

The Doctrine of Patent Exhaustion: *The Impact of Quanta Computer, Inc. v. LG Elecs., Inc.*

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ABSTRACT

In the wake of the Supreme Court's ruling in *Quanta Computer, Inc. v. LG Elecs., Inc.*, the patent exhaustion doctrine has gained renewed interest and attention in the patent industry. In *Quanta*, the Court upheld an accused infringer's defense based on patent exhaustion, also known as the first-sale doctrine, which holds that an authorized, unconditional sale of a patented product terminates all patent rights to that product. It marks the first time the Court discussed the doctrine in over 65 years. *Quanta* clarified the patent exhaustion doctrine in several respects, but it also generated a great deal of uncertainty for patentees, licensees, and potential infringers, and the decision could have far-reaching implications affecting all sectors of the technology industry. This Article discusses the following: the patent exhaustion doctrine and underlying public policy concerns; the application of the patent exhaustion doctrine with respect to combination products, i.e., goods that are combined or converted into patented-protected products after the sale; the actual *Quanta* decision and the Court's redefining of the patent exhaustion doctrine; and future implications of and issues left unresolved by *Quanta*, including those in the context of contract law and biotechnology patents.

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I. INTRODUCTION

In the wake of the Supreme Court’s ruling in *Quanta Computer, Inc. v. LG Elecs., Inc.*,¹ the patent exhaustion doctrine has gained renewed interest and attention in the patent industry.² In *Quanta*, the Court upheld an accused infringer’s defense based on patent exhaustion, also known as the first-sale doctrine, which holds that an authorized, unconditional sale of a patented product terminates all patent rights to that product.³ It

¹ *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008).

² See, e.g., Harold C. Wegner, *Post-Quanta, Post-Sale Patentee Controls*, 7 J. MARSHALL REV. INTELL. PROP. L. 682, 682 (2008) (noting that *Quanta* is one of the more important patent precedents of the modern era, and that it will likely have widespread implications in various technological fields including biotechnology); Richard P. Gilly & Mark S. Walker, *Supreme Court’s Quanta Decision Clarifies the Reach of Patent Exhaustion*, 20 NO. 9 INTELL. PROP. & TECH. L.J. 1, 1 (2008) (recommending that, “at a minimum,” all patentees reconsider their licensing schemes in view of *Quanta*); F. Scott Kieff, *Quanta v. LG Electronics: Frustrating Patent Deals by Taking Contracting Options Off the Table?*, 2008 CATO SUP. CT. REV. 315, 315-16 (2008) (suggesting that the *Quanta* decision is “likely to have a serious negative effect on the nuts and bolts of patent licensing agreements”). For a comprehensive analysis and critique of the *Quanta* decision and how it could affect patentees, licensees, and consumers, see generally John W. Schlicher, *The New Patent Exhaustion Doctrine of Quanta v. LG: What it means for Patent Owners, Licensees, and Product Customers*, 90 J. PAT. & TRADEMARK OFF. SOC’Y 758 (2008).

³ See *infra* note 7.

marks the first time the Court discussed the doctrine in over 65 years.⁴ *Quanta* clarified the patent exhaustion doctrine in several respects,⁵ but it also generated a great deal of uncertainty for patentees, licensees, and potential infringers, and it could have far-reaching implications affecting all sectors of the technology industry.⁶

Section II of this Article provides a brief overview of the patent exhaustion doctrine and underlying public policy concerns. Section III discusses the application of the patent exhaustion doctrine with respect to combination products, i.e., goods that are combined or converted into patent-protected products after the sale. Section IV analyzes how the Court redefined patent exhaustion in *Quanta*, outlines some of the issues left unresolved by the Court, and discusses the future implications of the decision.

II. PATENT EXHAUSTION AND UNDERLYING PUBLIC POLICY CONCERNS

The doctrine of patent exhaustion holds that a single authorized and unconditional sale of a patented article terminates all patent rights to that article, thereby limiting a patentee's exclusionary power in the underlying patent.⁷ The doctrine is a defense to patent infringement, as reaffirmed by the Federal Circuit shortly after the *Quanta* decision.⁸ The purpose for such a doctrine is straightforward: to prevent patentees from controlling postsale use of a patented item and extracting double recoveries from downstream purchasers for patent infringement.⁹ The authorized sale need not be made by the patentee for the doctrine to take effect—a sale made by a licensee operating within the scope of the patent and within the scope of the license can also exhaust the underlying patent.¹⁰ However, generally, the sale must take place inside the U.S. for the doctrine to

⁴ *Quanta*, 128 S. Ct. at 2116 (noting that the last time the Court discussed the doctrine was in 1942).

