

COMMENTS

Construing Product-by-Process Patent Claims in *Scripps* and *Atlantic*

INTRODUCTION

The United States patent¹ system promotes the growth of technology by rewarding inventors with a limited monopoly on their inventions.² If an invention satisfies the requirements for patentability,³ the Patent and Trademark Office (PTO) will issue a patent to the inventor.⁴ The patent will contain one or more claims, which are precise descriptions of the invention.⁵ By defining the invention, the claims also demarcate the scope of the inventor's limited monopoly.⁶ The inventor may then sue any-

¹ A patent is a grant to an inventor by the government of a privilege to exclude others from making, using, or selling the invention and includes the right to license others to make, use, or sell the invention. BLACK'S LAW DICTIONARY 1125 (6th ed. 1990); *see also infra* text accompanying notes 43-46 (defining patent).

² *See infra* text accompanying notes 42-48 (discussing purpose of patent system). *See generally* 35 U.S.C. §§ 1-376 (1988 & Supp. V 1993) (patent statutes); 37 C.F.R. §§ 1.1-1.825 (1993) (patent regulations).

³ An invention is patentable if it is entitled by law to be protected by the issuance of a patent. BLACK'S LAW DICTIONARY 1125 (6th ed. 1990); *see also* 35 U.S.C. § 101 (defining "inventions patentable"); 35 U.S.C. §§ 102-103 (setting out conditions for patentability); *infra* part I.A (discussing requirements for patentability).

⁴ 35 U.S.C. § 101; *see also infra* part I.C (discussing prosecution of patent applications). *See generally* 4 ERNEST B. LIPSCOMB III, LIPSCOMB'S WALKER ON PATENTS §§ 12:1-79 (3d ed. 1985 & Supp. 1991) (discussing PTO). The Patent and Trademark Office (PTO) is an office in the Department of Commerce. 35 U.S.C. § 1.

⁵ *See infra* part I.B (discussing patent claims).

⁶ *See Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed.

one who makes, uses, or sells the patented invention without the inventor's permission.⁷

One type of claim is a product-by-process claim.⁸ This claim describes a product in terms of a specified process used to make the product.⁹ The PTO's approach to product-by-process claims is to evaluate the patentability of the product independently of the specified process — a "process-independent" approach.¹⁰ The process-independent approach ensures that an inventor will not obtain a patent for an unpatentable product merely by developing a new process to make the product.¹¹ If only the process is patentable, the PTO will issue a patent only for the specified process.¹²

Suppose Smith invents a way of making widgets using process A.¹³ She then applies for a patent with a claim for process A

Cir. 1989) (stating that claims define boundary lines of patentee's right to exclude others from making, using, or selling protected invention).

⁷ 35 U.S.C. § 271; *see also infra* text accompanying notes 86-90 (discussing patent infringement).

⁸ ROBERT C. FABER, *LANDIS ON MECHANICS OF PATENT CLAIM DRAFTING* § 46 (3d ed. 1990).

⁹ *See infra* text accompanying notes 66-72 (discussing product-by-process claims).

¹⁰ *See Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 844 (Fed. Cir. 1992) (stating that PTO evaluates patentability of product-by-process claims independent of process); *infra* text accompanying notes 79-85 (discussing prosecution of product-by-process claims). The following table illustrates the process-independent approach:

Process-Independent Approach:
Is the Product Patentable as a Product-by-Process Claim?

	process is patentable	process is not patentable
product is patentable	yes	yes
product is not patentable	no	no

¹¹ *See Fairfax Dental Ltd. v. Sterling Optical Corp.*, 808 F. Supp. 326, 338 (S.D.N.Y. 1992) (stating that inventors should not obtain patent for unpatentable product merely by developing new process).

¹² FABER, *supra* note 8, §§ 36-37; *see also infra* text accompanying notes 258-59 (discussing issue of patents with process claims).

¹³ *See, e.g., infra* text accompanying notes 109-11, 147-51 (discussing invention of processes for making products).

and another claim for the widgets as a product of process A.¹⁴ If process A is patentable, then the PTO will issue her a seventeen-year patent with a claim for the process.¹⁵ If the widget itself is also patentable, then the PTO will include a product-by-process claim for the widget.¹⁶ If Martinez begins to use process A to make widgets without Smith's permission during the seventeen year term, Smith's patent enables her to sue Martinez for infringing¹⁷ both the process claim and the product-by-process claim.¹⁸

Suppose Nguyen invents a way of making the same widgets using process B.¹⁹ Nguyen begins to make and sell these widgets during the term of Smith's patent.²⁰ By using a different process, Nguyen has not infringed the patent claim for process A.²¹ However, Nguyen may have infringed Smith's product-by-process claims for the widget itself.²² Courts have split over the question of whether a product-by-process claim can be infringed when the product is made by a different process.²³

¹⁴ See, e.g., *infra* text accompanying note 112 (discussing application for patent).

¹⁵ 35 U.S.C. § 101; see also, e.g., *infra* text accompanying notes 113-18, 152 (discussing issue of patents).

¹⁶ See, e.g., *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 841 (Fed. Cir. 1992) (citing *Plummer v. Sargent*, 120 U.S. 442, 448 (1887) (describing patent for bronzing process and claim for product of process)).

¹⁷ A person infringes a patent if she makes, uses, or sells the patented invention without authority during the patent term. 35 U.S.C. § 271; see also *infra* text accompanying notes 86-90 (discussing patent infringement).

¹⁸ See, e.g., *Atlantic*, 970 F.2d at 836 (describing defendant who infringed plaintiff's product-by-process claim by using same process to make same product).

¹⁹ See, e.g., *infra* text accompanying notes 123-33, 154-58 (discussing competing inventors who develop new processes for making patented products).

²⁰ See, e.g., *infra* text accompanying notes 132-33, 153-57 (discussing competing inventors who make and sell products identical to patented products-by-process); see also 35 U.S.C. § 154 (stating term of patent).

²¹ 35 U.S.C. § 271(a).

²² See *infra* text accompanying notes 23-34 (discussing infringement of product-by-process claims).

²³ See *Tropix, Inc. v. Lumigen, Inc.*, 825 F. Supp. 7, 7-8 (D. Mass. 1993) (discussing split in authority over whether defendant infringes product-by-process claim when using different process to make product).

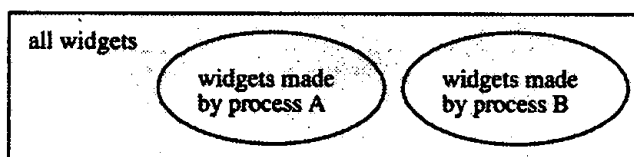
Courts have analyzed these cases of infringement in two ways.²⁴ In one case, the court viewed product-by-process claims as not limited by the specified process — a “non-limiting” construction.²⁵ Under this construction, a court would hold that Smith’s claim covers all widgets, whether made by process A or any other process.²⁶ The court would therefore find that Nguyen infringed Smith’s patent.²⁷ In another case, the court construed product-by-process claims as limited by the specified process — a “process-limited” construction.²⁸ Under a process-limited construction, a court would hold that the product-by-process claim only covers the product made by the specified

²⁴ Compare *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583-84 (Fed. Cir. 1991) (applying non-limiting construction to infringement inquiry) with *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846 (Fed. Cir. 1992) (applying process-limited construction to infringement inquiry).

²⁵ See *Scripps*, 927 F.2d at 1583-84 (stating that during patentability inquiries, process does not limit scope of product-by-process claim). The following figure illustrates the non-limiting construction:

non-limiting construction for product-by-process claims

infringing products



The non-limiting construction applied during infringement analysis is different than the process-independent approach taken by the PTO. See *infra* text accompanying notes 200-09 (discussing confusion in *Scripps* between non-limiting construction and process-independent approach); *infra* note 214 and accompanying text (discussing confusion in *Atlantic* between non-limiting construction and process-independent approach).

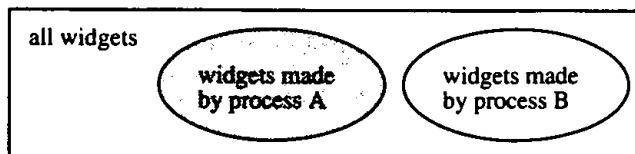
²⁶ See *Scripps*, 927 F.2d at 1583-84 (holding that non-limiting construction of product-by-process claim covers products regardless of process).

²⁷ *Id.*

²⁸ See *Atlantic*, 970 F.2d at 846-47 (holding that process limits scope of product-by-process claim). The following figure illustrates the process-limited construction:

process-limited construction for product-by-process claims

infringing products



process.²⁹ Since Nguyen did not use process A, as specified in Smith's patent, the court would find that Nguyen did not infringe Smith's patent, even though both produced identical widgets.³⁰

The conflicting constructions for product-by-process claims make the scope of Smith's patent ambiguous.³¹ Smith cannot be certain whether subsequent inventors have infringed her product-by-process claim.³² Similarly, the ambiguous scope discourages potential inventors from developing alternate or improved processes for making widgets.³³ So far, the conflict over which construction courts should apply during infringement litigation remains unresolved.³⁴

This Comment examines the different approaches courts and the PTO have taken to product-by-process claims.³⁵ Part I surveys several aspects of the United States patent system,³⁶ including the PTO's approach to patentability for product-by-process claims.³⁷ Part II discusses the case law construing product-by-process claims during infringement.³⁸ Part III analyzes these cases, reviews their basis in precedent, and offers a critique of their rationales.³⁹ Finally, Part IV proposes that the process-indepen-

²⁹ See *id.* (illustrating process-limited construction).

³⁰ See *id.* (holding that process-limited construction of product-by-process claim only covers product made by specified process).

³¹ See *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1282 (Fed. Cir. 1992) (Newman, J., dissenting) (stating that litigants are not served by conflicting authority); *Tropix, Inc. v. Lumigen, Inc.*, 825 F. Supp. 7, 8 (D. Mass. 1993) (stating that precedential effect of *Scripps* or *Atlantic* on subsequent cases is unpredictable); *id.* at 10 (stating that choice between *Scripps* and *Atlantic* is crucial in "present age of rampant biotechnology").

³² See 1 ANTHONY W. DELLER, PATENT CLAIMS § 311, at 860 (2d ed. 1971) (discussing how definiteness in claims enables distinction between infringing products and products in public domain).

³³ See *Atlantic*, 974 F.2d at 1280-81 (Rich, J., dissenting) (stating that ambiguous scope of claims discourages potential inventors). Pharmaceutical manufacturers are highly dependent on intellectual property protection to provide the incentive to invest. *Id.*; see also B.J. Spalding, *Biotech Products Move Nearer To Market*, CHEMICAL WK., July 20, 1988, at 44 (estimating new recombinant product requires 7 to 10 years and \$125 million to develop and market).

³⁴ See *Tropix*, 825 F. Supp. at 10 (noting confused state of authority).

³⁵ See *infra* parts II-IV (discussing *Scripps*, *Atlantic*, and proposed two-step analyses for patentability and infringement determination).

³⁶ See *infra* part I (discussing United States patent system).

³⁷ See *infra* part I.C (discussing PTO's approach to patentability).

³⁸ See *infra* part II (discussing *Scripps* and *Atlantic*).

³⁹ See *infra* part III (analyzing rationales in *Scripps* and *Atlantic*).

dent approach to patentability and the process-limited construction used in infringement inquiries share an underlying pattern.⁴⁰ Recasting these approaches into two separate but analogous two-step analyses relaxes the tension between the conflicting decisions and obtains results consistent with precedent and policy.⁴¹

I. THE UNITED STATES PATENT SYSTEM

The Constitution empowers Congress to issue patents to promote the “useful Arts.”⁴² A patent is an agreement between the federal government and an inventor.⁴³ The government grants the inventor an exclusive seventeen-year monopoly to make, use, or sell an invention.⁴⁴ If any other person wants to make, use, or sell the invention during this seventeen-year period, she must first obtain a license from the inventor.⁴⁵ In exchange for the limited monopoly, the inventor must disclose the invention to the public in a written specification.⁴⁶ Access to such technical information adds to the public wealth of knowledge and spurs further innovation.⁴⁷ Thus, the United States patent system promotes a policy of technological progress by rewarding inventors for disclosing their inventions.⁴⁸

⁴⁰ See *infra* part IV.A (proposing two-step analyses).

⁴¹ See *infra* parts IV.B-C (discussing results from two-step analyses).

⁴² U.S. CONST. art. I, § 8, cl. 8.

⁴³ See *Century Elec. Co. v. Westinghouse Elec. & Mfg.*, 191 F. 350, 354 (8th Cir. 1911) (discussing contract nature of patent law).

⁴⁴ 35 U.S.C. § 154.

⁴⁵ *Id.* Once the patent term expires, the public is free to use the invention without a license. *Id.*

⁴⁶ *Id.* § 112. The specification must contain a full and clear description of the invention to enable any person skilled in the pertinent field to make and use the invention. *Id.* The specification must also describe the best mode for carrying out the invention. *Id.*

⁴⁷ See *Troxel Mfg. Co. v. Schwinn Bicycle Co.*, 465 F.2d 1253, 1258 (6th Cir.) (stating that public access to information encourages innovation), *appeal on remand*, 489 F.2d 968 (6th Cir. 1972), *cert. denied*, 416 U.S. 939 (1974). See generally 1 LIPSCOMB, *supra* note 4, § 1:8 (discussing role of patents in free enterprise system).

