission recommendation against patenting computer programs.⁶² It noted that “extending” the patent laws to cover “these programs” was a matter not for the courts but for Congress.

If these programs are to be patentable, . . . considerable problems are raised which only committees of Congress can manage, for broad powers of investigation are needed, including hearings which canvass the wide variety of views which those operating in this field entertain. The technological problems tendered in the many briefs before us . . . indicate to us that considered action by the Congress is needed.⁶³

Congressional action was not forthcoming. In the thirty-eight years since *Benson*, Congress has not directly addressed patent eligible subject matter.

61. *Benson*, 409 U.S. at 72-73.

62. *Id.* at 72.

63. *Id.* at 73.

* * *