

# The Courts' Exceptional Treatment of Patented Processes

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## I. INTRODUCTION

Patents on inventive methods and processes have been controversial for some time. Even back in the Nineteenth Century, it was not clear whether such inventions could be or should be patented.<sup>1</sup> The concern then was that claims to methods were merely claiming the abstract functioning or result of a machine.

Apparently, what's old is new again. Nothing has been more troubling in recent years to actors in the patent system than patents covering methods and processes, particularly in the electronic and digital age. The scope of "methods" has broadened to include methods of doing business, software, and correlations between genetic mutations and disease. Congress has created a unique procedure at the US Patent and Trademark Office (USPTO) specifically designed to review issued patents on business methods. These types of inventions are also viewed as the space where patent assertion entities (PAEs), pejoratively known as trolls, are

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<sup>1</sup> *In re Tarczy-Hornoch*, 397 F.2d 856, 857-863 (C.C.P.A. 1968) (tracing history and controversy over patented methods).

likely to operate. One might expect such patents to be treated differently, and perhaps skeptically, by the patent law and courts.

The Patent Act, however, is generally neutral on its face in its treatment of different types of inventions. Section 101 of the Patent Act delineates what types of innovations are eligible for patent protection: machines, manufactures, compositions of matter, and, of course, processes,<sup>2</sup> also known as methods.<sup>3</sup> Unlike the first three forms of inventions, processes present some unique challenges because, by definition, they involve *steps* as opposed to a physical item. A claimed process is not infringed by the creation of machine capable of performing the method; instead, an actor infringes only a method claim only when the method is actually performed.

Given this unique aspect of processes, it is unsurprising that, at times, Congress has carved out particular times when patented methods are treated uniquely.<sup>4</sup> Yet, for the most part, the Patent Act facially treats patented processes just like other forms of patented inventions. Notwithstanding this textual neutrality, however, the courts have at times created rules unique to claimed methods that do not have justification in the Patent Act itself. Moreover, some of these rules are completely inconsistent with each other.

This Article will explore the exceptional, yet inconsistent treatment that courts have afforded patented processes. At times, the courts treat patented methods the same as other types of claims; yet in others they carve processes out for unique treatment. It therefore offers a comprehensive review of the treatment of patented processes and, for the first time in the literature, unpacks how such treatment is at times often irreconcilable with other doctrines.

Part I of this article explores the nature of claims to processes and methods. In particular, it highlights the somewhat paradoxical dynamic of patented methods: in some contexts, such as pharmaceuticals, method claims are viewed as second-best options that afford a fairly limited scope of protection. In others, such as patents on methods of doing business, method claims are viewed as inappropriately broad and vague, affording far too much protection to the patent holder.

Part II then unpacks the ways that patented processes are treated under the patent laws. It first begins with the Patent Act itself, elaborating where process claims are viewed on equal footing with other inventions and, in other circumstances, they are afforded unique treatment. The next section then distills the case law surrounding patented methods, highlighting circumstances where, in the face of a facially neutral statute, the courts nevertheless create unique rules for patented processes, rules that at times are inconsistent with other related aspects of patent law.

Part III then assesses, given the unique attributes of method claims, whether such differential treatment by the courts is nevertheless appropriate. This normative assessment also attempts to reconcile the inconsistencies in judicial doctrine regarding patented methods.

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<sup>2</sup> 35 U.S.C. § 101.

<sup>3</sup> [cite]

<sup>4</sup> See *infra* [x].

## II. THE NATURE OF PATENT CLAIMS ON PROCESSES

Patents on processes are quite interesting. If one thinks of a patent as an intangible property right, then a patent on a process or method provides an intangible property right over something else intangible – a process. Under current law, the claims to processes technically do not cover the machine or other apparatus (if any) that performs the process, but only the performance of the steps of the process. So, building a huge factory that can perform a patented method of making aspirin does not infringe until the factory is turned on and starts to perform the method.

[more on history of method and process claims]

In the industrial age, the gap between this intangible nature of process claims and the physical instantiation of the method was far narrower. Methods of producing chemicals generally require concrete steps – chemicals, mass transfer, heat transfer, etc. These are not terribly abstract things. Even methods of treating human conditions generally had a physicality associated with them: a patient ingests a pill which triggers a cascade of reactions in the body to treat the condition.

During this age, somewhat paradoxically, methods were often viewed as second-best forms of protection, particularly in the chemical and pharmaceutical industries. In those industries, companies viewed protection of the chemical compounds themselves as the more desirable form of protection because the patent claim would cover any use of the product, instead of a particular method of treatment or use, even if the inventor had not discovered those additional uses. In fact, patents on chemical compounds were deemed as over-protective in many foreign patent systems. These systems would allow patents on methods of making and of using these compounds, but they would not permit patents on the compounds themselves. When these countries joined the European Union (such as Hungary) or the World Trade Organization (such as India), they were obligated to provide protection for chemical compounds. The concern of overprotection was with the compounds claims, however, and not the process pains.

Things changed dramatically in the digital age, however. The gap between the tangible and intangible aspects of methods and processes grew dramatically. Computer software, effectively all large, complex processes, combined with general purpose computers created challenges for the patent system in how exactly to claim such innovations. Claiming code seemed unduly burdensome while simultaneously affording rather narrow protection. Claiming the software in terms of function, in contrast, was incredibly broad that could capture instantiations of the invention far beyond what the inventor created. Finally, many processes no longer produced a “product” in the classic industrial sense. Instead they generated information or digital output.

The biological sciences have not been immune to this departure from the industrial age. Investigations into the genome and proteome uncovered, for example, various predispositions for disease created by certain mutations. In these circumstances, the existence of a mutation was probabilistic – the existence of the mutation would create a greater probability of a disease

arriving, not an absolute certainty. Inventors claimed these correlations as methods, claiming a method of discovering the mutation and correlating it to a risk of disease. Further investigations into the manner that individuals reacted uniquely to certain drugs – the early stages of personalized medicine – also generated various types of method claims where the effectiveness of a drug would be measured on an individual level, and drug levels could be adjusted.

