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In re Nuijten: Patentable Subject Matter, Textualism and the Supreme Court

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In re Nuijten, which is being argued to the Federal Circuit today, presents the important issue of whether a new type of artificially constructed signal may be patented. The Patent and Trademark Office opposes patentability on the grounds that, as a matter of textual interpretation, signals do not fall within any one of the four categories of patentable subject matter — "process, machine, manufacture, or composition of matter" — identified in section 101 of the Patent Act. PTO Br. at 12 (quoting 35 U.S.C. § 101). Though *Nuijten* raises important issues concerning the scope of patentable subject matter under U.S. law (and that's reason enough for most patent practitioners and scholars to care about its outcome), the case is also about much more. It is about the fundamental approach to interpreting the Patent Act and the effect of the Supreme Court's recent interest in patent cases. To appreciate those larger issues, we must begin with a basic understanding of the facts at issue.

Modern signals (e.g., for carrying audio, video or data) may be constructed to contain embedded "supplemental data" or "watermarks," which typically contain information such as the source or copyright status of the underlying information being transmitted. The addition of such watermarks, which is old in the art, can distort the underlying signal. Nuijten invented a new way to add watermarks that results in less distortion. Nuijten filed a patent application with claims directed to (1) the new process for adding watermarks, (2) storage media containing signals encoded by the new process, and (3) the signals themselves. The PTO has allowed claims for the process and for the storage media containing the signals, but not for the signals themselves. The PTO does not disputed that the signals sought to be patented are demonstrably new and nonobvious. The agency's sole objection rest on section 101 of the Patent Act.

The PTO's legal position in *Nuijten* has one great virtue: The agency begins its analysis of patentable subject matter with the text of section 101 of the Patent Act. Far too often legal analyses of patentable subject matter pay little or no attention to words of the statute:

> **§ 101. Inventions patentable.**
> 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.

The PTO's brief in the case seeks out definitions for the four crucial terms in the statute — "process," "machine," "manufacture," and "composition of matter" — and concludes that signals fit within none of the definitions. Therefore, the agency concludes, signals are not patentable.

The PTO appears to be trying to follow a textualist approach to the interpretation of the Patent Act. For that, the agency should win applause. Textualism is a form of statutory interpretation that is currently in ascendancy at the Supreme Court, and there is now likely a majority of current Justices (including the Chief Justice and Justices Scalia, Kennedy, Thomas and Alito) who adhere to some form of fairly rigorous textualism in statutory interpretation.

That's what's good about the PTO's approach to *Nuijten*. Unfortunately, the agency is

just not very good at textualism. Of all methods of statutory interpretation, textualism is perhaps the most difficult to apply because it appears so deceptively simple. The method at first appears to be so easy that any child with a good dictionary could follow it. But it requires a bit more sophistication than that.

The chief flaw of the PTO's position is one of timing. The crucial words in section 101 — especially "composition of matter" and "manufacture" — were written in 1793. See *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09 (1980) (setting forth the history of section 101 and concluding that Congress has repeatedly re-enacted language originally drafted by Thomas Jefferson in 1793). The PTO relies upon a number of dictionaries to help in interpreting those words, but none that are even remotely contemporaneous with the codification of the relevant words. As Supreme Court decisions demonstrate, dictionaries are helpful to interpret the text of a legal instrument, but the appropriate set of dictionaries are those that were written at approximately the same time as the legal instrument. See *Smiley v. Citibank (S.D.), N.A.*, 517 U.S. 735, 745 (1996) (Scalia, J., for a unanimous Court) (looking to dictionaries from the era in which the statute was passed); *St. Francis College v. Al-Khazraji*, 481 U.S. 604, 610-12 (1987) (White, J., for an unanimous Court) (looking to dictionaries contemporaneous to the enacting Congress in interpreting an 1866 civil rights statute); Perrin v. United States, 444 U.S. 37, 42 (1979). (recognizing the "fundamental canon of statutory construction is that, unless otherwise defined, words will be interpreted as taking their ordinary, *contemporary*, common meaning") (emphasis added).

Thus, a careful textualist would not want to rely upon a dictionary published in 2000 (see PTO Br. in Nuijten at 10), an economics textbook published in 1989 (see PTO Br. at 15), or even a dictionary definition from 1900 that has been cited by the Supreme Court (see PTO Br. at 13, quoting a 1900 dictionary definition recited in *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931)). A careful textualist would look to contemporaneous definitions of the relevant statutory language. We will here consider four such dictionaries that have been cited in opinions written by some of the Supreme Court's textualist Justices for interpreting provisions in the original U.S. Constitution, which was written just a few years before the 1793 Patent Act. See *Utah v. Evans*, 536 U.S. 452, 492 (2002) (Thomas, J., concurring in part and dissenting in part; joined in relevant part by Kennedy, J.); *DOC v. United States House of Representatives*, 525 U.S. 316, 346-47 (1999) (Scalia, J., concurring in part; joined by the Chief Justice and Justices Thomas and Kennedy). The four dictionaries are: Samuel Johnson, A Dictionary of the English Language (1755); Nathan Bailey, The New Universal Etymological English Dictionary (25th edition 1783); Thomas Sheridan, A Complete Dictionary of the English Language (4th Edition 1790); and Noah Webster, American Dictionary of the English Language (1828) (available in searchable form at http://www.cbtministries.org/resources/webster1828.htm).