⁴⁸ See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-81 (1974) (discussing policies of patent laws); see also *supra* text accompanying notes 45-46 (discussing patent policy).

A. The Statutory Requirements for Patentability

To implement these policies, Congress has enacted patent statutes,⁴⁹ which list several requirements for patentability.⁵⁰ When an inventor submits an application to the PTO,⁵¹ the invention must belong to one of several statutory categories, such as machines, manufacturing products, or processes for making products.⁵² Second, the invention must have at least some minimal utility.⁵³ Third, the invention must be novel when compared to previously known technology.⁵⁴ Finally, the invention must be sufficiently innovative as to be nonobvious.⁵⁵ Nonobviousness generally requires that the invention not be obvious to a person having ordinary skill in the field of the invention.⁵⁶ To determine whether the invention meets the statutory requirements, the PTO examines the invention as defined by the inventor's claims.⁵⁷

⁴⁹ 35 U.S.C. §§ 1-376.

⁵⁰ *Id.* §§ 101-103.

⁵¹ See 35 U.S.C. §§ 111-112 (requiring application and detailed specification). The minimum requirements for an application are (1) a detailed specification, (2) at least one claim, (3) an oath of inventorship, (4) any necessary drawings, and (5) a filing fee. 37 C.F.R. § 1.51.

⁵² 35 U.S.C. § 101. Patents for machines, manufactured products, or manufacturing processes, termed "utility patents," comprise the bulk of all U.S. patents issued. PATENT & TRADEMARK OFFICE, U.S. DEPARTMENT OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 901.04 (rev. ed. Aug. 1993) [hereafter MPEP]. The PTO also issues patents for plants and designs. 35 U.S.C. §§ 161, 171.

⁵³ 35 U.S.C. § 101. An invention has utility if it has a current, significant, beneficial use. *Brenner v. Manson*, 383 U.S. 519 (1966); see also 3 LIPSCOMB, *supra* note 4, § 5:5 (stating that PTO cannot reject invention for lack of utility without proof of total inoperability).

⁵⁴ 35 U.S.C. § 102(a). The PTO will not issue a patent if "the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent. . . ." *Id.* The statute also bars patentability if there is an unreasonable delay between making the invention and filing an application. See *id.* § 102(b), (d) (setting out one-year statutory time bars). For example, if the invention was on sale more than one year before the application date, the PTO will refuse to issue a patent. *Id.*

⁵⁵ *Id.* § 103.

⁵⁶ *Id.* The PTO follows the analysis outlined in *Graham v. John Deere Co.*, 383 U.S. 1 (1966), when determining whether an invention is nonobvious. MPEP, *supra* note 52, § 706.

⁵⁷ See 35 U.S.C. § 112 (stating that claims particularly point out and distinctly claim subject matter that applicant regards as her invention); 37 C.F.R. § 1.104(a) (stating that examination of invention's patentability shall be complete as to applicable statutes and rules).

B. Patent Claims

When an inventor submits an application for a patent, she proposes one or more claims.⁵⁸ These claims formally state the subject matter of her invention with precise specificity.⁵⁹ The format of a claim depends on the type of invention.⁶⁰ For example, when the invention is an apparatus or a machine, the inventor uses an apparatus claim to describe each element of the machine and how the elements relate to each other.⁶¹ In a process claim, the inventor describes the sequential steps of a procedure in detail.⁶² In a product claim,⁶³ the inventor describes the structural components of the product and how the individual components interrelate.⁶⁴ Thus, a claim is a precise description of an invention's elements and their interactions.⁶⁵ When an inventor develops a process to make a product, she may want to patent both the product and the process.⁶⁶ In these instances, the inventor may use a product-by-process claim format for the product.⁶⁷ Using this format, the inventor typically claims the process first with a process claim.⁶⁸ The inventor then claims the product itself by defining the invention as the product of the claimed process.⁶⁹

⁵⁸ 37 C.F.R. § 1.51.

⁵⁹ 35 U.S.C. § 112; *see also infra* notes 60-72 and accompanying text (discussing patent claims).

⁶⁰ *See infra* text accompanying notes 61-69 (discussing different formats for claims). There is no set statutory form of word or terms for claims. MPEP, *supra* note 52, § 608.01(m). A very simple claim may read, "I claim: a pencil having an eraser fastened to one end." FABER, *supra* note 8, at 6.

⁶¹ FABER, *supra* note 8, at 35.

⁶² *Id.* at 99.

⁶³ The Patent Act terms manufactured products as "manufacture." 35 U.S.C. § 101. However, courts commonly refer to claims for "articles of manufacture" as product claims. FABER, *supra* note 8, at 131.

⁶⁴ FABER, *supra* note 8, at 131.

⁶⁵ *See* MPEP, *supra* note 52, § 601.08(m) (setting out preferred format for claims).

⁶⁶ *See, e.g.,* Merrill v. Yeomans, 94 U.S. 568 (1877) (discussing inventor of deodorization process for hydrocarbon oils who also wanted to patent resulting oils); *see also supra* text accompanying notes 13-18 (presenting hypothetical inventor Smith who uses product-by-process claim).

⁶⁷ *See* Scripps Clinic & Research Found. v. Genentech, Inc., 666 F. Supp. 1379, 1386 (N.D. Cal. 1987) (stating that process may define product if English language is inadequate to describe product).

⁶⁸ FABER, *supra* note 8, at 99-107; *see also supra* text accompanying note 62 (discussing process claims).

⁶⁹ 2 DONALD S. CHISUM, PATENTS § 8.05, at 8-81 (1994). A claim may refer to the terms

This format is useful when the product is structurally complex or when the inventor can only define the product in terms of the specified process.⁷⁰ Using this claim format, the inventor can claim both the process and the product of the process.⁷¹ The PTO examines these claims for patentability; if the PTO issues the patent, these claims will define the extent of the inventor's limited monopoly against infringers.⁷²

C. The Prosecution of Applications

Prosecution is an administrative proceeding before the PTO, beginning when the applicant files an application and continuing until the PTO either rejects the application or issues

of another claim — a “dependent claim.” 35 U.S.C. § 112. Typically, a product-by-process claim will incorporate the terms of a process claim by reference. *See, e.g.*, U.S. Patent No. 4,674,204; U.S. Reissue Patent No. 32,011 (presenting product-by-process claims that depend on process claims).

⁷⁰ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 843 & n.9 (Fed. Cir. 1992); *see also* FABER, *supra* note 8, at 135 (stating that product-by-process claims are permissible when product can be described only by process used to make it). Before 1974, the PTO had disfavored product-by-process claims, allowing their use only when absolutely necessary. *Id.* Since 1974, the PTO has revised its policy to allow inventors to use this format. *Id.* at 138-40 (citing MPEP, *supra* note 52, § 706.03(e)).

⁷¹ *See In re Kuehl*, 177 U.S.P.Q. (BNA) 250 (C.C.P.A. 1973) (holding that PTO should allow inventor to claim both process and product made by that process).

⁷² *See* 35 U.S.C. § 151 (describing issue of patent); FABER, *supra* note 8, at 1 (stating that claims define what is “forbidden territory” and what is “open”).

a patent.⁷³ During the prosecution of an application, the PTO analyzes the patentability of the invention.⁷⁴ The PTO determines whether each claim satisfies the statutory requirements.⁷⁵ For a product claim to satisfy the novelty requirement, for example, the PTO compares the product claim with previously known products.⁷⁶ A novel product claim must describe the invented product, not pre-existing products.⁷⁷ If the scope of the claim does not include previously known products, then the claim is sufficiently novel.⁷⁸

⁷³ 35 U.S.C. § 131. If the applicant is entitled to a patent under the law, the PTO issues a patent for invention. *Id.* The following table summarizes prosecution and other related inquiries when the PTO and the courts consider the precise scope of patent claims.

Four Related Types of Inquiries

	inquiry	Is the invention patentable ?	Is the invention the same as a previous invention ?
forum			
before the PTO		prosecution	interference
before the court		validity	infringement

Whenever a new patent application claims the same invention as a pending application or an unexpired patent, the PTO conducts an interference proceeding. *See id.* § 135 (discussing interferences). The PTO determines which party developed the invention first and issues the patent only to that party. *Id.* During such proceedings, the PTO must construe each inventor's claims to determine whether or not each claims the same invention. *See* MPEP, *supra* note 52, § 2301.01 (discussing interpretation of claims during interference).

⁷⁴ *See infra* notes 75-85 and accompanying text (discussing prosecution).

⁷⁵ 35 U.S.C. § 131; *see also* McGill, Inc. v. John Zink Co., 736 F.2d 666, 672 (Fed. Cir.) (stating that examining claim language is threshold requirement of claim construction), *cert. denied*, 469 U.S. 1037 (1984). During the application process, the PTO will typically require the inventor to shape the precise wording of the claims through a series of amendments. *See generally* 37 C.F.R. §§ 1.115-1.127 (discussing procedure for amending patent application). Thus, during prosecution, the scope of the claims in an application are in a state of flux. 3 LIPSCOMB, *supra* note 4, § 11:1.

⁷⁶ 35 U.S.C. § 102(a).

⁷⁷ *Id.*

⁷⁸ *Id.* Suppose a previously known product has features A, B, and C. *See supra* note 54 and accompanying text (defining novelty). Suppose claim 1 covers products with features A, B, and C. Since claim 1 covers a previously known product, claim 1 is not novel.

The PTO's approach to product-by-process claims is similar to its approach to product claims.⁷⁹ In a product-by-process claim, the inventor claims the product of a specified process.⁸⁰ When determining the patentability of a product-by-process, the PTO considers the patentability of only the product itself.⁸¹ If the product is patentable, then the PTO treats the product-by-process as patentable.⁸² The patentability of the process does not affect the patentability of the product-by-process.⁸³ Under this process-independent approach, a novel process cannot confer patentability to an otherwise unpatentable product.⁸⁴ If the PTO determines during prosecution that an invention is patentable, then the PTO will issue a patent that is presumptively valid.⁸⁵

D. Infringement and Patent Validity

For seventeen years after the PTO issues a patent, the inventor has a cause of action against anyone who infringes the patent.⁸⁶ A defendant infringes a patent by making, using, or selling the invention during the seventeen-year period without

Suppose claim 2 covers products with features A, B, C, and D. Since claim 2 does not cover a previously known product, claim 2 satisfies the novelty requirement. See DAVID PRESSMAN, PATENT IT YOURSELF 9/7 to 9/8 (3d ed. 1993) (discussing relation between breadth of claims, infringement, and novelty).

⁷⁹ Compare *infra* text accompanying notes 80-85 (discussing prosecution of product-by-process claims) with *supra* text accompanying notes 76-78 (discussing prosecution of product claims).

⁸⁰ 2 CHISUM, *supra* note 69, § 8.05, at 8-81.

⁸¹ See *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 844-45 (Fed. Cir. 1992).

⁸² See *id.* (stating that PTO does not consider patentability of process when determining patentability of product-by-process).

⁸³ *Id.*

⁸⁴ See *supra* text accompanying notes 79-83 (discussing PTO's approach to determining patentability of product-by-process claims); *supra* table accompanying note 10 (illustrating process-independent approach).

⁸⁵ 35 U.S.C. §§ 101, 151, 282.

⁸⁶ *Id.* §§ 154, 281. Infringement litigation is an adversarial proceeding generally held in federal district courts. See *generally id.* §§ 271, 281 (discussing infringement). Federal district courts have original and exclusive jurisdiction over any civil action arising under federal patent law. 28 U.S.C. § 1338(a) (1988). Federal patent law pre-empts any state protection that is patent-like. See *Interpart Corp. v. Italia*, 777 F.2d 678, 684-85 (Fed. Cir. 1985) (discussing federal pre-emption of state protection for inventions). See *generally* ROBERT L. HARMON, PATENTS AND THE FEDERAL CIRCUIT 14-16 (2d ed. 1991) (discussing federal pre-emption of patent law).

the inventor's permission.⁸⁷ In an infringement action over a product claim, for example, the court compares the language in the patent's product claim with the defendant's product.⁸⁸ If the court finds that the product claim describes the defendant's product, then there is infringement.⁸⁹ If the claim does not cover the defendant's product, then there is no infringement.⁹⁰

As a defense to an infringement action, the defendant virtually always claims that the plaintiff's patent is invalid.⁹¹ During such a validity challenge, the defendant presents evidence that the patent owner's invention failed to meet the statutory requirements and is therefore unpatentable.⁹² The court then makes an independent inquiry into the validity of the patent by determining whether the patent's claims are patentable.⁹³ During this inquiry, the court uses the same process-independent approach to patentability that the PTO uses

⁸⁷ 35 U.S.C. §§ 151, 154, 271(a), 281; *see also id.* § 154 (stating that patent grants inventor right to exclude).

⁸⁸ *See Pennwalt Corp. v. Durland-Wayland, Inc.*, 833 F.2d 931, 957 (Fed. Cir. 1987) (stating that during infringement actions, courts compare patent claim with defendant's invention), *cert. denied*, 485 U.S. 961, and *cert. denied*, 485 U.S. 1009 (1988).