These examples demonstrate why claims to patented methods and processes have created tension in the patent law. The question remains, however, as to whether these unique characteristics suggest that patent law should treat such inventions uniquely, even in the face of a relatively neutral statute.

### III. PATENT LAW'S INCONSISTENT TREATMENT OF CLAIMS TO PROCESSES AND METHODS

It is unsurprising that patent law has encountered various, relatively new variations of inventive processes and methods. As an engine of innovation, patent law often has to wrestle with difficult issues of new technologies. Nevertheless, the inconsistent treatment of patented methods and processes bears further exploration. This section first explores the explicit, statutory circumstances that provides exceptional treatment to patented processes. It then turns to judicial interpretations regarding patented processes, highlighting there the exceptional and often inconsistent treatment of these inventions in a variety of settings.

#### A. *Unique Treatment Afforded Patented Processes by Statute*

##### 1. *Infringement for Importing, Selling, Offering to Sell, or Use the Product of a Patented Process*

Given there intangible nature, it is not surprising that Congress has provided some unique treatment for patented processes. The most obvious form of this exceptionalism is found in 35 U.S.C. § 271(g):

Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent.<sup>5</sup>

This provision provides extraterritorial protection for the holders of patented processes because the statute is not territorially limited to use of the process within the United States.<sup>6</sup> The legislative history makes clear that the intent was to protect US patent holders from overseas uses of patented methods, wherein the resulting product then enters the United States' markets. Products of these processes may not themselves be patented, so competitors could perform the process outside of the United States, escaping the territorial limits of U.S. patent law, and then

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<sup>5</sup> 35 U.S.C. § 271(g).

<sup>6</sup> Holbrook, Extraterritoriality.

import and sell the unpatented product in the United States, evading the patent. Section 271(g) now makes such activity infringing. There is currently, however, a district court split over whether the provision applies only to overseas uses of the process or also covers domestic uses, opening up a potential chain of infringers.<sup>7</sup> Even though this provision does provide extraterritorial protection, such protection is required by the Agreement on Trade Related Aspects of Intellectual Property.<sup>8</sup>

This provision, adopted in 1988, demonstrates the now-outdated understanding of process patents. The provision only applies if the process actually generates some sort of *product*. The legislative history confirms this view of process patents, such as when then Commissioner Mossinghoff noted that “[a] process patent, however, only protects a process or method *of making an article or product.*”<sup>9</sup>

Unsurprisingly, in the digital age, scenarios have arisen that challenge this antiquated, industrialized notion of products. The courts are beginning to confront the situation where the “product” may be something intangible, such as an electronic catalog. The courts generally are split as to whether such products fall within the scope of §271(g). And, of course, this provision remains unavailable for processes that do not generate any sort of product but instead only generate data or information, such as genetic sequences that predispose a patient to a disease.

## 2. *Burden Shifting for Patented Processes*

Because of the intangible nature of processes, it may be difficult for the holder of a process patent to enforce it. Often, the process is performed in a place not publicly accessible, so it may be difficult for the patent owner to determine whether her patent is actually being used. There may, of course, be circumstantial evidence, such as particular impurities in the final product that typify a particular process. Nevertheless, gathering proof of infringement may be difficult.

This difficulty may also arise in actual litigation, particularly if the use of the process is overseas. Obtaining discovery in these contexts may be difficult. The Patent Act, as a result, has a burden-shifting provision that is specific to patented processes.<sup>10</sup> Section 295, entitled “Presumption: Product made by patented process,” shifts the burden onto the accused infringer to

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<sup>7</sup> Holbrook, *Extraterritoriality*. [CHECK ON DCT SPLIT]

<sup>8</sup> [cite].

<sup>9</sup> Statement of Comm'r Mossinghoff, [S. Hrg. 98-1008 Patent Law Improvements Act, Subcomm. on Patents, Copyrights and Trademarks of the Comm. on the Judiciary \(April 3, 1984\)](#) at 18

<sup>10</sup> See 35 U.S.C. § 295 (2006). See also Timothy R. Holbrook, *Patents, Presumptions, and Public Notice*, 86 IND. L.J. 779, 817 (2011) (discussing rebuttable presumption framework).

prove non-infringement in a manner akin to *res ipsa loquitur*.<sup>11</sup> In order to trigger the shift in burden, the patent holder must demonstrate both that “a substantial likelihood exists that the product was made by the patented process” and “that the plaintiff has made a reasonable effort to determine the process actually used in the production of the product and was unable to so determine.”<sup>12</sup> If the patent owner satisfies these two conditions, then “the product shall be presumed to have been so made, and the burden of establishing that the product was not made by the process shall be on” the accused infringer.<sup>13</sup> This provision thus forces the party in the best position to know about the process – the accused infringer – to disclose the relevant information or else be found liable.

This burden-shifting provision is actually required under the TRIPS Agreement. Interestingly, though, the United States has chosen to implement it slightly differently than noted in TRIPS. TRIPS Article 34, signatories may permits such burden shifting “if there is a substantial likelihood that the identical product was made by the process and the owner of the patent has been unable through reasonable efforts to determine the process actually used”<sup>14</sup> or “if the product obtained by the patented process is new.”<sup>15</sup> Article 34 expressly notes, however, that signatories need only require “at least one of” those circumstances in triggering the burden shifting. The United States, in implementing its obligations, has chosen only the former trigger, and not the latter, for shifting the burden of proof onto the accused infringer.

Similar to § 271(g), though, is the tie to industrial-era views of processes: that such processes invariably produce some sort of product. In the modern, digital era, there are a variety of patented processes that do not yield a product in the classic sense but, instead, may result in something more intangible, such as data or other information.