⁵ See *infra* Section IV.

⁶ See *infra* Section V.

⁷ See *Quanta*, 128 S. Ct. at 2115 (“The longstanding doctrine of patent exhaustion provides that the initial authorized sale of a patented item terminates all patent rights to that item.”); *id.* at 2116 (“[T]he right to vend is exhausted by a single, unconditional sale, the article sold being thereby carried outside the monopoly of the patent law and rendered free of every restriction which the vendor may attempt to put upon it.” (quoting *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 516 (1917))); *id.* at 2115 (explaining that, once patent exhaustion is triggered from an authorized, unconditional sale of a patented item, that item is “no longer within the limits of the monopoly” (quoting *Bloomer v. McQuewan*, 55 U.S. 539, 549 (1852))).

⁸ See *ExcelStor Tech., Inc. v. Papst Licensing GMBH & Co. KG*, 541 F.3d 1373, 1376 (Fed. Cir. 2008) (reaffirming the well-established notion that patent exhaustion “is a defense to patent infringement, not a cause of action”).

⁹ See, e.g., *Quanta*, 128 S. Ct. at 2122 (noting that patent exhaustion “prevents the patent holder from invoking patent law to control postsale use of the article”); *Cyrix Corp. v. Intel Corp.*, 846 F. Supp. 522, 539 (E.D. Tex. 1994) (recognizing that the purpose of the patent exhaustion doctrine is to “prevent[] patentees from extracting double recoveries for an invention”).

¹⁰ See *Intel Corp. v. ULSI Sys. Tech., Inc.*, 995 F.2d 1566, 1568 (Fed. Cir. 1993) (holding that the patent exhaustion doctrine also applies “to a sale of a patented product manufactured by a licensee acting within the scope of its license” (citing *Unidisco, Inc. v. Schattner*, 824 F.2d 965, 968 (Fed. Cir. 1987))); see also *Quanta*, 128 S. Ct. at 2122 (“Intel’s [(Licensee’s)] authorized sale to Quanta [(third-party purchaser)] thus took its products outside the scope of the patent monopoly, and as a result, LGE [(patentee)] can no longer assert its patent rights against Quanta.”); *United States v. Univis Lens Co., Inc.*,

apply.¹¹

Why is such a defense necessary? The law of patent exhaustion is deeply rooted in the compelling practical policy interest in facilitating commerce by permitting legitimate purchasers to receive patented articles free from infringement liability or unreasonable constraints from the patentee.¹² More specifically, the doctrine is necessary from a practical standpoint because the U.S. Patent Act provides that “whoever” without authorization uses, sells or offers to sell a patented article is liable for patent infringement.¹³ Literally, then, a third party who purchases from a customer of a patentee would be an infringer. In fact, any downstream purchasers using or reselling the patented article would literally be infringers, and the patentee would be able to collect royalties or damages from all of them.¹⁴ To prevent such a result, the patent exhaustion doctrine provides that a patentee’s patent rights connected to a patented article are cut off after the first authorized sale.¹⁵

316 U.S. 241, 249 (1942) (“Sale of a lens blank by the patentee *or by his licensee* is thus in itself both a complete transfer of ownership of the blank, which is within the protection of the patent law, and a license to practice the final stage of the patent procedure.” (emphasis added)); *Unidisco*, 824 F.2d at 968 (“Unidisco [(third-party purchaser)] had authority to resell the product it purchased from Girard [(licensee)] and its sales were not infringing.”).

¹¹ *Fuji Photo Film Co., Ltd. v. Jazz Photo Corp.*, 394 F.3d 1368, 1376 (Fed. Cir. 2005) (“The patentee’s authorization of an international first sale does not affect exhaustion of that patentee’s rights in the United States.”).

¹² *See Quanta*, 128 S. Ct. at 2118 (noting that, after the first authorized, unconditional sale of a patented article, downstream purchasers should not be held liable for patent infringement because such a result would “violate the longstanding principle that, when a patented item is ‘once lawfully made and sold, there is no restriction on [its] use to be implied for the [patentee’s] benefit’” (quoting *Adams v. Burke*, 84 U.S. 453, 457 (1873))); Brief for the United States as Amicus Curiae Supporting Petitioners at 7, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008) (No. 06-937) (arguing that patent exhaustion is “grounded in sound doctrinal and policy reasons”); *see also Wegner*, *supra* note 2, at 684 (discussing how the earliest Supreme Court cases established the principle that a purchaser of a patented article shall receive such an article free from infringement liability (citing *Adams*, 84 U.S. at 455-57; *Bloomer*, 55 U.S. at 549)).