⁸⁹ *Id.* ("One-to-one correspondence between every element of a claim and an accused device is the standard formula for the inquiry into literal infringement."). The scope of a claim may extend beyond the literal scope of the claim language according to the doctrine of equivalents. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608 (1949). Under the doctrine of equivalents, a court may find infringement if the accused device obtains the same result by performing substantially the same function in substantially the same way as the patented device. *Id.*

⁹⁰ *See Pennwalt*, 833 F.2d at 957 (stating that defendant's product does not infringe if patent claim does not cover defendant's product). For example, a product does not infringe if the product lacks a feature described in the claim. *Id.*

⁹¹ 4 LIPSCOMB, *supra* note 4, § 13:1. *See generally* GLORIA K. KOENIG, PATENT INVALIDITY: A STATISTICAL AND SUBSTANTIVE ANALYSIS 1-1 to 1-7 (rev. ed. 1980) (discussing validity inquiries). When a patent owner attempts to enforce her patent against a defendant, she virtually always faces an allegation that the patent is invalid. *Id.*; *see, e.g.*, *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293, 311 (1884) (discussing validity inquiry); *Scripps Clinic & Research Found. v. Genentech, Inc.*, 666 F. Supp. 1379, 1386-87 (N.D. Cal. 1987) (discussing validity inquiry); *see also Smith Int'l, Inc. v. Hughes Tool Co.*, 718 F.2d 1573, 1578 (Fed. Cir. 1983) (stating that courts believe that PTO examination is inherently unreliable).

⁹² *See, e.g.*, cases cited *supra* note 91 (discussing validity inquiries).

⁹³ *See* 35 U.S.C. § 282(2) (citing invalidity of patent as defense in infringement action).

during prosecution.⁹⁴ If the court finds that the plaintiff's patent is invalid, then the infringement action fails.⁹⁵

If a party is dissatisfied with a decision by the PTO or a court, the party may appeal.⁹⁶ Previously, the regional circuit courts of appeal heard patent appeals.⁹⁷ To eliminate inconsistent patent decisions among the different circuits, Congress created the Court of Appeals for the Federal Circuit⁹⁸ and gave the court exclusive jurisdiction over patent appeals.⁹⁹ As a single court, the Federal Circuit has largely succeeded in providing a uniform patent law.¹⁰⁰ Nevertheless, two different three-judge panels of the Federal Circuit have reached different conclusions on how to construe product-by-process claims during infringement litigation.¹⁰¹

II. THE STATE OF THE LAW

The Federal Circuit has addressed the construction of product-by-process claims in two recent decisions.¹⁰² In 1991, a panel of three judges decided *Scripps Clinic & Research Foundation v.*

⁹⁴ See *infra* text accompanying notes 232-35 (discussing construction of claims during validity inquiries); *supra* note 79-85 and accompanying text (discussing process-independent approach used by PTO during prosecution); *supra* table accompanying note 10 (illustrating process-independent approach)

⁹⁵ See 35 U.S.C. § 282(3) (citing invalidity of patent as basis for challenging validity).

⁹⁶ HARMON, *supra* note 86, § 13:1. If the PTO rejects an inventor's application on substantive grounds, the inventor may appeal to the Board of Patent Appeals and Interferences. *Id.* § 12:55. The inventor may appeal further to the Federal Circuit. *Id.* § 12:58. If the PTO objects to an application on procedural or formal grounds, then the inventor may petition to the Commissioner of Patents. 37 C.F.R. § 1.181.

⁹⁷ *Patent Debate Hot in Bay Area*, S.F. EXAMINER, Jan. 30, 1994, at E1, E6.

⁹⁸ The Federal Courts Improvement Act of 1982 created a thirteenth court of appeals. Pub. L. No. 97-164, 96 Stat. 25 (codified primarily at 28 U.S.C. § 1295 (1993)); see *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1281 (Fed. Cir. 1992) (Newnan, J., dissenting) (stating that Congress formed Federal Circuit to eliminate inconsistent patent law).

⁹⁹ 28 U.S.C. § 1295(a)(1) (1988). The Federal Circuit also takes appeals from the U.S. Claims Court and the International Trade Commission. PAUL GOLDSTEIN, COPYRIGHT, PATENT, TRADEMARK AND RELATED STATE DOCTRINES: CASES AND MATERIALS ON THE LAW OF INTELLECTUAL PROPERTY 199 (rev. 3d ed. 1993).

¹⁰⁰ GOLDSTEIN, *supra* note 99, at 199.

¹⁰¹ See *infra* part II (discussing *Scripps* and *Atlantic*). The Federal Circuit generally hears cases in panels of three judges. FED. CIR. R. 47.2.

¹⁰² *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991); *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834 (Fed. Cir. 1992).

*Genentech, Inc.*¹⁰³ In this case, the panel considered whether the defendant infringed a patent for a blood-clotting protein. The panel held that a non-limiting construction applies during infringement inquiries.¹⁰⁴ The next year, a different three-judge panel considered whether a defendant infringed a patent for an innersole for athletic shoes in *Atlantic Thermoplastics Co. v. Faytex Corp.*¹⁰⁵ Contrary to *Scripps*, the *Atlantic* panel held that a process-limited construction applies during infringement inquiries.¹⁰⁶ By reaching different conclusions, the two panels have generated a conflict in authority.¹⁰⁷ So far, the Federal Circuit has declined to resolve this conflict.¹⁰⁸

A. *Scripps Clinic & Research Foundation v. Genentech, Inc.*

The Scripps Clinic¹⁰⁹ developed a process for producing factor VIII:C, a blood protein that controls bleeding in hemophiliacs.¹¹⁰ Scripps used the process to extract factor VIII:C from blood plasma.¹¹¹ Scripps applied for a patent for

¹⁰³ 927 F.2d 1565.

¹⁰⁴ *Id.* at 1583-84.

¹⁰⁵ 970 F.2d 834.

¹⁰⁶ *Id.* at 846.

¹⁰⁷ *Tropix, Inc. v. Lumigen, Inc.*, 825 F. Supp. 7, 10 (D. Mass. 1993).

¹⁰⁸ *See Atlantic*, 970 F.2d at 846-47 (noting that Federal Circuit has not resolved conflict in authority regarding product-by-process claims).

¹⁰⁹ Zimmerman and Fulcher were the first to isolate and characterize Factor VIII:C. *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1569 (Fed. Cir. 1991). They assigned the patent to the Scripps Clinic and Research Foundation. *Id.* at 1568. Scripps then licensed the patent exclusively to Revlon, Inc., which later sold its interest to Rorer Group, Inc. *Id.* [Hereafter, this Comment will refer to inventors Zimmerman and Fulcher, assignee Scripps Clinic and Research Foundation, and licensees Revlon and Rorer collectively as "Scripps"].

¹¹⁰ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 666 F. Supp. 1379, 1383 (N.D. Cal. 1987). Hemophilia is a group of bleeding disorders caused by inherited deficiencies or abnormalities of coagulation factors. THE MERCK MANUAL OF DIAGNOSIS AND THERAPY 1124-27 (Robert Berkow ed., 14th ed. 1982). Of the estimated 25,000 hemophiliacs in the United States, over 80% have hemophilia A. *Id.* at 1124. Less common forms of hemophilia include hemophilia B and von Willebrand's disease. *Id.* at 1124-28 Persons affected by hemophilia A lack sufficient levels of the blood protein factor VIII:C, which activates other proteins essential to clotting. *Id.* One method to control the bleeding is to inject factor VIII:C into the person to initiate clotting. *Id.* at 1128.

¹¹¹ U.S. Reissue Patent No. 32,011 ("Ultrapurification of Factor VIII Using Monoclonal Antibodies"); *see infra* note 135 (discussing reissue patents). Factor VIII:C circulates in blood plasma as a protein complex with the von Willebrand factor protein. U.S. Reissue Patent No. 32,011. Previous techniques were unable to separate the factor VIII:C from the

this process and for the extracted factor VIII:C.¹¹² In 1982, the PTO issued Scripps a patent.¹¹³ The Scripps patent first claimed the extraction process¹¹⁴ as an improved method of preparing factor VIII:C and listed the steps in the extraction process.¹¹⁵ Since the precise structure of factor VIII:C was then unknown,¹¹⁶ Scripps separately claimed the factor VIII:C as the product of the extraction process.¹¹⁷ The Scripps patent thus claimed both the extraction process and the factor VIII:C as a product-by-process.¹¹⁸

Although the extracted factor VIII:C initiated clotting, using the product had two significant disadvantages to hemophiliacs.¹¹⁹ First, the process was very expensive because it required

von Willebrand factor and other blood plasma proteins. *Id.* Such techniques were also unable to generate factor VIII:C in an undamaged condition. *Id.*

¹¹² U.S. Patent No. 4,361,509 ("Ultrapurification of Factor VIII Using Monoclonal Antibodies").

¹¹³ *Id.* Early in the *Scripps* litigation, Genentech challenged the validity of Scripps's patent. *Scripps*, 666 F. Supp. at 1382. To avert a finding of invalidity, Scripps applied for a reissue patent. *Id.* After amending some claims and deleting others, Scripps received Reissue Patent No. 32,011 containing essentially the same process and product-by-process claims at issue. *Id.*

¹¹⁴ U.S. Patent No. 4,361,509, claims 1-7, 15, 16.

¹¹⁵ *Id.*; see also U.S. Reissue Patent No. 32,011, claim 1.

¹¹⁶ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 666 F. Supp. 1379, 1384 (N.D. Cal. 1987). Factor VIII:C is now known to be a sequence of 2332 amino acids. *Id.* Genentech determined this sequence after 1981. *Id.*

¹¹⁷ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1570 (Fed. Cir. 1991). Claim 13, as stated in both the original and reissue patent, reads "Highly purified and concentrated human or porcine VIII:C prepared in Accordance with the method of claim 1." *Id.* Claim 1 itself reads in part, "An improved method of preparing Factor VIII procoagulant activity protein comprising the steps of . . ." *Id.* The term "procoagulant" applies to factors V to VIII which aid blood clotting by accelerating the conversion of prothrombin to thrombin. MCGRAW-HILL DICTIONARY OF SCIENCE AND TECHNICAL TERMS 1499 (4th ed. 1989). Generally, a naturally occurring substance, if substantially unaltered, is not patentable subject matter. MPEP, *supra* note 52, § 706.03(a). However, if an inventor purifies a natural substance to a degree that it presents new qualities or uses, then the purified substance is patentable. See *Kuehmsted v. Farbenfabriken of Elberfeld Co.*, 179 F. 701, 705 (7th Cir. 1910) (stating that new qualities may confer patentability on natural substances). For example, aspirin is a naturally-occurring substance, but has no therapeutic usefulness in its unpurified form. *Id.* When an inventor purified the aspirin into a preparation with new therapeutic properties, the preparation was patentable. *Id.* In a similar case, an inventor made a 99-100% pure preparation of the natural element germanium. *Purdue Research Found. v. Watson*, 214 F.2d 221 (D.C. Cir. 1954). Since the purified element demonstrated remarkable and previously unknown properties, the preparation was patentable. *Id.*

¹¹⁸ See *supra* text accompanying notes 112-17 (discussing Scripps's patent).

¹¹⁹ See *infra* text accompanying notes 120-22 (discussing drawbacks of using extracted

large volumes of donated blood.¹²⁰ Second, the donated blood sometimes contained infectious impurities such as hepatitis virus and human immunodeficiency virus (HIV).¹²¹ Thus, transfusing the extracted factor VIII:C placed hemophiliacs at risk of infection.¹²²

In 1984, Genentech, Inc.¹²³ developed a new process to make factor VIII:C using a recombinant DNA process.¹²⁴ First, Genentech determined the structure of factor VIII:C.¹²⁵ Then it assembled the gene necessary to make the protein.¹²⁶ Genentech transplanted the gene into a culture grown from cells removed from baby hamsters.¹²⁷ The cell culture then produced recombinant factor VIII:C.¹²⁸ Genentech could harvest recombinant factor VIII:C from cultured cells and purify it for use.¹²⁹ The recombinant process was potentially more

factor VIII:C).

¹²⁰ *Scripps*, 666 F. Supp. at 1384.

¹²¹ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1568-69 (Fed. Cir. 1991) (discussing possibility of contamination and disease from impurities in source blood).

¹²² *Id.*; *Scripps Clinic & Research Found. v. Genentech, Inc.*, 666 F. Supp. 1379, 1384 (N.D. Cal. 1987). Many hemophiliacs have developed Acquired Immune Deficiency Syndrome (AIDS) from contaminated factor VIII:C. STANLEY L. ROBBINS, *ROBBINS' PATHOLOGIC BASIS OF DISEASE* 698 (4th ed. 1989); see Jane Kramer, *Bad Blood*, *THE NEW YORKER*, Oct. 11, 1993, at 74 (discussing French hemophiliacs' contraction of AIDS via contaminated blood); Joseph Kelly, *The Liability of Blood Banks and Manufacturers of Clotting Products to Recipients of HIV-Infected Blood: A Comparison of the Law and Reaction in the United States, Canada, Great Britain, Ireland, and Australia*, 27 *J. MARSHALL L. REV.* 465 (1994).

¹²³ In 1981, a team of scientists at Genentech, Inc., led by Dr. Veihar, began research to produce factor VIII:C through recombinant technology. *Scripps*, 666 F. Supp. at 1384. Later, Genentech contracted with Cutter to develop commercial-scale methods to produce recombinant factor VIII:C. *Id.* [Hereafter this Comment will refer to inventor Veihar, assignee Genentech, and licensee Cutter as "Genentech"].