#### *B. The Courts’ Inconsistent Treatment of Method Claims*

The above statutory provisions are, of course, examples of special treatment for patents that claim processes or methods. In these contexts, Congress identified a problem with respect to process claims and legislatively addressed them. Undeniably, process patents do pose some unique problems, so such a Congressional reaction is to be expected.

But the exceptional, and often inconsistent, treatment of method and process claims extends beyond these provisions. The courts have carved out a number of unique doctrines or

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<sup>11</sup> Holbrook, *supra* note 10, at 816-17 (comparing § 295 to *res ipsa loquitur*).

<sup>12</sup> 35 U.S.C. § 295.

<sup>13</sup> *Id.*

<sup>14</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, art. 34, THE LEGAL TEXTS:THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS 320 (1999), 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS Agreement] art. 34(b).

<sup>15</sup> TRIPS Art. 34(a).

exceptions for method claims that have no statutory basis. This section explores these unique treatments of method claims and highlights how, at times, they are contrary to the statute and, even worse, create irreconcilable doctrinal inconsistencies.

### *1. The Inconsistent Treatment of “Sales” of Process Patents*

Section 271(a) of the Patent Act is the “baseline” direct infringement provision. Under § 271(a):

whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.<sup>16</sup>

The provision is neutral as to the *types* of inventions that can be infringed under this provision. It merely states that it applies to “any patented invention.” The Act merely defines “invention” unhelpfully as “invention or discovery,”<sup>17</sup> but section 101 does delineate the statutory categories of inventions: processes, machines, manufactures, and compositions of matter.<sup>18</sup> Section 271(a) also contrasts § 271(g), which specifically is limited to processes patented in the United States.<sup>19</sup> Congress thus knows how to specify when an infringement provision applies only to a particular type of invention. As such, the term “invention” in § 271(a) at least facially applies to all four categories of inventions listed in § 101.<sup>20</sup>

Notwithstanding that the text of § 271(a) would appear to apply to all types of inventions, the Federal Circuit has suggested that process and method claims should be treated differently. At present, method claims are categorically excluded from infringement by “making” the claimed invention. Method claims are the steps of the process, and not the apparatus that performs them. As such, under current law, there is no infringement until the process is performed.<sup>21</sup>

The Federal Circuit has also strongly suggested that it is not possible to infringe a method claim by selling or offering to sell the claimed invention. In *NTP v. Research in Motion*, the patent included claims regarding a method of integrating email with wireless communications, and the accused device was the BlackBerry®. Among one of the myriad issues

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<sup>16</sup> 35 U.S.C. § 271(a).

<sup>17</sup> 35 U.S.C. § 100.

<sup>18</sup> 35 U.S.C. §101.

<sup>19</sup> 35 U.S.C. §271(g). *See supra* notes[x]-[x] and accompanying text.

<sup>20</sup> Timothy R. Holbrook, *The Potential Extraterritorial Consequences of Akamai*, 26 EMORY INT’L L. REV. 499, 503 (2012) (“The plain language of § 271(a) does not create different forms or requirements for infringement based on the type of invention in the claim. Nevertheless, the Federal Circuit has carved out different rules for infringement depending on whether the claimed invention is a method or a system.”).

<sup>21</sup> *But see infra* (arguing that method claims should be infringed by “making” the invention if the apparatus has no substantial non-infringing uses).

the court faced in the case was whether it was possible to sell or offer to sell the patented method, particularly when part of the method was performed outside of the United States (in Canada).<sup>22</sup> The court, considering this a question of first impression, reviewed § 271(a) and noted that it does not “specify which infringing acts apply to which types of claims.”<sup>23</sup> Reviewing the case law interpreting the “sales” portion of § 271(a), the court noted that a sale requires “a thing capable of being transferred.”<sup>24</sup> The court then strongly suggested that method claims cannot be infringed through sales or offer to sell:

It is difficult to envision what property is transferred merely by one party performing the steps of a method claim in exchange for payment by another party. Moreover, performance of a method does not necessarily require anything that is capable of being transferred.<sup>25</sup>

The court then turned to the legislative history, noting that “Congress has consistently expressed the view that it understands infringement of method claims under section 271(a) to be limited to use.”<sup>26</sup> The court also looked to the TRIPS Agreement, which expressly requires countries to provide an exclusive right that, “where the subject matter of a patent is a process,” allows patent holders “to prevent third parties...from the act of using the process and from the acts of: using, offering for sale, selling or importing for these purposes at least the product obtained directly by that process.” The latter exclusive rights regarding the product of the process correspond to § 271(g), but otherwise, TRIPS “makes clear that claimed processes are protected” only from infringing uses.<sup>27</sup>

The court thus held that there were no infringing sales or offers to sell the claimed method. Notwithstanding the strong language to which it referred, the court noted that it “need not and do[es] not hold that method claims may not be infringed under the ‘sells’ or ‘offers to sell’ prongs of §271(a),” holding only that “RIM’s performance of at least some of the recited steps of the asserted method claims as a service for its customers cannot be considered to be selling or offering to sell the invention.” Such a fact-specific holding is odd given the legal analysis that precedes it. It strongly suggests, though, that the court believes that method claims can only be infringed by use and not by sales or offers to sell.

At a certain level, this makes some intuitive sense. If the claim is only infringed by performance of the steps, and not by the mere creation of an apparatus to perform the method,

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<sup>22</sup> NTP v. Research in Motion Ltd., 418 F.3d 1282, 1318 (Fed. Cir. 2004). The court reached this issue because it concluded there was no infringement by “using” the patented method because one of the steps of the method occurred outside of the United States. *Id.* See *infra* for a critique of the exceptional extraterritorial treatment of method claims vis-à-vis system claims. Interestingly, this lengthy exegesis on § 271(a) was added to the opinion when it was reissued. The original decision at the Federal Circuit merely concluded that there was an infringing use of the system without delving into the method claims. See NTP v. Research in Motion Ltd., 392 F.3d 1336, 1369-70 (2004), *withdrawn and replaced with* 418 F.3d 1282 (Fed. Cir. 2004).