¹³ 35 U.S.C. § 271(a) (2006) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

¹⁴ *See id.* For a detailed explanation of the rationale underlying the patent exhaustion doctrine, see generally John W. Osborne, *Justice Breyer’s Bicycle and the Ignored Elephant of Patent Exhaustion: An Avoidable Collision in Quanta v. LGE*, 7 J. MARSHALL REV. INTELL. PROP. L. 245, 254, 258 (2008) (noting that, without the patent exhaustion doctrine, a patentee “could independently control the goods indefinitely, thereby giving him absolute control over the product market and leaving subsequent purchasers . . . subject to a patent infringement action” (quoting William A. Birdwell, *Exhaustion Rights and Patent Licensing Market Restrictions*, 60 J. PAT. OFF. SOC’Y 203, 216, 229 (1978))).

¹⁵ *See, e.g., Univis*, 316 U.S. at 252 (explaining that a patentee parts with his patent monopoly upon selling the patented article because he has received in the purchase price every benefit of that monopoly conferred by the patent law, and that allowing the patentee-seller to exercise his patent rights against downstream purchasers would extend his monopoly “beyond the fair meaning of the patent statutes and the construction which has hitherto been given to them”); *Quanta*, 128 S. Ct. at 2115 (explaining that a purchase of a patented item “carrie[s] with it the right to the use of that [item]” (quoting *Adams*, 84 U.S. at 455)).

III. EXPANSION OF PATENT EXHAUSTION—THE *UNIVIS* EXHAUSTION RULE

Though the basic tenet of the exhaustion doctrine is simple, the exact scope of the doctrine is not clearly defined.¹⁶ Throughout the years, patentees and license negotiators have tested the bounds of the doctrine with unique arguments and licensing strategies.¹⁷ For example, if a patentee sells unpatented goods to a purchaser, and that purchaser converts those goods into a patent-protected product, would that trigger patent exhaustion? Would the purchaser's customers be liable for infringement because, technically speaking, there was no sale of a patented article by the patentee? The Supreme Court in *United States v. Univis Lens Co., Inc.* addressed these exact issues.¹⁸

Under the licensing scheme at issue in *Univis*, the patentee agreed to sell its unpatented multifocal lens blanks to purchasers who were permitted to grind and polish the lens blanks into patent-protected lenses and then sell them.¹⁹ Hence, under the classic definition of patent exhaustion, the patentee's patents would not be exhausted and the purchaser's customers would be infringers, because the product sold was not a "patented article."²⁰ Nevertheless, the Supreme Court held that the patent law does not afford protection to such a licensing scheme.²¹ More specifically, the Court held that the sale of the lens blanks exhausted the patents on the patent-protected lenses because the lens blanks embodied "essential features" of the patented lenses and the only use of the lens blanks was to convert them into the patented lenses.²² As such, the Court in *Univis* stated the patent exhaustion rule as follows:

[W]here one has sold an uncompleted article which, because it embodies essential features of his patented invention, is within the protection of his patent, and has destined the article to be finished by the purchaser in conformity to the patent, he has sold his invention so far as it is or may be embodied in that particular article.²³

¹⁶ See, e.g., Schlicher, *supra* note 2, at 762 ("The patent exhaustion doctrine has been a source of confusion and frustration for patent owners, their licensees, and their customers for 160 years."); Wegner, *supra* note 2, at 699 (noting that it still remains to be seen how the contours of patent exhaustion will be shaped by future litigation); Gilly & Walker, *supra* note 2, at 1 (noting that *Quanta* failed to address important questions regarding patent exhaustion that are still unresolved).

¹⁷ See, e.g., *Univis*, 316 U.S. at 244-47 (discussing a licensing scheme to sell unfinished, unpatented lens blanks to a licensee wholesaler who would then grind the blanks into finished, patented lenses); *Quanta*, 128 S. Ct. at 2114 (discussing a licensing scheme that permits a licensee computer chip manufacturer to sell its chips that use the licensor's patents, but prohibiting any combination of such chips with third-party components).

¹⁸ *Univis*, 316 U.S. 241.