¹²⁴ See *infra* text accompanying notes 125-33 (discussing recombinant process to make factor VIII:C).

¹²⁵ *Scripps*, 666 F. Supp. at 1384. Genentech reconstructed the DNA sequence that coded for the Factor VIII:C amino acid sequence. *Id.* Factor VIII:C is now known to consist of a chain of 2332 amino acids. *Id.*

¹²⁶ *Id.* The gene is a strand of deoxyribonucleic acid (DNA) consisting of about 186,000 nucleotide bases. *Id.* In human cells, this gene specifies the sequence of the amino acids that compose factor VIII:C. *Id.*

¹²⁷ *Id.* In the normal body, liver, kidney, and other cells produce factor VIII:C and secrete it into the bloodstream. *Id.* Genentech transferred the complete sequence into hamster kidney cells and grew the cells in a culture. *Id.*

¹²⁸ *Id.* The transplanted gene directed synthesis of the factor VIII:C much as it would in a human cell. *Id.*

¹²⁹ *Id.*

economical than Scripps's extraction process.¹³⁰ Moreover, the recombinant product eliminated the risk of transmitting diseases.¹³¹ Although the recombinant factor VIII:C is structurally and functionally equivalent to the extracted product,¹³² Genentech produced the recombinant product using a substantially different process.¹³³

When Scripps learned that Genentech was making the recombinant factor VIII:C, Scripps sued Genentech for infringement.¹³⁴ Scripps claimed that Genentech infringed the product-by-process claims in Scripps's patent by making factor VIII:C, regardless of the fact that Genentech used a recombinant process.¹³⁵ Genentech argued for a process-limited construction: the claim should not cover factor VIII:C when made by a different process than Scripps's extraction method.¹³⁶ Scripps moved for summary judgment on the issue of infringement of the product-by-process claims.¹³⁷ The district court, applying a process-limited analysis, refused to grant the motion.¹³⁸ The court held that unless Genentech used the

¹³⁰ *Id.* at 1401.

¹³¹ *Id.*

¹³² *Id.* at 1384, 1391-93. The recombinant factor VIII:C was identical in sequence to human factor VIII:C. *Id.* Genentech, however, asserted that factor VIII:C collected from many donors may have slight variations in structure (amino acid polymorphisms). *Id.* at 1393. Nevertheless, the trial court found no evidence that these differences were material. *Id.* Genentech also asserted the carbohydrate content (post-translational glycosylation) of the recombinant factor VIII:C may differ from the extracted factor VIII:C. *Id.* at 1394. The trial court found no evidence that any difference in carbohydrate content affected the relevant structure or function of factor VIII:C. *Id.*

¹³³ *See id.* at 1384 (stating that Genentech broke new ground).

¹³⁴ *Id.* at 1382.

¹³⁵ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991). Scripps did not claim that Genentech infringed the claims for the extraction process. *Scripps*, 666 F. Supp. at 1388. The court stayed the action while Scripps corrected its patent. *Id.* at 1382. The PTO reissues a patent whenever the original patent is found inoperative or invalid through error, but without any deceptive intention. 35 U.S.C. § 251. When the PTO reissued the patent as U.S. Reissue Patent No. 32,011, the court resumed the litigation. *Scripps*, 666 F. Supp. at 1382.

¹³⁶ *See Scripps Clinic & Research Found. v. Genentech, Inc.*, 678 F. Supp. 1429, 1433-34 (N.D. Cal. 1988) (criticizing Genentech's process-limited construction).

¹³⁷ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991).

¹³⁸ *Scripps*, 666 F. Supp. at 1387-89. Pending resolution of Genentech's challenge to the patent's validity, Judge Schwarzer refused to issue a preliminary injunction against Genentech, citing the potential harm to hemophiliacs from delayed availability of re-

same process, it did not infringe the product-by-process claims.¹³⁹ Scripps then appealed to the Federal Circuit, arguing that the district court erred in limiting the scope of the Scripps patent to the process only.¹⁴⁰

In *Scripps Clinic & Research Foundation v. Genentech, Inc.*, a three-judge panel of the Federal Circuit reversed, holding that a non-limiting construction applied to product-by-process claims.¹⁴¹ Writing for the panel, Judge Newman reasoned that courts should construe claims the same way for validity as for infringement.¹⁴² The panel therefore held that for product-by-process claims, “the product . . . [is] not limited by the process stated in the claims.”¹⁴³ Having established a non-limiting construction, the Federal Circuit remanded the issue of infringement for the lower court to determine at trial.¹⁴⁴

B. Atlantic Thermoplastics Co. v. Faytex Corp.

One year later, another three-judge panel of the Federal Circuit construed product-by-process claims differently.¹⁴⁵ The panel in *Atlantic Thermoplastics Co. v. Faytex Corp.* limited the scope of such claims to products made only by the claimed pro-

combinant Factor VIII:C. *Id.* at 1400-02.

¹³⁹ *Scripps*, 927 F.2d at 1583.

¹⁴⁰ *Id.*

¹⁴¹ *Id.* The *Scripps* panel comprised Circuit Judges Markey and Newman, and Judge Beer from the Eastern District of Louisiana, sitting by designation. *Id.* at 1568.

¹⁴² *Id.* at 1583. Courts have subsequently cited *Scripps* for the proposition that prosecution and infringement analyses must follow identical approaches. *See, e.g.*, *Tropix, Inc. v. Lumigen, Inc.*, 825 F. Supp. 7, 10 (D. Mass. 1993) (reading *Scripps* to require prosecution and infringement determinations to follow same approach). Yet *Scripps* never stated that prosecution and infringement analysis should be identical; in fact, *Scripps* explicitly distinguished between the contexts of patent prosecution and infringement litigation. *Scripps*, 927 F.2d at 1583. However, *Scripps* does state that the same construction should apply for “validity” and infringement determinations. *Id.*

¹⁴³ *Scripps*, 927 F.2d at 1583.

¹⁴⁴ *Id.* at 1583-84. In an unpublished opinion, the *Scripps* panel denied a petition for reconsideration, 18 U.S.P.Q. 2d (BNA) 1896 (clarifying an unrelated issue), and a petition for rehearing en banc, 1991 U.S. App. LEXIS 33486, at *1 (Fed. Cir. May 14, 1991). The parties later settled the litigation for an undisclosed amount during the trial of a companion case. Eugene Moroz & William S. Feiler, *Biotechnology*, NAT'L L.J., Nov. 1, 1993, at S24.

¹⁴⁵ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846-47 (Fed. Cir. 1992). The *Atlantic* panel comprised Circuit Judges Archer, Michel, and Rader. *Id.* at 835.

cess.¹⁴⁶ Atlantic had developed a method of making contoured innersoles for athletic shoes.¹⁴⁷ The innersoles were generally polyurethane, but contained a separate shock-absorbing heel inside the innersole.¹⁴⁸ The manufacturing process began with the small solid heel.¹⁴⁹ The heel was then placed into a larger hollow mold, which was then filled with liquid polyurethane.¹⁵⁰ The resulting product was a polyurethane innersole with a shock-absorbing heel.¹⁵¹ The PTO issued Atlantic a patent with claims for the molding process and for the innersole as a product-by-process.¹⁵²

Faytex Corporation distributed innersoles made by Sorbothane that were virtually the same as Atlantic's innersoles.¹⁵³ Sorbothane made the innersoles using a slightly different manufacturing process, starting with heel material in a liquid form.¹⁵⁴ A small amount of liquid heel material was injected into a hollow mold and allowed to form a solid heel.¹⁵⁵ As the heel solidified, polyurethane was injected into the remaining space of the mold to form the rest of the innersole.¹⁵⁶ Although made by a different process, the resulting product was indistinguishable from the innersole made by Atlantic.¹⁵⁷

Atlantic sued Faytex for infringing its patent by distributing the innersoles.¹⁵⁸ The trial court followed a process-limited

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ U.S. Patent No. 4,674,204, abstract.

¹⁴⁹ *See Atlantic*, 970 F.2d at 835 (describing process for making innersole).

¹⁵⁰ United States Patent No. 4,674,204 ("Shock absorbing innersole and method for preparing same"), claim 1.

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 836 (Fed. Cir. 1992).

¹⁵⁴ *Id.* Faytex also distributed innersoles made by Surge. *Id.* Surge used the same process as Atlantic to make the innersoles. *Id.* Faytex agreed that Surge infringed Atlantic's patent. *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.* This process was distinguishable from the process in Atlantic's patent because Sorbothane started with liquid heel material instead of a solid heel. *See supra* text accompanying notes 147-53 (discussing Atlantic and Faytex's processes for making innersoles).

¹⁵⁷ *Atlantic*, 970 F.2d at 838.

¹⁵⁸ *Id.* (citing *Atlantic Thermoplastics Co. v. Faytex Corp.*, No. 88-0210-H (D. Mass. July 27, 1990)). Faytex sold the innersoles, but did not manufacture them. *Id.* Consequently, Atlantic could not sue Faytex for infringing the process claims. *Id.* Nevertheless, Atlantic

construction: because Faytex's innersoles were not made by Atlantic's process, they did not infringe the product-by-process claims.¹⁵⁹ When Faytex appealed to the Federal Circuit on other issues, Atlantic argued that the non-limiting construction in *Scripps* should apply.¹⁶⁰ Had the court followed the *Scripps* precedent, it would have found that Faytex infringed Atlantic's patent.¹⁶¹

Instead, a three-judge panel of the Federal Circuit affirmed the process-limited construction, holding that Faytex did not infringe Atlantic's patent.¹⁶² Citing precedent, the panel held that product-by-process claims only cover the product made by the specific process claimed in the patent.¹⁶³ Under this construction, if a defendant uses a different process to make the same product, the defendant does not infringe the product-by-process claims of the patent.¹⁶⁴

The different constructions in *Scripps* and *Atlantic* constitute a conflict in authority.¹⁶⁵ When panels in the Federal Circuit reach directly conflicting decisions, the earlier decision is binding precedent unless the court, sitting en banc, overrules the earlier decision.¹⁶⁶ Immediately after the decision in

did sue Faytex for selling the innersoles. See 35 U.S.C. § 271 (stating that infringement includes unauthorized distribution of patented invention).

¹⁵⁹ *Atlantic*, 970 F.2d at 835.

¹⁶⁰ *Id.* at 838.

¹⁶¹ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583-84 (Fed. Cir. 1991) (holding that process claims do not limit product-by-process claims).

¹⁶² *Atlantic*, 970 F.2d at 846-47.

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ See *infra* text accompanying note 166 (discussing split in authority in the Federal Circuit).

¹⁶⁶ *Newell Co. v. Kenney Mfg. Co.*, 864 F.2d 757, 765 (Fed. Cir. 1988); see also *UMC Elec. Co. v. United States*, 816 F.2d 647, 652 n.6 (Fed. Cir. 1987) (citing *Kimberly Clark Corp. v. Fort Howard Paper Co.*, 772 F.2d 860, 863 (Fed. Cir. 1985) (disapproving any "major departure" from prior precedential decisions without reconsiderations en banc)). However, a prior panel's decision is not controlling if it failed to consider Supreme Court precedent and would have otherwise reached a different decision. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 839 n.2 (Fed. Cir. 1992) (citing *Tucker v. Phyfer*, 819 F.2d 1030, 1035 n.7 (11th Cir. 1987)). The Federal Circuit will not order a rehearing en banc unless consideration by the full court is necessary to secure or maintain uniformity of its decisions. *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1299-1300 (Fed. Cir. 1992) (Rader, J., concurring in denial of rehearing en banc) (citing FED. CIR. R. 35). If a panel merely clarifies or refines a prior decision, then the panel need only review the cases and reconcile the conflicting statements. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1579

Atlantic, Chief Judge Nies moved to rehear the case en banc to resolve the conflict.¹⁶⁷ A majority of the judges on the Federal Circuit, however, denied the request without explanation.¹⁶⁸ Several judges dissented,¹⁶⁹ including Judge Newman, who defended her decision in *Scripps*.¹⁷⁰ Faced with this unresolved split in authority, courts have tried to follow precedent with mixed results.¹⁷¹ The unresolved conflict within the Federal

(Fed. Cir. 1989); *Woodard v. Sage Prods. Inc.*, 818 F.2d 841, 851 (Fed. Cir. 1987). See generally HARMON, *supra* note 86, at 299-356 (discussing Federal Circuit practice).

¹⁶⁷ *Atlantic*, 974 F.2d at 1280 (denying rehearing en banc) (Nies, C.J., dissenting).

¹⁶⁸ *Id.* at 1279.