<sup>23</sup> *NTP*, 418 F.3d. at 1319.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* at 1320.

then it would seem to necessarily follow that only uses can infringe. This approach is also consistent with the view of methods focusing on the intangible steps and not the physical instantiation of the invention.

The thought that a method claim can never be “sold,” however, is inconsistent with other doctrines involving the commercialization of method claims. For example, the Supreme Court has made it clear that method claims can be “sold,” so as to trigger patent exhaustion, also known as the “first sale” doctrine. In *Quanta Computer, Inc. v. LG Electronics, Inc.*, the Supreme Court squarely addressed the issue of whether exhaustion doctrine applies to method claims.<sup>28</sup> The Federal Circuit had held that method claims were categorically excluded from the exhaustion doctrine, noting that “the sale of a device does not exhaust a patentee’s rights in its method claims.”<sup>29</sup>

The Supreme Court disagreed, holding that method claims can be exhausted by a sale. The Court rejected the distinction adopted in *NTP* between the apparatus and the method:

It is true that a patented method may not be sold in the same way as an article or device, but methods nonetheless may be “embodied” in a product, the sale of which exhausts patent rights. Our precedents do not differentiate transactions involving embodiments of patented methods or processes from those involving patented apparatuses or materials.<sup>30</sup>

Patent exhaustion can therefore be triggered by the sale of something embodying the process.<sup>31</sup> The Court recognized that carving out method claims from patent exhaustion would permit patent drafters to game the system by including both system and method claims in patents, thus avoiding patent exhaustion.<sup>32</sup> Under Supreme Court precedent, then, method claims can be “sold” so as to trigger exhaustion, creating tension with the reasoning in *NTP*.

The inconsistent treatment of the commercialization of method claims is not limited to patent exhaustion, however. The Federal Circuit has held numerous times that method claims are also subject to the on-sale bar of 35 U.S.C. § 102(b) of the 1952 Patent Act and, as a result, likely 35 U.S.C. § 102(a) of the America Invents Act. Both acts preclude a patent if the invention has been on-sale before a certain point in time. The 1952 Act precludes patentability if the invention was on-sale more than one year before the effective application date. The AIA precludes patentability if the invention was on-sale by an unrelated third party prior to the filing date or if it was on-sale by the inventor or someone with a connection to the inventor more than one year prior to the filing date.

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<sup>28</sup> 553 U.S. 617, 630 (2008).

<sup>29</sup> *LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1370 (Fed. Cir. 2006), *rev’d sub. nom.*, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617 (2008).

<sup>30</sup> *Quanta*, 553 U.S. at 628-29.

<sup>31</sup> *Id.* at 629.

<sup>32</sup> *Id.* at 629-30 (“By characterizing their claims as method instead of apparatus claims, or including a method claim for the machine’s patented method of performing its task, a patent drafter could shield practically any patented item from exhaustion.”).

Given the reasoning of *NTP*, one might expect method claims to be exempt from the on-sale bar: method claims cannot be infringed by sales or offers to sell, so how can they be invalidated under the on-sale bar? That intuition would be wrong: the Federal Circuit has invalidated method claims on the basis of the on-sale bar with little concern with the nature of the claim involved.<sup>33</sup> One exception was *Scaltech, Inc. v. Retec/Tetra, LLC*. But even there, the Federal Circuit noted that “the fact that the process itself was not offered for sale but only offered to be used by the patentee to process waste does not take it outside the on sale bar rule.”<sup>34</sup> Similar to § 271(a), § 102(b) applies to the sale of the invention and, as the Federal Circuit reasoned, “in this case, the invention was a process, as permitted by § 101. As a result, the process involved in this case is subject to § 102(b).”<sup>35</sup> This approach to reading the statute contrasts sharply with the *NTP* court’s reading of § 271(a) as not “specify[ing] which infringing acts apply to which types of claims.”<sup>36</sup> The court in *Scaltech* took that facial neutrality to mean that the on-sale bar applied to method claims, whereas the *NTP* court took it as an invitation to treat method claims differently from other types of claims for purposes of infringement.

What can explain this disparate treatment of the commercialization of method claims? To be fair, the Federal Circuit in *NTP* did recognize the tension with the on-sale bar (*Quanta* was decided well after *NTP*). The court referred to the cases applying the on-sale bar to method claims, but then reasoned, “we have previously ‘decline[d] to import the authority construing the ‘on sale’ bar of § 102(b) into the ‘offer to sell’ provision of § 271(a).’”<sup>37</sup> The court then supported its restrictive application of the commercial forms of infringement to method claims by drawing on the Supreme Court’s general restrictive approach to defining patent infringement absent clear Congressional intent<sup>38</sup> as well as the court’s view that “[t]he indication we have from Congress on infringement by selling or offering to sell method claims shows that it believes the beachhead is narrow.”<sup>39</sup>

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<sup>33</sup> See, e.g., *Scaltech, Inc. v. Retec/Tetra, LLC*, 269 F.3d 1321, (Fed. Cir. 2001) (refinery waste disposal process invalid under on-sale bar); *Robotic Vision Sys., Inc. v. View Eng’g, Inc.*, 249 F.3d 1307, 1311 (Fed. Cir. 2001) (invalidating method of scanning the leads on integrated circuit devices under on-sale bar, with no discussion of issues because claim is to a method); *Space Systems/Loral, Inc. v. Lockheed Martin Corp.*, 271 F.3d 1076, 1081 (Fed. Cir. 2001) (method claim not invalid under on-sale bar because not ready for patenting, not merely because bar not apply to method claims); *Group One, Ltd. v. Hallmark Cards, Inc.*, 254 F.3d 1041, 1049 (Fed. Cir. 2001) (finding no commercial offer to sell, *inter alia*, method claims, but not because on-sale bar does not apply to method claims).

<sup>34</sup> *Id.* at 1328.