Let's look first at "composition of matter." Under the PTO's view, that category "by its own terms requires matter." PTO Br. at 12. Because the PTO views signals as not encompassing matter, they do not fit within the category. But this view begs the crucial question: What would the word "matter" mean to an eighteenth century speaker of the English language? The 1790 edition of Sheridan's dictionary defines "matter" to be "Body, substance extended; materials, that of which any thing is composed." The relevant definition of "body" in the Sheridan dictionary is " matter, opposed to spirit; ... reality, opposed to representation."

Similarly, "substance" is defined merely to be "Something existing, something of which we can say that it is; ... something real, not imaginary." Thus, the relevant distinction for defining matter is not between mass and energy (a modern distinction much emphasized by the PTO's brief in *Nuijten*) but between the real and the spiritual, or perhaps between real and imaginary

This same distinction is made even more explicit in Webster's 1828 dictionary. (Though Webster's was published 35 years after the enactment of the Patent Act, it has the benefit of being a dictionary of *American* English). Webster's definition of "matter" includes the following helpful clarification:

> Matter is usually divided by philosophical writers into four kinds or classes; solid, liquid; aeriform, and imponderable. Solid substances are those whose parts firmly cohere and resist impression, as wood or stone; liquids have free motion among their parts, and easily yield to impression, as water and wine. Aeriform substances are elastic fluids, called vapors and gases, as air and oxygen gas. The imponderable substances are destitute of weight, as light, caloric, electricity, and magnetism.

The word "imponderable" to Webster in 1828 did not have its modern connotation of inscrutable; rather the word merely referred to "destitution of sensible weight." Like Sheridan, Webster too defined "matter" by reference to "body," which in turn was defined as "matter, as opposed to spirit" and "reality, as opposed to representation."

Though Webster and Sheridan tended to define matter broadly, two other dictionaries hinted at a more narrow definition that would require more than just reality. For example, while Johnson's 1855 dictionary defined matter as "body, substance extended" and gave broad definitions to "body" and "substance," the dictionary also cited a usage by Watt's *Logick* that defines matter to include things that have"length, breadth, and depth" and that can "exclude every thing of the same kind from being in the same place." This sort of definition would seem to exclude things such as signals composed of photons, which do not have the property of excluding other photons from being in the same place. It is not entirely clear, however, that Johnson intended for the definition of "matter" to be so limited, for he also gives other broader definitions, including one under which matter is "that of which any thing is composed."

Arguably the narrowest definition of matter is found in Bailey's dictionary. The 25th edition from 1783 defined matter to be ""the same as body; it is a penetrable, divisible and passible substance, extending itself into length, breadth and thickness, and capable of putting on all manner of forms." The requirements of length, breadth and thickness seem more specific than what is found in the other contemporaneous definitions. Yet even under this definition, signals may qualify as a composition of "matter," for even signals made of nothing more than electromagnetic radiation (i.e., photons) have finite limits in all three dimensions.

Contrary to the PTO's position, it is by no means clear that signals are not compositions of "matter," as that term was understood in the late 18th century. Most contemporaneous definitions of "matter" are very broad, with the dominate theme being that matter excludes only the spiritual and the imaginary. But whatever hint of ambiguity there is in "matter," there is certainly none in the word "manufacture," which all contemporaneous dictionaries define in

sweeping terms. For example, Bailey defines "manufacture" to encompass "any sort of commodity made by the work of the hands." "Commodity," in turn, refers to "merchandize," which meant "commodities or goods to trade with, also traffic or trade."

Similarly, Johnson defines manufacture to mean "the practice of making any piece of workmanship" or "any thing made by art." "Art" here, of course, refers to the eighteenth century definitions of the word, "[t]he power of doing something not taught by nature and instinct," "a science, as the liberal arts," "a trade," or "artfulness, skill." The relevant definitions are all identical in Sheridan's dictionary. Finally, Webster defines manufacture to include "[t]he operation of making cloth, wares, utensils, paper, books, and whatever is used by man" or "[a]ny thing made from raw materials by the hand, by machinery, or by art." The constraint that a manufacture must be made from "raw materials" is not a significant limitation because Webster defines "material" to be "consisting of matter; not spiritual" and explicitly notes that electricity and other such energetic "imponderable" substances may be matter.

In sum, the contemporaneous definitions of "manufacture" require merely that the "manufacture" be created artificially (i.e., by the hand of mankind), and not of the spiritual realm. Perhaps also, as Bailey suggests, the manufacture must be a commodity — i.e., something that is traded. But modern commercial electromagnetic signals, even those composed of only photons, would not have difficulty meeting any of those requirements.