¹⁶⁹ *Id.* at 1280-99 (Nies, C.J., Rich, Newman & Lourie, JJ., dissenting from denial of rehearing en banc). Judge Lourie dissented from the denial of rehearing, stating that dismissing *Scripps* as unsupported did not excuse the court's lapse in following its own procedure. *Id.* at 1298. Judge Rich went further, stating that the denial of rehearing "is not only insulting to the *Scripps* panel . . . it is mutiny. It is heresy. It is illegal." *Id.* at 1281. One month later, Chief Judge Nies moved a second time to rehear *Atlantic* en banc. 974 F.2d 1299 (denying rehearing en banc). The Federal Circuit again refused to resolve the conflict. *Id.* Concurring in the denial of rehearing, Judge Rader noted that the entire court had already considered in detail the arguments to reconsider *Atlantic*. *Id.* at 1301-02. Judge Rader concluded that the court would not disturb the ruling since *Atlantic* had correctly followed precedent. *Id.*

¹⁷⁰ *Atlantic*, 974 F.2d at 1281-98 (Newman, J., dissenting). Judge Newman distinguished between the use of product-by-process claims in three types of situations. *Id.* Type (1) claims use process terms to describe a completely new product that is too complex or insufficiently known to describe structurally ("true product-by-process claims"). *Id.* Type (2) claims recite a new or improved process for making an old or obvious product ("process claims"). *Id.* Type (3) claims cover new products, but limit the claim solely to those products made by the stated process. *Id.* Because the product-by-process claim in *Atlantic* was Type (3), the result is correspondingly different than in *Scripps*, where the claim was Type (1). *Id.* at 1282. Subsequent courts have not adopted this approach. See, e.g., *Tropix, Inc. v. Lumigen, Inc.*, 825 F. Supp. 7, 10 (D. Mass. 1993) ("There is much to be said as a matter of policy for Judge Newman's distinction. . . . I do not find any authority for this proposition before *Scripps*, however.").

¹⁷¹ See, e.g., *Tropix*, 825 F. Supp. at 10. *Tropix* concerned an infringement action over a product-by-process claim for a chemiluminescent made by an original process. *Id.* at 7. A chemiluminescent is a substance that emits light when its molecules are in an excited state. RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE 353 (2d ed. 1987). The defendant made the same product using a different process. *Tropix*, 825 F. Supp. at 7. The original inventor relied on *Scripps*'s non-limiting construction, asserting that the patent covered the chemiluminescent regardless of the manufacturing process. *Id.* at 7-8. The defendant countered with *Atlantic*'s process-limited construction, arguing that the claim only covered chemiluminescent made by the original process. *Id.* at 8. Reviewing *Scripps* and *Atlantic*, the judge predicted that a majority of the judges on the Federal Circuit would affirm the process-limited construction in *Atlantic*. *Id.* at 10. The judge therefore held that Lumigen did not infringe Tropix's product-by-process claim for the chemiluminescent. *Id.*

Circuit has rendered the proper construction of product-by-process claims unclear.¹⁷²

III. ANALYSIS OF *SCRIPPS* AND *ATLANTIC*

A. *The Precedent in the Supreme Court*

The *Scripps* panel held that courts should follow a non-limiting construction for product-by-process claims.¹⁷³ The *Scripps* panel, however, failed to offer any authority for this position.¹⁷⁴ The *Atlantic* panel sharply criticized this failure, suggesting that had the *Scripps* panel referred to Supreme Court precedent, it would have reached a different conclusion.¹⁷⁵

In contrast to the panel in *Scripps*, the *Atlantic* panel presented an extensive review of controlling precedent to support a process-limited construction.¹⁷⁶ First, the *Atlantic* panel reviewed five Supreme Court decisions interpreting product-by-process claims in the context of infringement.¹⁷⁷ For example, *Goodyear Dental Vulcanite Co. v. Davis* concerned a patent for a rubber denture made by a vulcanization process.¹⁷⁸ The Court held that a similar denture made by a celluloid process did not infringe the patent.¹⁷⁹ In *Plummer v. Sargent*, the plaintiff had a patent for colored iron made by a bronzing process.¹⁸⁰ The Supreme Court affirmed the lower court's finding that the defendant's colored iron did not infringe

¹⁷² See *Tropix*, 825 F. Supp. at 8 (noting confused state of record); see also *Elan Transdermal Ltd. v. Cygnus Therapeutic Sys.*, C-91-143 WHO, 1992 U.S. Dist. LEXIS 20004, at *10 (N.D. Cal. June 23, 1992) (citing *Scripps* on other grounds, but noting *Scripps's* checkered history).

¹⁷³ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991).

¹⁷⁴ *Scripps*, 927 F.2d at 1583 (citing no cases in support of its holding on infringement of product-by-process claims); see also *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 839 n.2 (Fed. Cir. 1992) (noting that *Scripps* court cited no cases in support of its holding).

¹⁷⁵ *Atlantic*, 970 F.2d at 839 n.2.

¹⁷⁶ *Id.* at 838-46.

¹⁷⁷ *Id.* at 838-42.

¹⁷⁸ *Id.* at 839 (citing *Goodyear Dental Vulcanite Co. v. Davis*, 102 U.S. 222 (1880)).

¹⁷⁹ *Id.*

¹⁸⁰ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 841 (Fed. Cir. 1992) (citing *Plummer v. Sargent*, 120 U.S. 442 (1887)).

because it involved a different process.¹⁸¹ The other three Supreme Court cases similarly construed product-by-process claims as process-limited in the context of infringement.¹⁸² The *Atlantic* panel also reviewed decisions by the circuit courts of appeal.¹⁸³ With the exception of *Scripps*, the circuit courts have consistently followed a process-limited construction when determining infringement of product-by-process claims.¹⁸⁴ Several commentators also support the process-limited construction in an infringement context.¹⁸⁵

Unlike *Scripps*, which supported a non-limiting construction with a brief argument by analogy,¹⁸⁶ the decision in *Atlantic* reviewed and correctly followed controlling precedent.¹⁸⁷ *Atlantic* supplemented its review of precedent by criticizing the analogy in *Scripps* and offering an explanation for its process-limited construction.¹⁸⁸ Although the correct construction for product-by-process claims appears well-settled by precedent, the rationales of *Scripps* and *Atlantic* illuminate why the panels reached different results.¹⁸⁹

¹⁸¹ *Id.*

¹⁸² *See id.* at 839-42 (citing *General Elec. v. Wabash Appliance*, 304 U.S. 364 (1938) (discussing light bulb filament); *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293 (1884) (discussing alizarine made by bromine reaction process); *Merrill v. Yeomans*, 94 U.S. 568 (1877) (discussing mineral oil deodorized by innovative process)).

¹⁸³ *Atlantic*, 970 F.2d at 842.

¹⁸⁴ *Id.* The *Atlantic* panel also cited binding precedent from the Court of Customs and Patent Appeal (CCPA). *Id.* at 843-45. The Federal Circuit adheres to the CCPA's decisions as of September 30, 1982. HARMON, *supra* note 86, at 580.

¹⁸⁵ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 842-43 (Fed. Cir. 1992) (citing 2 CHISUM, *supra* note 69, § 8.05; 3 LIPSCOMB, *supra* note 4, § 11:19; 1 IVER P. COOPER, BIOTECHNOLOGY AND THE LAW § 5B.05[2] (1991); 2 MARTIN J. ADELMAN ET AL., PATENT LAW PERSPECTIVES § 2.6[10] (2d ed. 1991)).

¹⁸⁶ *See infra* text accompanying notes 192-95 (discussing argument by analogy in *Scripps*).

¹⁸⁷ *Atlantic*, 970 F.2d at 838-45.

¹⁸⁸ *Id.* at 846.

¹⁸⁹ *See infra* parts III.B-C (discussing rationales in *Scripps* and *Atlantic*). The following table summarizes *Scripps*'s construction of product-by-process claims during prosecution, validity, and infringement inquiries. *See infra* text accompanying notes 190-95 (explaining *Scripps* rationale). The table then notes the relationship between each of the approaches according to *Scripps*. Similarly, the table summarizes *Atlantic*'s approaches and their relationships. *See infra* text accompanying notes 210-16 (explaining *Atlantic* rationale). The table then illustrates the approaches according to Supreme Court precedent and a proposed relationship between these approaches. *See infra* text accompanying notes 233-36 (reviewing Supreme Court precedent); *infra* part IV.A (proposing that process-independent approach and process-limited construction are analogous).

B. Critique of the Rationale in *Scripps*

The *Scripps* panel held that a product-by-process claim is not limited to the product made by the specified process but also covers similar products made by other processes.¹⁹⁰ The *Scripps* panel explained its holding in a brief, tersely argued passage:

The district court remarked that the product-by-process claims would not be infringed unless the same process were practiced. *Scripps* correctly points out that this statement appears to diverge from our precedent, recognizing that this precedent arose in the context of patent prosecution, not patent infringement. In determining patentability we construe the product as not limited by the process stated in the claims. Since claims must be construed the same way for validity and for infringement, the correct reading of product-by-process claims is that they are not limited to product prepared by the process set forth in the claims.¹⁹¹

Relationships Between Inquiries

patentability inquiries

	prosecution (PTO)		validity inquiry (courts)		infringement inquiry (courts)
<i>Scripps</i>	non-limiting	=	non-limiting	=	non-limiting
<i>Atlantic</i>	non-limiting	≠	process-limited	=	process-limited
proposed	process-independent	=	process independent	≈	process-limited

In the preceding table, the “equals” sign (=) indicates that the two inquiries are considered equivalent. See *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 1988) (stating that courts must construe claims in same way for validity and infringement inquiries); *infra* text accompanying notes 197-201 (discussing identical treatment of process-independent approach and non-limiting construction by *Scripps* panel). The “not equals” sign (≠) indicates that the two inquiries are considered different. See *Atlantic*, 970 F.2d at 836 (stating that *Atlantic* panel treats claims differently for prosecution and validity inquiries). The “analogous” sign (≈) indicates that the two inquiries are similar in underlying structure, but not identical. See *infra* part IV.A (proposing analogy between process-independent approach and process-limited construction).

¹⁹⁰ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991).

¹⁹¹ *Id.* at 1583 (citations omitted). This Comment analyzes the logic of this passage. See *infra* text accompanying notes 196-99. At first, the passage may appear to imply that during

The *Scripps* panel first noted that courts should approach claims when determining infringement in the same way that they approach claims during validity inquiries.¹⁹² Whichever construction applied during validity inquiries should therefore apply during infringement inquiries.¹⁹³ The *Scripps* panel then observed that during validity inquiries, courts construe product-by-process claims as “not limited by the process stated in the claims.”¹⁹⁴ Thus, because courts follow a non-limiting construction during validity inquiries, the *Scripps* court reasoned that it should also follow a non-limiting construction for infringement inquiries.¹⁹⁵

This rationale is flawed because the *Scripps* panel confused a process-independent approach to patentability inquiries with a non-limiting construction during infringement litigation.¹⁹⁶ *Scripps* stated that when determining patentability, the court con-

prosecution, the PTO follows a process-limited construction. The panel first observed that the lower court had followed a process-limited construction. *Id.* In the next sentence, the panel explained that this construction applies in the context of prosecution, and distinguished this context from infringement litigation. *Id.* However, this distinction does not necessarily imply that the PTO follows a process-limited construction. Later in the passage, the panel correctly stated that during prosecution, the PTO does not limit the product to the specified process. *Id.*

¹⁹² See *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 1988) (stating that after construing claims for validity, “it is axiomatic that the claims must be construed in the same way for infringement.”); see also *Senmed, Inc. v. Richard-Allan Medical Indus.*, 888 F.2d 815, 818 n.7 (Fed. Cir. 1989) (stating that “[t]he same interpretation of a claim must be employed in determining all validity and infringement issues in a case.”).

¹⁹³ *Scripps*, 927 F.2d at 1583. At first, the *Scripps* rationale does not appear to state which construction applies during validity inquiries. *Id.* The *Scripps* panel initially distinguishes between claim construction in the contexts of prosecution and infringement. *Id.* Next, the panel states that product-by-process claims are not limited by the specified process during “patentability.” *Id.* Without having explicitly stated which construction applies during validity analysis, the panel summarily concludes that the construction when analyzing for infringement should be the same as for validity. *Id.* The *Scripps* rationale is more consistent if the panel restricted the term “patentability” to mean a validity inquiry, since patentability comprises both prosecution and validity inquiries. See *supra* part I.C (discussing prosecution); *supra* text accompanying notes 91-95 (discussing validity inquiries). Therefore, the *Scripps* panel understood claim construction during validity inquiries as not limited to the specified process.

¹⁹⁴ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991) (addressing construction of product-by-process claims for products during patentability inquiries).

¹⁹⁵ *Id.*

¹⁹⁶ See *infra* text accompanying notes 197-204 (discussing *Scripps* panel’s misinterpretation of PTO’s process-independent approach).

strues “the product as not limited by the process stated in the claims.”¹⁹⁷ In a similar way, during an infringement inquiry, the court held that the process does not limit the product in a non-limiting construction.¹⁹⁸ Since the process does not appear to “limit” the product in either the process-independent approach or the non-limiting construction, the *Scripps* panel treated the two as equivalent.¹⁹⁹

However, a process may “limit” a product in different ways during patentability and infringement inquiries.²⁰⁰ During a patentability inquiry, a process “limits” a product in the sense that the process defines or qualifies the product.²⁰¹ In an infringement context, however, when a process “limits” a product, the process restricts the scope of a claim to cover only the product made by the specified process.²⁰² Although the process does not “limit” the product in either context, the word “limit” has different meanings in the contexts of patentability and infringement.²⁰³ By assuming that the ambiguous word “limit” had the same meaning in different contexts, the *Scripps* panel confused the process-independent approach with the non-limiting construction.²⁰⁴

The *Scripps* panel then stated that courts must construe claims during infringement in the same way as during validity.²⁰⁵ The

¹⁹⁷ *Scripps*, 927 F.2d at 1583.

¹⁹⁸ See *supra* text and figure accompanying note 28 (defining process-limited construction).