<sup>35</sup> *Id.* The invalidating commercial activity were unsuccessful offer by Scaltech to third parties to process their waste. *Id.* at 1328-29.

<sup>36</sup> *NTP*, 418 F.3d at 1320.

<sup>37</sup> *Id.* (quoting *3D Sys., Inc. v. Aarotech Labs., Inc.*, 160 F.3d 1373, 1379 n. 4 (Fed.Cir.1998)).

<sup>38</sup> *Id.* (citing *Deepsouth*, 406 U.S. at 531 for proposition that infringement should be narrowly interpreted). But see Timothy R. Holbrook, Liability for the “Threat of a Sale”: Assessing Patent Infringement for Offering to Sell an Invention and Implications for the On-Sale Patentability Bar and Other Forms of Infringement, 43 SANTA CLARA L. REV. 751, 764 (2003) (arguing narrowly interpreting infringement provisions is inappropriate given Congress’s continual expansion of rights).

<sup>39</sup> *Id.*

This reasoning leaves much to be desired. It ignores the plain meaning of the statute – that all inventions are subject to § 271(a), just as they are to § 102(b). Moreover, the statement that the court has not imported the on-sale precedent into the § 271(a) is only partially true as the court has at times relied on on-sale bar precedent to inform infringement for offering to sell the invention.<sup>40</sup> Most importantly, there is no discussion as to how, economically speaking, these provisions differ. As I have argued elsewhere, economically speaking, the two provisions are the same: the concern is with the economic appropriation of the invention; only the legal consequences (invalidity versus infringement) differ.<sup>41</sup> Finally, *Quanta*, while decided after *NTP*, provides more weight towards allowing infringing sales and offers to sell method claims, particularly where the item sold can only be used to perform the claimed process.

## 2. *Narrow Extraterritorial Treatment under §§ 271(a) and (f)*

In addition to the inconsistent treatment of the commercialization of process and method claims, the courts have treated method claims far less favorably with respect to extraterritorial protections under both 35 U.S.C. §§ 271(a) and (f).

**Extraterritorial protection under § 271(a) for sales and offers to sell.** Section 271(a) of the Patent Act limits the acts of infringement to acts within or into the United States.<sup>42</sup> Given this strict territorial language, it may seem odd to talk about the extraterritorial protections afforded by that provision. The Federal Circuit and the Court of Claims, a predecessor court to the Federal Circuit, have done just that...at least for claims to systems. The Federal Circuit has restricted greatly the scope of any extraterritorial protection for method and process claims, however.

The first way in which the Federal Circuit has provided extraterritorial protection for patent owners is through its interpretation of infringing sales and offers to sell. Although the sales and offers to sell must be “within the United States,” the Federal Circuit has made clear that the location of the *ultimate sale* (even if not consummated for offers to sell) determines whether there is infringement under § 271(a). For example, negotiations in Norway to sell the patented invention in the United States constitutes an infringing offer to sell, even if the sale is ultimately not consummated.<sup>43</sup> Interestingly, when the negotiations take place in the United States to sell something abroad, there is no infringement.<sup>44</sup> The result means that there is infringement when potentially no activity takes place in the United States, but there is no infringement with clear

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<sup>40</sup> See *Rotec Indus., Inc. v. Mitsubishi Corp.*, 215 F.3d 1246, 1254 (Fed. Cir. 2000) (drawing on the on-sale bar to inform the analysis of § 271(a)’s “offer to sell” provision).

<sup>41</sup> *Holbrook, supra* note 38, at 778.

<sup>42</sup> 35 U.S.C. § 271(a).

<sup>43</sup> *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*,

<sup>44</sup> *Halo Elecs. V. Pulse* [cite]

domestic activity.<sup>45</sup> Nevertheless, the Federal Circuit’s interpretation of infringing sales and offers to sell provides extraterritorial protection to patent holders.

This protection is not available, however, to process or method claims under present law. Taking the Federal Circuit’s language in *NTP* seriously means that these types of claims cannot be infringed through sales or offers to sell. As such, these forms of patent claims are denied the extraterritorial protections under § 271(a) afforded all other types of patents. As discussed above, the patent exhaustion and on-sale bar doctrines suggest that such a proscription is not necessary.

**Extraterritorial protection for uses under § 271(a).** Denial of extraterritorial protection under § 271(a) for methods and processes is not limited to these two forms of infringement. The Federal Circuit in *NTP* also dramatically limited protection for infringing “uses” of methods that cross national boundaries. The accused BlackBerry system in *NTP* had components in Canada; in particular, the “relay” part of the system was in Canada, even though the owners of the BlackBerry units at issue were in the United States. The Federal Circuit had determined whether there was a “use” of the system and method “within the United States” pursuant to § 271(a). In exploring this issue, the court explicitly bifurcated the analysis, treating the system and method claims differently.<sup>46</sup>

For system claims, the court held “[t]he use of a claimed system under section 271(a) is the place at which the system as a whole is put into service, i.e., the place where control of the system is exercised and beneficial use of the system obtained.”<sup>47</sup> Because “RIM’s customers located within the United States controlled the transmission of the originated information and also benefited from such an exchange of information,” use of the system was in the United States; the existence of the system’s relay component did not preclude infringement.<sup>48</sup>

The court reached a dramatically different conclusion as to the method claims, however, concluding that the performance of one step – the relay – was outside of the United States, there could be no infringement of a U.S. patent.<sup>49</sup> To infringe a method claim by using the method, all steps must take place within the United States.<sup>50</sup> In reaching this conclusion, the court reasoned:

Because a process is nothing more than the sequence of actions of which it is comprised, the use of a process necessarily involves doing or performing each of the steps recited. This is

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<sup>45</sup> Timothy R. Holbrook, *Territoriality and Tangibility after Transocean*, 61 EMORY L.J. 1087, 1111-12 (2011).

<sup>46</sup> See Holbrook, *supra* note 20, at 499-500.