A careful textualist would not stop with contemporaneous dictionary definitions. The context of the words must also be considered. Here again, the PTO's position in *Nuijten* comes up lacking. The crucial words in section 101 are preceded by the word "any," and longstanding Supreme Court precedent both inside and outside of the patent field holds that the term "any" points toward a broad construction of the relevant language. See, e.g., J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Intern., Inc., 534 U.S. 124, 130 (2001) ("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.") (quoting Diamond v. Chakrabarty, 447 U.S. 303, 308 (1980)); Citizens' Bank v. Parker, 192 U.S. 73, 81 (1904) ("The word any excludes selection or distinction.").

A textualist would consider canons of statutory construction such "noscitur a sociis," which literally means "it is known by its associates" but is more commonly described in statutory interpretation as meaning "a word is known by the company it keeps." S.D. Warren Co. v. Maine Bd. of Environmental Protection, 126 S.Ct. 1843, 1845 (2006). In section 101, the crucial terms are all capacious. As a whole, the list of patentable subjects tends to reinforce the sense that these terms were meant to be applied expansively.

Finally, any interpreter of statutory text would want to understand the stakes of the relevant interpretive choice. Here again, the PTO's position comes up wanting. To understand what is at stake in the case, we must ask: Why does the patent applicant want claims to a signal in addition to the claims covering the process for generating the signal and the media storing the signal? The applicant here is, after all, a sophisticated party. The real party at interest in *Nuijten* is the Philips Corporation, one of the largest and most successful electronic corporations in the world. Philips' reason for wanting signal claims is fairly evident: Philips wants to be able to

bring direct infringement actions against parties *transporting* its novel form of signals. The process claims will not protect Philips against overseas generation of the signals, and the "storage medium" claims will not necessarily reach a company that is merely transporting the signals.

Yet even if the PTO's position prevails and signals themselves are not patentable, there will still be nothing to stop Philips from claiming *transport media* (e.g., wires, cables, and fibers) containing the relevant signal. True, such claims may not be able to cover free space propagation of an electromagnetic signal, but that may matter little. Current technology requires electronic circuitry having physical wires to generate and to receive an electromagnetic signal. Moreover, many, perhaps even most, electromagnetic signals are today being transported by fibers, cables or wires. Thus, even under the PTO's interpretation of § 101, Philips should be able to achieve much of its intended objective, provided that the company observe some formalisms.

This is not to say that the issue in *Nuijten* is unimportant. While in many cases there may be formalistic ways to work around the *ad hoc* limitation on patentability sought by the PTO, the PTO's position will engage patentees in litigation over the validity of those formalistic "work arounds," and that litigation will focus on metaphysical distinctions wholly tangential to the underlying merits of the invention and to the basic policies of the Patent Act. That sort of litigation may be great news for patent lawyers who revel in "gobbledygook" and "meaningless" jargon, see Trans. of Oral Argument in KSR International v. Teleflex Inc., No. 04-1350, at pp. 40-41, but it has no connection to the policies that Congress seeks to advance in authorizing patents for meritorious inventions.

So much for the legal issue in *Nuijten*. There is also, however, a subtext to this particular Federal Circuit case, for it occurs in the shadow of a recent revival in the Supreme Court's interest in patent cases. Thus, it is quite clear that all of the legal actors in this case are asking: What would the Supreme Court do with this issue? Specifically, the Federal Circuit judges must be wondering whether, if they adhere to their traditionally broad approach to interpreting section 101, will the ruling survive a likely appeal to the High Court by the PTO.

While predicting Supreme Court decisions is always fraught with uncertain, it is nonetheless hard to imagine that the PTO's position in this case would be viewed by the Court as anything other exceptionally weak. True, just last Term three Justices joined in an opinion that would have recognized some restriction on the scope of section 101. See LabCorp v. Metabolite, 126 S.Ct. 2921 (2006) (Breyer, J., dissenting, joined by Stevens and Souter, JJ.). But those Justices were concerned with issuing patents that might be construed as covering every manifestation of a "natural principle," and they had an articulable policy justification underlying their position: They were concerned with the possibility of patenting "basic tools of scientific and technological work," which they believed should be "part of the storehouse of knowledge" that is "free to all men and reserved exclusively to none." Id. at 2923 (internal quotations omitted). But whatever else can be said about the new type of watermarked signals created by the Philips Corporation, they seem miles removed from any claim to "basic science." They are instead an example of a garden-variety advance of applied science and technology — clever engineering, but hardly a fundamental principle of nature.

Moreover, the dissenting opinion in *LabCorp* was joined by none of the Court's most committed textualists (as mentioned above, this group probably encompasses at least the Chief Justice and Justices Scalia, Kennedy, Thomas and Alito). It seems unlikely in the extreme that those Justices would look favorably on the PTO's position, which has been reached without any examination of the relevant contemporaneous material. And from the Federal Circuit's viewpoint, the *Nuijten* case is probably as good as any other for testing whether the Supreme Court is going to impose new limitations on § 101. Sooner or later, the Supreme Court is going to grant certiorari in *some* § 101 case. Every appellate lawyer in Washington knows that, after the *LabCorp* litigation, certiorari is not going to be hard to obtain on § 101 issues. If the Supreme Court is going to consider imposing new limits in the area, *Nuijten* is an excellent case to show not only the weak textual basis for manufacturing new limitations but also the mass of problems likely to arise if such limits are created.