¹⁹⁹ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991) (stating that constructions for validity and infringement are equivalent).

²⁰⁰ See *infra* text accompanying notes 201-04 (discussing ambiguous meanings of “limit”).

²⁰¹ See *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 845 (Fed. Cir. 1992) (citing *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985)). The *Atlantic* panel stated that because the process defined the product, the process served as a “claim limitation” or a “defining limit.” *Id.* Thus, when *Atlantic* stated that the claimed process was a limitation on the product, it meant that the process defined the product. *Id.*

²⁰² See *supra* text and figure accompanying notes 25, 28 (defining non-limiting and process-limited constructions). In a process-limited construction, the process restricts the scope of the claim. However, in a non-limiting construction, the process does not restrict the scope of the claim; the claim broadly covers the product.

²⁰³ See *supra* text accompanying notes 200-02 (discussing ambiguous meanings of “limit” in patentability and infringement contexts).

²⁰⁴ See *supra* text accompanying notes 196-203 (discussing *Scripps* panel’s misinterpretation of PTO’s process-independent approach).

²⁰⁵ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir.

panel had mischaracterized the approach during validity inquiries as a non-limiting construction.²⁰⁶ Consequently, the *Scripps* panel compounded the mischaracterization by holding that during infringement, courts should follow a non-limiting construction.²⁰⁷ In this way, the *Scripps* panel concluded that a non-limiting construction should apply during infringement inquiries.²⁰⁸ This holding is flawed because it lacks precedential support and confuses two separate approaches to construing product-by-process claims.²⁰⁹

C. Critique of the Rationale in *Atlantic*

In contrast with the *Scripps* panel, the panel in *Atlantic* marshaled prior cases to support its process-limited construction for product-by-process claims during infringement analyses.²¹⁰ In addition to relying on precedent, the *Atlantic* panel also offered a rationale for the process-limited construction in a single, dense passage:

This court already distinguishes treatment of claims for patentability before the PTO from treatment of claims for validity before the courts. This court permits the PTO to give claims their broadest reasonable meaning when determining patentability. During litigation determining validity or infringement, however, . . . courts must consult the specification, prosecution history, prior art, and other claims to determine the proper construction of the claim language. Thus, accommodating the demands of the administrative process and recognizing the capabilities of the trial courts, this court treats claims differently for patentability as opposed to validity and infringement.²¹¹

1991).

²⁰⁶ See *supra* text accompanying notes 196-204 (discussing *Scripps* panel's misinterpretation of PTO's process-independent approach).

²⁰⁷ See *supra* text accompanying notes 196-206 (discussing *Scripps* panel's misinterpretation of PTO's process-independent approach).

²⁰⁸ *Id.*

²⁰⁹ See *supra* text accompanying note 174 (stating that *Scripps* failed to offer authority for its position); *supra* text and accompanying notes 196-208 (discussing mischaracterization of inquiries by *Scripps*).

²¹⁰ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 838-45 (Fed. Cir. 1991).

²¹¹ *Id.* at 846 (citations omitted). This Comment analyzes the logic of this passage *infra* in text accompanying notes 212-41.

The *Atlantic* panel began by observing that validity inquiries and prosecution proceed in different contexts: prosecution is administrative, but validity inquiries are adversarial.²¹² The *Atlantic* panel reasoned that the two inquiries should apply different constructions.²¹³ Further, the *Atlantic* panel assumed that a non-limiting construction applied during prosecution, just as the *Scripps* panel did.²¹⁴ Consequently, the *Atlantic* panel held that a different construction should apply during validity inquiries, namely, a process-limited construction.²¹⁵ Finally, since courts should follow the same construction when determining validity and infringement, the *Atlantic* panel concluded that a process-limited construction applies during infringement determinations.²¹⁶

This argument fails to rebut the rationale in *Scripps* for two reasons.²¹⁷ First, the *Atlantic* panel tried to distinguish prosecution from validity inquiries by characterizing the inquiries as either adversarial or administrative.²¹⁸ Prosecution proceeds in an administrative context before the PTO, which has limited information and resources during prosecution.²¹⁹ On the other hand, validity inquiries proceed before the courts, which have access to more information when construing claims.²²⁰ When a

²¹² *Id.*

²¹³ *Id.*

²¹⁴ *Id.* The *Atlantic* panel stated that during prosecution, the PTO gives claims "their broadest reasonable meaning." *Id.* During prosecution, the patentability of the process does not affect the PTO's evaluation. See *supra* text accompanying note 10 (discussing PTO's process-independent approach). In this sense, the PTO evaluates the product for patentability in its broadest scope. See *supra* text accompanying notes 79-85 (discussing PTO's process-independent approach). This approach, however, is not the same as a non-limiting construction during infringement. Compare *supra* text accompanying note 10 (discussing process-independent approach) with *supra* text accompanying note 25 (discussing non-limiting construction). Therefore, the *Atlantic* panel confused the PTO's process-independent approach as a non-limiting construction.

²¹⁵ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846 (Fed. Cir. 1991).

²¹⁶ *Id.*; see also *Senmed, Inc. v. Richard-Allan Medical Indus.*, 888 F.2d 815, 818 n.7 (Fed. Cir. 1989) (stating that "the same interpretation of a claim must be employed in determining all validity and infringement issues in a case."); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 1988) (stating that after construing claims for validity, "it is axiomatic that the claims must be construed in the same way for infringement.").

²¹⁷ See *infra* text accompanying notes 218-38 (discussing flaws of rationale in *Atlantic*).

²¹⁸ *Atlantic*, 970 F.2d at 844-46.

²¹⁹ *Id.* For example, the PTO only has access to the inventor's application. See 37 C.F.R. § 1.118 (prohibiting introduction of new information after filing application); see also *supra* table accompanying note 73 (relating prosecution to other inquiries).

²²⁰ *Tandon Corp. v. United States Int'l Trade Comm'n*, 831 F.2d 1017, 1021 (Fed. Cir.

court considers the validity of a patent, the court may consult the history of the prosecution and the patent.²²¹ The court may also consider the defendant's arguments and evidence that the invention is unpatentable.²²² Because validity inquiries and prosecution are different types of proceedings and because different evidence is available to each proceeding, the *Atlantic* panel reasoned that different standards are proper.²²³ The *Atlantic* panel had previously treated the PTO's approach as a non-limiting construction.²²⁴ Reasoning that courts should follow a different construction than the one followed by the PTO, the *Atlantic* panel concluded that courts should follow a process-limited construction.²²⁵

This reasoning is flawed, however, because even if the prosecution and validity inquiries proceed in different contexts, this difference does not dictate a different construction of claims.²²⁶ There is no basis for treating claims differently before the PTO and the courts.²²⁷ Since infringement litigation can only arise after prosecution is finished, a court will have more information about the invention during a validity inquiry than the PTO had during prosecution.²²⁸ Moreover, a practical lack of resources should not determine the legal issue of claims interpretation.²²⁹ Therefore, these necessary differences neither support nor require the use of different principles of construction between the courts and the PTO.²³⁰

1987) (Newman, J.).

²²¹ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846 (Fed. Cir. 1992) (citing *Tandon*, 831 F.2d 1017).

²²² *Tandon*, 831 F.2d at 1021.

²²³ *Atlantic*, 970 F.2d at 846.

²²⁴ See *supra* note 214 and accompanying text (discussing *Atlantic* panel's mischaracterization of PTO's approach as non-limiting construction).

²²⁵ See *supra* text accompanying notes 212-16 (discussing rationale in *Atlantic*).

²²⁶ See *infra* text accompanying notes 231-36 (discussing different constructions in different contexts).

²²⁷ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 845 (Fed. Cir. 1992).

²²⁸ See KOENIG, *supra* note 91, § 2.02[1] at 2-14 to 2-15 (distinguishing between PTO's limited patentability search during prosecution and more extensive validity search by alleged infringers).

²²⁹ See *Tandon Corp. v. United States Int'l Trade Comm'n*, 831 F.2d 1017, 1021 (Fed. Cir. 1987) (stating that claim interpretation has factual underpinnings, but is question of law). *But see* *H.H. Robertson, Co. v. United Steel Deck, Inc.*, 820 F.2d 384, 389 (Fed. Cir. 1987) (stating that claim interpretation may depend on evidentiary material that requires resolving factual issues).

²³⁰ See *supra* text accompanying notes 226-29 (arguing that different contexts do not re-

Second, by holding that courts should follow a process-limited construction during validity inquiries, the *Atlantic* panel ignored its own findings.²³¹ The *Atlantic* panel found that the Supreme Court and circuit court cases follow a process-independent approach to product-by-process claims during validity inquiries.²³² For example, in *Cochrane v. Badische Anilin & Soda Fabrik*, the Supreme Court separately considered the issues of validity and infringement for a patent for alizarine²³³ made by a bromine reaction process.²³⁴ On the issue of validity, the Court followed a process-independent approach.²³⁵ When determining the issue of infringement, however, the Court followed a process-limited construction.²³⁶ By classifying inquiries by their procedural context, the *Atlantic* panel created an artificial dichotomy between adversarial proceedings, which use a process-limited construction, and administrative proceedings, which use a non-limiting construction.²³⁷ The *Atlantic* panel's own review of controlling precedent, however, demonstrates that a process-independent approach applies during patentability inquiries in both prosecution and validity contexts, and that a process-limited construction applies only during infringement inquiries.²³⁸

quire different constructions).

²³¹ See *infra* text accompanying notes 232-38 (discussing *Atlantic* panel's review of precedent in validity contexts).

²³² *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 841 (Fed. Cir. 1992). *Atlantic* cited *General Elec. v. Wabash Appliance*, 304 U.S. 364 (1938), in which the Court similarly held that for purposes of patentability an inventor may not use the process terms to secure a patent. *Id.* at 841. *Atlantic* also cited validity inquiries before the Court of Customs and Patent Appeals, noting that those courts similarly follow the PTO construction. *Id.* at 844 (citing *In re Avery*, 518 F.2d 1228 (C.C.P.A. 1975); *In re Fessmann*, 489 F.2d 742 (C.C.P.A. 1974); *In re Brown*, 459 F.2d 531 (C.C.P.A. 1972)).

²³³ Alizarine is a reddish-orange dye derived from the root of the madder plant. RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE 53 (2d ed. 1987).

²³⁴ *Atlantic*, 970 F.2d at 841 (citing *Cochrane v. Badische Anilin & Soda Fabrik*, 111 U.S. 293, 296-98 (1884)).

²³⁵ *Id.* (citing *Cochrane*, 111 U.S. 293).

²³⁶ *Id.* at 840 (citing *Cochrane*, 111 U.S. at 296-98).

²³⁷ *Id.* at 846; see also *supra* text accompanying notes 218-25 (discussing *Atlantic* panel's distinction between administrative and adversarial proceedings); *supra* table accompanying note 73 (showing relationship between inquiries).

²³⁸ Compare *Atlantic Thermoplastics Co. v. Faytex Corp.* 970 F.2d 834, 846 (Fed. Cir. 1992) (holding that prosecution and validity inquiries follow different constructions) with *id.* at 838-42 (citing Supreme Court cases following process-independent construction during validity inquiries).

Thus, in place of the administrative-adversarial dichotomy proposed by the *Atlantic* panel, the controlling United States Supreme Court precedents disclose an alternate dichotomy between patentability and infringement inquiries.²³⁹ Yet, in an apparent contradiction, the Federal Circuit has also held that courts should construe claims for validity and infringement in the same way.²⁴⁰ Harmonizing the process-independent approach used in patentability inquiries and the process-limited construction used in infringement inquiries would relax the tension from the conflicting decisions of the Federal Circuit.²⁴¹

IV. PROPOSED TWO-STEP ANALYSES FOR PATENTABILITY AND INFRINGEMENT

A. Analogous Analyses for Patentability and Infringement Inquiries

When determining the patentability of a product-by-process claim, the PTO and the courts follow a process-independent approach.²⁴² When determining whether a defendant has infringed a product-by-process claim, courts follow a process-limited construction.²⁴³ This Comment proposes two separate but analogous two-step analyses to explain each of these two approaches.²⁴⁴ The proposed analyses yield results consistent with precedent for prosecution, validity, and infringement

²³⁹ See *Atlantic*, 970 F.2d at 846 (distinguishing between patentability inquiries before PTO and courts); *supra* text and accompanying notes 176-85 (discussing *Atlantic* panel's review of U.S. Supreme Court precedent); *supra* table accompanying note 73 (illustrating types of related patent inquiries); *supra* text and accompanying notes 231-38 (analyzing *Atlantic* panel's classification of U.S. Supreme Court precedent into either administrative proceedings or litigation); *supra* notes 237-38 and accompanying text (reclassifying U.S. Supreme Court precedent into either patentability or infringement inquiries).

²⁴⁰ See *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 1988) (stating that after construing claims for validity, "it is axiomatic that the claims must be construed in the same way for infringement."); see also *Senmed, Inc. v. Richard-Allan Medical Indus.*, 888 F.2d 815, 818 n.7 (Fed. Cir. 1989) (stating that "the same interpretation of a claim must be employed in determining all validity and infringement issues in a case.").

²⁴¹ See *infra* part IV.B (discussing proposed two-step analyses).

²⁴² See *supra* part I.C (discussing PTO's process-independent approach); *supra* text accompanying notes 233-36 (discussing process-independent approach in *Cochrane*); *supra* note 232 (discussing process-independent approach in *General Electric* and lower court decisions).