<sup>47</sup> *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1317 (Fed. Cir. 2005) (citing *Decca Ltd. v. United States*, 544 F.2d 1070, 108 (Ct. Cl. 1976)). For discussion and criticism of this test, and particularly its failure to account for potential conflicts of law, see Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law*, 41 WM. & MARY L. REV. 2119, 2156-62 (2008).

<sup>48</sup> *NTP*, 418 F.3d at 1317.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.* at 1318 (“We therefore hold that a process cannot be used ‘within’ the United States as required by [section 271\(a\)](#) unless each of the steps is performed within this country.”).

unlike use of a system as a whole, in which the components are used collectively, not individually.<sup>51</sup>

The court thus created a rule specific to method claims, precluding any extraterritorial protection for the use of systems that cross national borders. Such a limitation is particularly striking given that the court, in the same decision, effectively limited method claims to infringing uses only. The reasoning also does not seem terribly persuasive: why is the use of the system in the United States, based on the user, but not the *method*, when the user is who puts the method into operation? In other words, there is no apparent reason why the “control and beneficial use” test could not also apply to method claims.

**Extraterritorial protection under § 271(f).** That there is any extraterritorial protection afforded under § 271(a) may be surprising given the language of that provision. In contrast, 35 U.S.C. § 271(f) specifically provides extraterritorial protection for U.S. patent holders.<sup>52</sup> It does so by making it an act of infringement to export all or substantially all of the components of the invention, or a component with no substantial non-infringing use, outside of the United States, intending that the component or components will be assembled outside of the United States in a way that would have infringed if inside the United States.<sup>53</sup> The provision thus creates liability for exportation of parts of the invention and necessarily provides a lever for U.S. patent holders to regulate foreign markets.

Just as with § 271(a), § 271(f) states that it applies to patented inventions; it does not delineate which types of inventions it covers. The Federal Circuit has been all over the map as to this section’s application to method claims. In *Eolas Technologies Inc. v. Microsoft Corp.*, the court concluded that software could be a component under this provision.<sup>54</sup> The court reasoned that statutory language of § 271(f) “uses the broad and inclusive term ‘patented invention,’” and “did not limit section 271(f) to patented ‘machines’ or patented ‘physical structures.’”<sup>55</sup> Instead, “every form of invention eligible for patenting falls within the protection of section 271(f).” In answering whether software could be a “component,” the court noted that “[b]y the same token, the statute did not limit section 271(f) to ‘machine’ components or ‘structural or physical components.’ Rather every component of every form of invention deserves the protection of § 271(f).”<sup>56</sup>

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<sup>51</sup> *Id.* at 1317.

<sup>52</sup> Microsoft Corp. v. AT&T Corp., 550 U.S. 437, 442 (2007) (“§ 271(f) is an exception to the general rule that our patent law does not apply extraterritorially”).

<sup>53</sup> 35 U.S.C. § 271(f)(1) & (2). For a discussion of the reasons § 271(f) was adopted, see Timothy R. Holbrook, *Territoriality Waning? Offering in the United States to Sell an Invention Abroad*, 37 UC DAVIS L. REV. 701, 719-21 (2004).

<sup>54</sup> 399 F.3d 1325, 1338-39 (Fed. Cir. 2005).

<sup>55</sup> *Id.* at 1338, 1339.

<sup>56</sup> *Id.* at 1339. The Supreme Court ultimately disagreed with *Eolas* in *Microsoft v. AT&T*, holding that software in the abstract could not be a “component” and that a “component” required some physical instantiation. *Microsoft*, 550 U.S. at 449 (“Until it is expressed as a computer-readable ‘copy,’ e.g., on a CD-ROM, Windows software—indeed any software detached from an activating medium—remains uncombinable. It cannot be inserted

The language in *Eolas* suggesting that § 271(f) applied to methods was not necessary to the decision and constituted dicta. The court subsequently expressed skepticism as to the applicability of § 271(f) to method claims in *NTP*. In finding that there was no infringement under § 271(f) by the BlackBerry system, the court stopped short of holding that the provision was inapplicable to method claims. It did note, however, that “it is difficult to conceive of how one might supply or cause to be supplied all or a substantial portion of the steps of a patented method in the sense contemplated by the phrase ‘components of a patented invention’ in section 271(f).”<sup>57</sup>

The court subsequently held, however, that § 271(f) could apply to method claims. Specifically, in *Union Carbide Chemicals & Plastics Technology Corp. v. Shell Oil Co.*, the court held that there was infringement when a catalyst used in a patented process was exported for use in that process. The court relied upon the analysis in *Eolas* regarding the broad language used in § 271(f) to support its holding<sup>58</sup> and distinguished *NTP* on the basis of its facts.<sup>59</sup> Thus, the court answered the question of § 271(f)’s applicability to method claims definitively in the affirmative.

But such clarity was short-lived. Four years later, the Federal Circuit took the issue en banc in *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, holding that § 271(f) was inapplicable to process claims.<sup>60</sup> The court reasoned that a “component” of a claimed method is a step in the given method or process, not a physical thing.<sup>61</sup> The court viewed this distinction as “critical to the meaning of the statute and dooms [the] argument” that § 271(f) applied to method claims. The court contrasted § 271(f)(2) with its parallel provision, § 271(c), in which the statute specifically distinguishes between components for machines, manufactures, combinations and compositions and materials or apparatuses for use in patented processes.<sup>62</sup> This distinction led the court to conclude that “Congress clearly believed that a ‘component’ was separate and distinct from a ‘material or apparatus for use in practicing a patented process.’”<sup>63</sup> Considering the components of methods to be intangible steps, the court also reasoned that the requirement for the component to be supplied is a “physical impossibility.”<sup>64</sup> The court rejected language from the legislative history suggesting that § 271(f) did apply to methods, and then

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into a CD-ROM drive or downloaded from the Internet; it cannot be installed or executed on a computer. Abstract software code is an idea without physical embodiment, and as such, it does not match § 271(f)’s categorization: ‘components’ amenable to ‘combination.’”). The Supreme Court also declined to answer the question of whether § 271(f) applied to method claims. *Id.* at 452 n.13 (“If an intangible method or process, for instance, qualifies as a ‘patented invention’ under § 271(f) (a question as to which we express no opinion), the combinable components of that invention might be intangible as well.”).