²⁴³ See *supra* part III.A (discussing court's process-limited construction).

²⁴⁴ See *infra* text accompanying notes 245-75 (proposing two-step analyses).

inquiries.²⁴⁵ Although the analyses may appear different, their structures reveal an underlying similarity between the process-independent approach and the process-limited construction, thus harmonizing the patentability-infringement dichotomy.²⁴⁶

During a patentability analysis, the PTO or a court asks, "Is the invention patentable?"²⁴⁷ According to precedent, the PTO or a court follows a process-independent approach when considering the patentability of a product-by-process claim.²⁴⁸ The proposed analysis for patentability recasts this approach by considering the process claim and product-by-process claim in two distinct steps.²⁴⁹

²⁴⁵ See *infra* text accompanying notes 246-75 (proposing two-step analyses); *supra* text accompanying notes 177-85 (discussing process-limited construction during infringement inquiries); *supra* text and accompanying notes 235-38 (discussing process-independent approach during validity inquiries); see also *infra* text and accompanying notes 282-88 (applying proposal to facts in *Atlantic*).

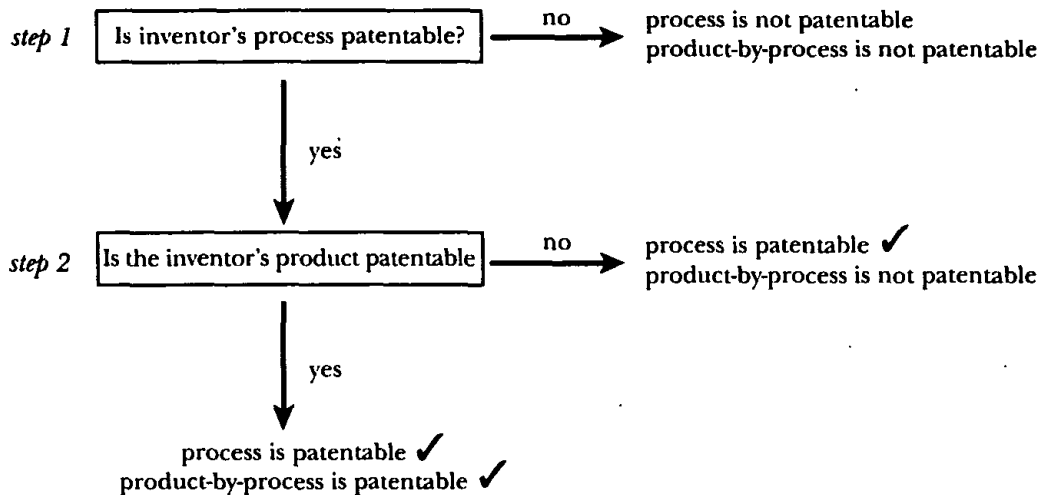
²⁴⁶ See *infra* text accompanying notes 272-75 (discussing similarities of both analyses); compare *infra* figure accompanying note 249 (illustrating proposed patentability analysis) with *infra* figure accompanying note 263 (illustrating proposed infringement analysis).

²⁴⁷ See *supra* part I.A (discussing patentability requirements); *supra* part I.C (discussing prosecution).

²⁴⁸ See *supra* part I.C (discussing PTO's process-independent approach); *supra* text and accompanying notes 235-38 (discussing U.S. Supreme Court's process-independent approach during validity inquiries).

²⁴⁹ Compare *infra* text accompanying notes 250-61 (discussing proposed patentability analysis) with table accompanying note 10 (illustrating process-independent approach). See also *infra* figure accompanying note 263 (describing two-step approach for infringement inquiry).

Proposed Approach to Determining Patentability



In the first step, the PTO or court examines the process for patentability.²⁵⁰ If the process is not patentable, then the product will not be patentable either.²⁵¹ In the context of prosecution, the PTO will not issue a patent for either the process or the product-by-process.²⁵² During a validity inquiry, the court will find the patent invalid for the process and the product-by-process claims.²⁵³ If the process is patentable, however, then the analysis proceeds to the second step.²⁵⁴

In the second step, the PTO or court examines the product itself for patentability.²⁵⁵ If the product is patentable, then the PTO will issue a patent with process and product-by-process claims.²⁵⁶ Similarly, the court will find the process and product-

²⁵⁰ See 35 U.S.C. § 131 (requiring examination of invention).

²⁵¹ See *Carbice Corp. of Am. v. American Patents Dev. Co.*, 283 U.S. 420 (1931) (holding that new use for process is not patentable if process is old). See generally 2 LIPSCOMB, *supra* note 4, § 6:52 (discussing novelty requirement). If the product is not patentable using a product-by-process claim, the product may still be patentable using a product claim. See *supra* notes 63-64 and accompanying text (discussing product claims).

²⁵² See 35 U.S.C. § 101 (stating terms for issuing patent).

²⁵³ See *supra* figure accompanying note 249 (illustrating proposed patentability analysis); see also *supra* text accompanying notes 250-52 (applying proposed approach in prosecution context).

²⁵⁴ See *supra* text and figure accompanying notes 249 (discussing two-step analysis).

²⁵⁵ See 35 U.S.C. § 131 (requiring examination of invention).

²⁵⁶ See *id.* § 101 (stating that patent for invention will issue unless the invention is

by-process claims valid.²⁵⁷ If the product is not patentable, however, the process may not confer patentability on an otherwise unpatentable product.²⁵⁸ Therefore, the PTO will only issue a patent with the process claim.²⁵⁹ Similarly, during a validity inquiry, the court will only find the process claim valid.²⁶⁰ This analysis recasts the patentability inquiry into two steps, but preserves the results of a process-independent approach.²⁶¹

During an infringement analysis, a court asks, "Did the defendant infringe the claim?"²⁶² The proposed analysis for infringement answers this question following a similar two-step pattern to analyze a process-limited construction:²⁶³

unpatentable). If the inventor is able to describe the product in structural terms, the inventor could also seek a product claim. *See supra* notes 64-65 and accompanying text (discussing product claims).

²⁵⁷ *See supra* figure accompanying note 249 (illustrating proposed patentability analysis); *see also supra* text accompanying note 256 (applying proposed approach in prosecution context).

²⁵⁸ *See supra* figure accompanying note 249 (illustrating proposed patentability analysis); *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 844-45 (Fed. Cir. 1992) (stating that PTO sought administrative tool to prevent applicant from obtaining patent on old product by merely claiming new process).

²⁵⁹ *Atlantic*, 970 F.2d at 844 (stating that applicant could obtain process patent for new, useful, and nonobvious process, but not for product).

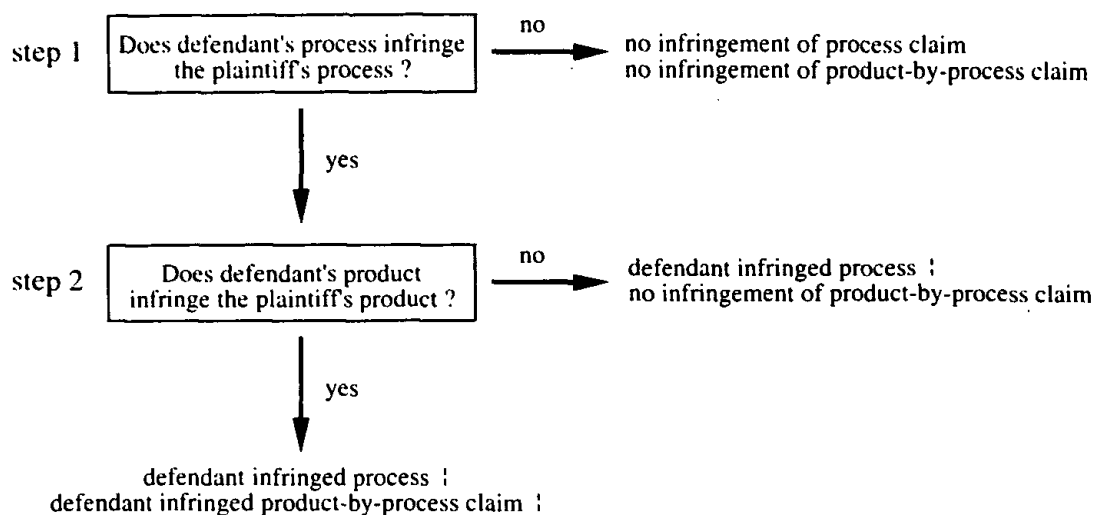
²⁶⁰ *See supra* figure accompanying note 249 (illustrating proposed patentability analysis); *see also supra* text accompanying note 259 (applying proposed approach in prosecution context).

²⁶¹ *See supra* text accompanying notes 247-60 (discussing two-step analysis applied to patentability).

²⁶² *See supra* text accompanying notes 86-90 (discussing infringement inquiries).

²⁶³ *Compare infra* text accompanying notes 264-71 (discussing proposed infringement analysis) *with supra* figure accompanying note 28 (illustrating process-limited construction). *See also supra* figure accompanying note 249 (describing two-step approach for patentability inquiry).

Proposed Approach to Determining Infringement



In the first step, the court compares the defendant's process with the patented process.²⁶⁴ Under a process-limited construction, the processes must be the same to constitute infringement.²⁶⁵ If the defendant's process is not the same as the process in the claim, then the defendant did not infringe either the process or the product and the inquiry ends.²⁶⁶ If the process is the same, however, then the court proceeds to the second step of the analysis.²⁶⁷

In the second step, the court compares the defendant's product with the patented product.²⁶⁸ If the products are the same, then the defendant infringed both the product-by-process

²⁶⁴ See, e.g., *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 836 (Fed. Cir. 1992) (comparing processes used by Surge and Sorbothane with Atlantic's process); *Scripps Clinic & Research Found. v. Genentech, Inc.*, 666 F. Supp. 1379, 1388 (N.D. Cal. 1987) (stating that recombinant process was obviously different from extraction process).

²⁶⁵ *Atlantic*, 970 F.2d at 842-43.

²⁶⁶ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991) (discussing and criticizing process-limited construction). If the patent owner also claimed the product using a product claim, the defendant may have infringed the product claim. See *supra* notes 64-65 and accompanying text (discussing product claims).

²⁶⁷ See *supra* text accompanying note 263 (discussing two-step analysis); see also *supra* figure accompanying note 263 (illustrating proposed analysis for infringement).

²⁶⁸ See, e.g., *Atlantic*, 970 F.2d at 838 (observing that Atlantic admitted its products were indistinguishable from Sorbothane's products); *Scripps*, 666 F. Supp. at 1391-94 (finding extracted factor VIII:C and recombinant factor VIII:C are functionally and structurally equivalent).

and the process claim.²⁶⁹ If the products are not the same, then the defendant only infringed the process claim.²⁷⁰ The proposed analysis therefore retains the result of a process-limited construction while recasting the analysis into two steps.²⁷¹

At first, the proposed analyses may appear dissimilar because one addresses the issue of patentability and the other addresses the issue of infringement.²⁷² A review of the two analyses, however, reveals a common structure: both consider the process first and the product second.²⁷³ Furthermore, the results from the patentability analysis and the infringement analysis share a similar pattern.²⁷⁴ In this way, the proposal remains consistent

²⁶⁹ See, e.g., *Atlantic*, 970 F.2d at 846. Accused infringer Faytex distributed innersoles made by Surge, in addition to those made by Sorbothane. *Id.* Surge made innersoles using a process substantially identical to the process used by Atlantic. Compare *id.* at 835-36 (quoting Atlantic's claims) with *id.* at 836 (describing process used by Surge). Atlantic and Faytex agreed that the Surge process infringed the patent. *Id.* If a patent owner also claimed the product using a product claim, the defendant may also have infringed the product claim. See *supra* notes 64-65 and accompanying text (discussing product claims).

²⁷⁰ See 35 U.S.C. § 271(a) (stating infringement requires making, using, or selling invention). An analogous situation arises if a patent has a product claim and the defendant makes a different product: even if the defendant uses the same process used to make the patented product, the defendant does not infringe the product claim. *Id.*

²⁷¹ See *supra* text accompanying notes 264-70 (describing two-step approach for infringement inquiries). The PTO requires that the product be independently patentable before it will issue a patent. *Atlantic*, 970 F.2d at 844-45. Similarly, a court must find that a defendant infringes the product before the court finds infringement. 35 U.S.C. § 271. Under a process-limited construction, the defendant must use the patented process before a court will hold that she has infringed the product-by-process claim. *Atlantic*, 970 F.2d at 842-43. By analogy, a court will not find a product-by-process patentable if the inventor uses an unpatentable process to produce a patentable product. See *Carbice Corp. of Am. v. American Patents Dev. Co.*, 283 U.S. 420 (1931) (holding that new use for process is not patentable if process is old).

²⁷² Compare *supra* text accompanying notes 250-61 (discussing proposed patentability analysis) with *supra* text accompanying notes 262-71 (discussing proposed infringement analysis).

²⁷³ See *infra* text accompanying notes 274-75 (discussing similar structure of proposed analyses).