<sup>57</sup> *NTP*, 418 F.3d at 1322.

<sup>58</sup> 425 F.3d 1366, 1379 (Fed. Cir. 2005).

<sup>59</sup> *Id.* at 1379-80.

<sup>60</sup> 576 F.3d 1348, 1359 (Fed. Cir. 2009) (en banc in relevant part).

<sup>61</sup> *Id.* at 1362 (“Thus, a component of a tangible product, device, or apparatus is a tangible part of the product, device, or apparatus, whereas a component of a method or process is a step in that method or process.”).

<sup>62</sup> *Id.* at 1363.

<sup>63</sup> *Id.* at 1363-64.

<sup>64</sup> *Id.* at 1364.

bolstered its conclusion by applying the presumption against the extraterritorial application of U.S. patent law.<sup>65</sup> The court therefore found that the export of implantable cardioverter defibrillators for use in the patented method did not infringe §271(f).

Given that the court decided this issue *en banc*, the inapplicability of § 271(f) remains the law if and until the Supreme Court or Congress intervene, neither of which seem likely in the near term. Consequently, method and process claims again have been treated exceptionally by the court’s interpretation of neutral statutory language in ways that undermine the protections afforded to such claims.

### 3. *Divided Infringement Scenarios*

Method claims are also treated exceptionally – and afforded less protection – in the context of what has come to be known as “divided infringement” scenarios of infringement.<sup>66</sup> This situation arises when the patented invention is utilized by multiple parties.<sup>67</sup> This scenario can arise easily on the internet, when the user of an invention may not actually own all the constituent parts of the claimed invention. In this case of multiple-users utilizing the invention, the Federal Circuit has again bifurcated system and method claims, to the detriment of protection for claimed processes.

To infringe a method claim, generally all of the steps of the method must be performed by a single entity.<sup>68</sup> The slight exception of this rule is when the acts of others can be attributable to a single entity.<sup>69</sup> Such attribution can arise when one party is the agent of another, when a party is contractually obligated to perform a step or steps, or when there is a joint enterprise among the parties.<sup>70</sup>

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<sup>65</sup> *Id.*

<sup>66</sup> See Mark A. Lemley et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255 (2005).

<sup>67</sup> *Id.* at 246. Lemley et al. treats transnational scenarios, such as that found in the *NTP* case, discussed *supra* notes [x]-[x] and accompanying text, as another variation of “divided” infringement claims, although in the *NTP* context, infringement is divided between jurisdictions and not actors.

<sup>68</sup> *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 786 F.3d 899, (Fed. Cir. 2015); *Aristocrat Techs. Australia Pty Ltd. v. Int’l Game Tech.*, 709 F.3d 1348, 1362 (Fed. Cir. 2013); *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 614 F.3d 1367, 1380–81 (Fed. Cir. 2010); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008); *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378–79 (Fed. Cir. 2007). *But see Akamai*, 786 F.3d at 915–16 (Moore, J., dissenting) (criticizing majority for “divorcing] patent law from mainstream legal principles by refusing to accept that § 271(a) includes joint tortfeasor liability. The majority’s rule creates a gaping hole in what for centuries has been recognized as an actionable form of infringement.”).

<sup>69</sup> *Akamai*, 786 F.3d at 909.

<sup>70</sup> *Id.* at 904. As the court noted, technically the “joint enterprise” version of divided infringement claims was not at issue in the appeal, so *Akamai* was “not the appropriate vehicle to adopt joint enterprise liability.” *Id.* at 904 n.1.

The court treats divided infringement as to system claims completely differently, however. Drawing on *NTP*'s "control and beneficial use" test for determining the locus of infringement, the Federal Circuit has also adopted that rule to discern *who* is using the infringing system, even if that user does not own all of the system's components.<sup>71</sup> Specifically, the Federal Circuit held that "to 'use' a system for purposes of infringement, a party must put the invention into service, i.e. control the system as a whole and obtain benefit from it."<sup>72</sup> There can be an infringing use of a system, even when the user is not in possession of all of the elements of the patented system, so long as the user was using every element.<sup>73</sup>

Of course, the distinction between infringing uses of process and system claims finds no textual support in the statute. It also isn't clear why a method claim could not be infringed under the same reasoning as a system claim – the method is "used" when someone puts it into service by demonstrating control and beneficial use. Indeed, this bifurcation risks a loss of public notice as to what constitutes infringement by adding a level of complexity to the law. Such bifurcation assumes actors in the market can discern not only whether they infringe the patent claims as a matter of claim construction but also the distinction between system and method claims as articulated in the case law.<sup>74</sup> Likely, every day users of the Blackberry system or the billing system in *Centillion* would not realize that *the very same actions* infringe a system claim but not a method claim.

#### 4. *Subject Matter Eligibility*

If there was one area of patent law where it seemed appropriate to treat different categories of inventions differently, one would think it would be assessing patent eligibility under 35 U.S.C. § 101. The statute delineates four, albeit capacious, categories of inventions: processes, machines, manufactures, and compositions of matter.<sup>75</sup> These four categories suggest that inventions should fall into one of these categorical buckets (although they could fall into more than one<sup>76</sup>).

Indeed, prior to the recent onslaught of Supreme Court cases dealing with § 101, the Supreme Court was always careful to place an invention into one of the categories. In *Diamond v. Chakrabarty*, the Supreme Court was careful to identify which category the invention fell

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<sup>71</sup> *Centillion Data Sys., LLC, v. Qwest Comms. Int'l, Inc.*, 631 F.3d 1279, 1283-84 (Fed. Cir. 2011) (relying on *NTP* test to determine who is system user).

<sup>72</sup> *Id.* at 1284. The court found a "use" in *Centillion* both for the on-demand and standard versions of the claimed system because the customer initiated use of the system and obtained the resulting benefit. *Id.* Qwest, however, did not "use" the system because it never put the system into operation, although it maintained possession of the back-end processing elements of the system. *Id.* at 1286.

<sup>73</sup> *Id.* at 1284.

<sup>74</sup> Timothy R. Holbrook and Mark D. Janis, *Patent Law's Audience*, 97 MINN. L. REV. 72, 120 (2012).

<sup>75</sup> 35 U.S.C. § 101.

<sup>76</sup> *Diamond v. Chakrabarty*, 447 U.S. 303, 309-10 (1980) (holding that genetically modified bacterium is both a manufacture and composition of matter).

into.<sup>77</sup> Much of the Supreme Court’s discussion in *Diamond v. Diehr* involved the history of patents on processes.<sup>78</sup> [start]

Even the Federal Circuit was careful to denote which category an invention fell into. Aside from some loose language in *State Street Bank* that was later rejected, the court took pains to place an invention into a particular category. This analysis can be seen most clearly in the court’s decision in *In re Nujiten*, dealing with the patentability of a water-marked signal. [start]

It is unsurprising that method claims have caused the greatest consternation in terms of patent eligibility. Because the method covers something intangible, the Supreme Court noted in *Flook* that “[t]he line between a patentable ‘process’ and an unpatentable ‘principle’ is not always clear. Both are ‘conception[s] of the mind, seen only by [their] effects when being executed or performed.’”<sup>79</sup> Because methods can be removed from some of the physical aspects of other types of inventions, it is unsurprising that many of the Supreme Court decisions on § 101 have involved method and process claims.<sup>80</sup> Indeed, the articulation of concerns with “preemption” of an idea seems well-rooted in the nature of process claims.

Nevertheless, the Supreme Court’s methodology in *Alice v. CLS Bank* effectively rejects any of the distinctions found in § 101. Instead, the Court first focused on the method claims of the patent at issue, concluding that the claims were directed towards an abstract idea and that they lacked an inventive concept. The Court then, in essence, “lumped and dumped” the system and medium claims, noting that they “are no different from the method claims in substance.”<sup>81</sup> The Court warned that treating the claims separately would risk making eligibility depend on how one drafts the claims.<sup>82</sup>

In the context of § 101, however, the distinctions between the forms of inventions can actually matter. Minimally, as I and a co-author have explored elsewhere, the Court’s treatment of different claims ignores what could be key aspects of the claim itself.<sup>83</sup> Indeed, the Court’s concerns about drafting tricks must have limits. At some level, there must be a way to claim a truly innovative creation that removes it from the “abstract idea” and transforms it, via the inventive concept, into a patent eligible invention. Much of this would be driven by claim drafting. [more here]

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<sup>77</sup> *Id.*

<sup>78</sup> 450 U.S. 175, 182-85 (1981).

<sup>79</sup> *Parker v. Flook*, 43 U.S. 584, 589 (1978).

<sup>80</sup> See generally Timothy R. Holbrook and Mark D. Janis, *Patent-Eligible Processes: An Audience Perspective*, 17 VAND. J. ENT. & TECH. L. 349, 354-58 (2015) (discussing chronology of Supreme Court cases relating to process claims).

<sup>81</sup> *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2360 (2014).

<sup>82</sup> *Id.* (“The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea. This Court has long “warn[ed] … against” interpreting § 101 “in ways that make patent eligibility ‘depend simply on the draftsman’s art.’” *Mayo*, *supra*, at —, 132 S.Ct., at 1294 (quoting *Flook*, 437 U.S., at 593, 98 S.Ct. 2522); see *id.*, at 590, 98 S.Ct. 2522 (“The concept of patentable subject matter under § 101 is not ‘like a nose of wax which may be turned and twisted in any direction …’ ”).

<sup>83</sup> Holbrook and Janis, *supra* note 80, at [x]/

#### IV. IS THE COURTS' EXCEPTIONAL TREATMENT OF PROCESS CLAIMS JUSTIFIED?

[I am working on my normative claims here. My initial thoughts are to suggest that process and method claims should be treated in the same manner as other inventions, consistent with the statutory language. Where exceptional treatment is needed, Congress has stepped in. Indeed, when Congress steps in, it is generally to provide *more* protection, not less protection, for processes. Thus, uniform treatment would mean that process patents could be sold or offered to sell (and likely even “made”) if what is sold, offered for sale, or even made has no other function except to perform the claimed process.

This dynamic creates an temporal advantage, allowing patent owners to seek relief (and particularly injunctive relief) sooner (assuming they can discover the potential infringement). Aside from damages accruing earlier, the ability to seek injunctive relief more quickly could be an advantage (this was argued as the primary advantage to adding “offers to sell” as a form of infringement).

Other areas would need to be harmonized as well. Extraterritorial limits could be strictly interpreted for both system and method claims. Or, assuming some extraterritorial protection is appropriate (which I think it is, though with limitations not currently found in the law), then method claims should use the same rule as system claims. Same with divided infringement). Subject matter eligibility should take the non-method claims of a patent seriously, looking at the particular claim limitations and not simply lumping/dumping and calling everything “conventional” in some quasi-obviousness analysis.

To the extent people are concerned with the intangible nature of method claims creating notice problems, I think those concerns are overstated. Breadth and definiteness are distinct things. If breadth is the concern (with methods using broad functional language), then other tools should be used to combat that problem – enablement, written description, and indefiniteness (and of course obviousness)). Functional claiming should be dramatically reduced in all contexts (it is not unique to method claims). Minimally, the differential treatment of method claims discussed is not justified by concerns of “breadth” etc.). The courts and USPTO may want to clamp down on how parties draft their method claims, which would be a better approach than the categorically different (and generally less favorable) treatment that process claims currently receive.

#### V. CONCLUSION