²⁷⁴ See *supra* text accompanying notes 247-73 (discussing structure of proposed analyses). The first step in both analyses considers the process: Is the process patentable? (Or infringed?) If not, then neither the process nor the product-by-process is patentable (or infringed). If so, then the second step in the analyses considers the product: Is the product patentable? (Or infringed?) If not, then only the process is patentable (or infringed). If so, then both the process and the product-by-process are patentable (or infringed).

with the results from precedent while abiding by the Federal Circuit holding that courts should construe claims for validity and infringement in the same way.²⁷⁵

B. Application of the Proposed Approach to Scripps and Atlantic

As a practical matter, applying these proposed analyses to the facts in *Scripps* and *Atlantic* can explain the conflicting results in those cases.²⁷⁶ *Scripps* had developed a process to extract factor VIII:C.²⁷⁷ Later, Genentech developed a recombinant method to produce the same factor VIII:C.²⁷⁸ Under the proposed infringement analysis, the court would first consider whether Genentech infringed *Scripps*'s extraction process.²⁷⁹ Because Genentech used a different process, the court would have found no infringement of either the process or product-by-process claims.²⁸⁰ The result of the proposed approach disagrees with the ultimate disposition in *Scripps*, but the proposed result conforms more closely to controlling precedent.²⁸¹

Applying the proposed approach to the facts in *Atlantic* obtains the same result as the *Atlantic* holding.²⁸² *Atlantic* made shoe innersoles using a process starting with a solid heel.²⁸³ *Faytex* distributed virtually identical innersoles made by

²⁷⁵ See *supra* text accompanying notes 176-85 (discussing precedent on prosecution and inquiries for validity and infringement); *supra* sources cited in note 240 (requiring same claim construction for validity inquiry and infringement inquiry).

²⁷⁶ See *infra* text accompanying notes 277-88 (applying proposed analyses to *Scripps* and *Atlantic*).

²⁷⁷ See *supra* text accompanying notes 109-11 (discussing *Scripps*'s development of extracted factor VIII:C).

²⁷⁸ See *supra* text accompanying notes 123-33 (discussing Genentech's development of recombinant factor VIII:C).

²⁷⁹ See *supra* text accompanying notes 264-67 (discussing first step of proposed infringement analysis).

²⁸⁰ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 666 F. Supp. 1379, 1388 (N.D. Cal. 1987) (stating that Genentech obviously used process other than those disclosed in product-by-process claims).

²⁸¹ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991) (holding that product by different process may infringe product-by-process claim); *supra* text accompanying notes 177-82 (discussing process-limited precedent set by U.S. Supreme court).

²⁸² See *infra* text accompanying notes 283-88 (applying proposed approach to *Atlantic*).

²⁸³ See *supra* text accompanying notes 147-51 (discussing *Atlantic*'s solid heel process for making innersoles).

Sorbothane.²⁸⁴ Sorbothane, however, used a process starting with liquid heel material.²⁸⁵ Sorbothane did not infringe Atlantic's process, and therefore, Sorbothane did not infringe the product-by-process or process claims.²⁸⁶ Applying this approach leads to a result consistent with *Atlantic* and with precedent.²⁸⁷ Furthermore, this approach avoids *Atlantic's* rationale based on an artificial dichotomy between administrative and adversarial proceedings.²⁸⁸

Although the panels in *Scripps* and *Atlantic* ultimately reached different results, both panels wrestled with similar issues of precedent and policy.²⁸⁹ After reviewing prior cases, the *Atlantic* panel held that a process-independent approach applied during patentability inquiries, but that a process-limited construction applied during infringement litigation.²⁹⁰ Conversely, the *Scripps* panel argued that claim construction should be uniform during patentability and infringement.²⁹¹ The proposed two-step analyses retain the results of the two approaches while revealing their underlying similarities.²⁹² Thus, the proposal relaxes the

²⁸⁴ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 838 (Fed. Cir. 1992). However, *Faytex's* other distributor, *Surge*, made the same innersoles as *Atlantic's* using the same process as *Atlantic*. *Id.* at 836-38. As the first step in the approach, *Surge* infringed *Atlantic's* process. *Id.* at 838. Second, *Surge* infringed *Atlantic's* product. *Id.* at 836. Under the proposed approach, *Surge* would infringe both the process claim and the product-by-process claim. See *supra* text accompanying note 269 (applying proposed approach). However, in the *Atlantic* suit, *Atlantic* sued only *Faytex* for distributing the innersoles, not the manufacturers. *Atlantic*, 970 F.2d at 835-36. Although *Surge* did infringe *Atlantic's* process claims, these claims were not at issue in the suit. *Id.*

²⁸⁵ See *supra* text accompanying notes 153-57 (discussing *Sorbothane's* liquid heel process for innersoles).

²⁸⁶ See *Atlantic*, 970 F.2d at 836-38 (discussing differences between *Sorbothane's* process and *Atlantic's* process).

²⁸⁷ Compare *supra* text accompanying notes 282-86 (applying proposed approach to *Atlantic* facts) with *Atlantic*, 970 F.2d at 846-47 (holding that product-by-process claims only cover that product made by specific process claimed in patent); *supra* text accompanying notes 177-85 (discussing process-limited precedent set by U.S. Supreme Court).

²⁸⁸ *Atlantic*, 970 F.2d at 846; see also *supra* text accompanying notes 226-30 (discussing artificial dichotomy presented by *Atlantic* panel).

²⁸⁹ See *infra* text accompanying notes 290-93 (discussing issues in *Scripps* and *Atlantic*).

²⁹⁰ *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 838-45 (Fed. Cir. 1992) (reviewing precedent); see also *supra* text accompanying notes 232-36 (discussing *Atlantic* panel's use of precedent in validity context).

²⁹¹ See *supra* part III.B (discussing rationale in *Scripps*).

²⁹² See *supra* text accompanying notes 272-75 (discussing similarities of both analyses); see also *supra* figure accompanying note 249 (illustrating proposed patentability analysis); *supra* figure accompanying note 263 (illustrating proposed infringement analysis).

tension between *Scripps* and *Atlantic* with a synthesis in accord with patent policy.²⁹³

C. Benefits of Consistent Claim Construction

To promote the growth of technology in this country, claim construction should be clear and consistent.²⁹⁴ When the PTO examines claims for patentability and issues a patent, the inventor relies on the scope of her patent claims when licensing the invention, suing infringers, and developing new inventions.²⁹⁵ Similarly, potential competitors rely on the published claims when deciding whether to obtain a license, develop an alternative invention, or risk litigation by infringing the patent.²⁹⁶ If courts treat claims differently for infringement than for patentability, the public cannot rely on the scope of any issued patent claims.²⁹⁷ Different standards for patentability and infringement interfere with reasonable expectations, making the scope of every patent uncertain and reducing the incentive for potential inventors to innovate.²⁹⁸

²⁹³ Compare *supra* text accompanying note 289-92 (discussing how proposed analyses reveal underlying similarities in *Scripps* and *Atlantic*) with *supra* text accompanying note 107 (describing different constructions in *Scripps* and *Atlantic* as conflict in authority).

²⁹⁴ See *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 399 (Ct. Cl. 1967) (stating that patentee owner cannot construe claims narrowly during prosecution and broadly in litigation).

²⁹⁵ 1 DELLER, *supra* note 32, § 283. The three main reasons why claims should be definite are (1) to enable others to know when they should obtain a license, (2) to ensure that the claims do not cover later independent inventions, and (3) to define the invention to distinguish it from previously known technology. *Id.*

²⁹⁶ See *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1282 (Fed. Cir. 1992) (Newman, J., dissenting) (stating that public, litigants, and judges are entitled to know how to construe claims); see also *Permutit Co. v. Graver Corp.*, 284 U.S. 52, 60 (1931) (stating that patent must inform public of patent's limits so public will know which features are in public domain and which features require licensing).

²⁹⁷ See 1 DELLER, *supra* note 32, § 283 (stating that claims should be definite to enable others to know scope of claims).

²⁹⁸ See *Troxel Mfg. Co. v. Schwinn Bicycle Co.*, 465 F.2d 1253, 1258 (6th Cir.), *appeal on remand*, 489 F.2d 968 (6th Cir. 1972), *cert. denied*, 416 U.S. 939 (1974). A patent with uncertain effect also discourages licensing of the patent. *Id.* at 1257; cf. *Warner Bros. Inc. v. American Broadcasting Cos., Inc.*, 720 F.2d 231, 240 (2d Cir. 1983) (Newman, J.) (stating that in copyright context, uncertain scope of protection can deter creation of new works). See generally 1 LIPSCOMB, *supra* note 4, § 1:8 (discussing role of patents in free enterprise system).

By applying the proposed two-step analyses, the patent system rewards inventors only for their individual contributions to technology.²⁹⁹ Suppose Smith has a patent with a product-by-process claim for a widget made by process A.³⁰⁰ Under the proposed infringement analysis, which emulates the process-limited construction, Smith has a monopoly on widgets made only by process A.³⁰¹ Nevertheless, Smith should not prevent other inventors from developing new and better ways of making widgets.³⁰² By granting Smith a monopoly only on widgets made by process A, enough incentive remains for other inventors to develop new processes for making widgets.³⁰³

Suppose Nguyen then invents a way to make the same widget using an improved and novel process B.³⁰⁴ Under the proposed two-step analysis for patentability, which emulates the process-independent approach, the PTO will issue Nguyen a patent with a claim for the improved process B.³⁰⁵ The proposed patentability analysis rewards Nguyen only for developing an improved process and does not grant a further monopoly on the widget.³⁰⁶ When the PTO considers the process and the product separately, an inventor receives protection for the process and the product separately without receiving an overbroad monopoly for both.³⁰⁷

²⁹⁹ See *infra* text and accompanying notes 300-10 (applying proposal to hypothetical).

³⁰⁰ See *supra* text accompanying notes 13-18 (discussing hypothetical inventor Smith); see also, e.g., *supra* text accompanying notes 110-12, 147-51 (discussing invention of processes for making products).

³⁰¹ See *supra* text accompanying notes 262-71 (discussing proposed infringement analysis).

³⁰² See *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1280-81 (Fed. Cir. 1992) (Rich, J., dissenting) (discussing deterrent effect on inventors from construction in *Atlantic*).

³⁰³ 1 LIPSCOMB, *supra* note 4, § 1:8. When a new product appears on the market, it stimulates all persons in the trade to develop a competitive product. *Id.*

³⁰⁴ See *supra* text accompanying notes 19-22 (discussing hypothetical inventor Nguyen); see also, e.g., *supra* text accompanying notes 123-33, (discussing Genentech's new process for making product in *Scripps*); *supra* text accompanying notes 153-57 (discussing Sorbothane's new process for making product in *Atlantic*).

³⁰⁵ See *supra* text accompanying notes 247-61 (discussing proposed patentability analysis).

³⁰⁶ See *supra* text accompanying notes 304-05 (discussing extent of monopoly granted to hypothetical inventor Nguyen).

³⁰⁷ See *supra* notes 299-306 and accompanying text (illustrating separate protection for process and product by applying proposal to hypothetical).

Furthermore, under the proposed infringement analysis, Nguyen's widget will not infringe Smith's patent.³⁰⁸ This protection from infringement litigation is a further incentive for inventors to develop new processes for making products.³⁰⁹ By promoting the development of safer treatment for hemophiliacs, or better ways to make shoe innersoles, the patent system benefits the public through increased availability of products.³¹⁰

CONCLUSION

After Congress created the Federal Circuit to make patent law more consistent, conflicting decisions within the Circuit have been rare.³¹¹ Nevertheless, two panels of the Federal Circuit recently reached different conclusions on how to interpret product-by-process claims, a special claim format defining the product in terms of the manufacturing process.³¹² In 1991, *Scripps* held that even if a defendant uses a different process to make the same patented product, the defendant will infringe the product-by-process claims.³¹³ The next year, *Atlantic* held differently: unless the defendant uses the claimed process, she will not infringe the product-by-process claim.³¹⁴ Despite the flawed rationales presented by either panel, the case authority consistently supports a process-independent approach to patentability

³⁰⁸ See *supra* text accompanying notes 262-71 (discussing proposed infringement analysis).

³⁰⁹ See *supra* text accompanying notes 299-303 (discussing incentives to inventors from patent system).

³¹⁰ See *Scripps Clinic & Research Found. v. Genentech, Inc.*, 666 F. Supp. 1379, 1401 (N.D. Cal. 1987); 1 LIPSCOMB, *supra* note 4, § 1:8. The patent system directs inventors to produce and improve new products in a more economical and beneficial manner. *Id.* (citing WEBSTER'S PATENT LAW AND PRACTICE 23 (1851)).

³¹¹ See *supra* text accompanying notes 98-100 (discussing Federal Circuit); see also *Atlantic Thermoplastics Co. v. Faytex Corp.*, 974 F.2d 1279, 1281 (Fed. Cir. 1992) (stating that Congress formed Federal Circuit to eliminate inconsistent patent law).

³¹² See *supra* part II (discussing *Scripps* and *Atlantic*).

³¹³ See *supra* part II.A (discussing *Scripps*).

³¹⁴ See *supra* part II.B (discussing *Atlantic*).

and a process-limited construction during infringement litigation.³¹⁵ This Comment recasts these separate approaches in terms of analogous two-step analyses.³¹⁶ Such a consistent approach to claim construction ultimately promotes the purposes of the patent system.³¹⁷

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³¹⁵ See *supra* part III (discussing authority and rationales in *Scripps* and *Atlantic*).

³¹⁶ See *supra* parts IV.A-B (discussing proposed two-step analyses).

³¹⁷ See *supra* part IV.C (discussing benefits of proposed analyses).

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