¹⁹ *Id.* at 244-45.

²⁰ See *supra* note 7 and accompanying text; see also Wegner, *supra* note 2, at 685 ("[U]nder this supposed loophole, the purchaser's customer of the patent protected goods would be an infringer.").

²¹ See *Univis*, 316 U.S. at 252 ("The price fixing features of [patentee's] licensing system . . . are not within the protection of the patent law.").

²² *Id.* at 249 (arguing that the patent rights to the finished lenses are exhausted because "each blank . . . embodies essential features of the patented device and is without utility until it is ground and polished as the finished lens of the patent").

²³ *Id.* at 250-51.

Accordingly, the Court in *Univis* made clear that a patentee who sells an unfinished article that embodies “essential features” of the patentee’s patents cannot invoke patent law to control postsale prices of that article.²⁴ The Court, however, refrained from discussing this matter beyond the specific facts of the case at hand, and did not explain in general terms what constitutes “essential features” of a patent. For example, it is unclear from *Univis* whether all elements recited in a claim are necessarily “essential features,” or, put another way, whether a product that does not embody all the recited elements can nonetheless embody “essential features” of the claim.

IV. *QUANTA* CLARIFIES THE REACH OF PATENT EXHAUSTION

More than sixty-five years later, the Supreme Court expanded the *Univis* rule and further clarified the patent exhaustion doctrine.²⁵ The *Quanta* decision, in which the Court upheld the patent exhaustion defense raised by the accused infringer, in a way marked a turning point in patent exhaustion jurisprudence because the doctrine had been severely undercut by a series of decisions by the Court of Appeals for the Federal Circuit.²⁶ These decisions, in effect, had created loopholes by which patentees could circumvent the doctrine. For example, during the period between *Univis* and *Quanta*, the Federal Circuit held that patent exhaustion does not apply to method claims because methods are not normally sold, and that a restriction in the licensing agreement can override patent exhaustion.²⁷ It may be fair to say that the Federal Circuit’s consistent denial of the patent exhaustion defense during this period raised some doubts as to the practical viability of the doctrine.²⁸ As explained below, however, *Quanta* overruled some of these Federal Circuit decisions *sub silentio* and revitalized the exhaustion

²⁴ See *id.* at 251 (explaining that after the sale of such an article, the patentee “has . . . parted with his right to assert the patent monopoly with respect to it and is no longer free to control the price at which it may be sold either in its unfinished or finished form”).

²⁵ See *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109, 2117 (2008) (“[In *Univis*,] the Court concluded that the traditional bar on patent restrictions following the sale of an item applies when the item sufficiently embodies the patent—even if it does not completely practice the patent—such that its only and intended use is to be finished under the terms of the patent.”).

²⁶ See generally Wegner, *supra* note 2, at 686-89 (discussing the Federal Circuit’s evisceration of patent exhaustion since the court’s inception in 1982).

²⁷ See *Bandag, Inc. v. Al Bolser’s Tire Stores, Inc.*, 750 F.2d 903, 924 (Fed. Cir. 1984) (“The doctrine that the first sale by a patentee of an article embodying his invention exhausts his patent rights in that article is inapplicable here, because the claims of the Carver patent are directed to a ‘method of retreading’ and cannot read on the equipment Bolser used in its cold process recapping.” (citation omitted)); *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997) (“This exhaustion doctrine, however, does not apply to an expressly conditional sale or license. In such a transaction, it is more reasonable to infer that the parties negotiated a price that reflects only the value of the ‘use’ rights conferred by the patentee. As a result, express conditions accompanying the sale or license of a patented product are generally upheld.” (citing *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708 (Fed. Cir. 1992))).

²⁸ See, e.g., *supra* note 27; *Mallinckrodt*, 976 F.2d at 701 (refusing to apply the patent exhaustion doctrine and holding that “a restrictive license to a particular use was permissible, and . . . the purchaser’s unauthorized use [was] infringement of the patent . . .” (citing *Gen. Talking Pictures Corp. v. Western Elec. Co.*, 304 U.S. 175 (1938))).

doctrine.²⁹

A. *Quanta* Background

In *Quanta*, LGE licensed its patents to Intel under a license agreement that broadly authorized licensee Intel to make, use, sell, offer to sell, import, or otherwise dispose of its processors and chipsets that practice LGE's patented methods.³⁰ The license agreement also contained a limitation that no license may be granted to any third party for the combination of the Intel products with non-Intel components.³¹ The details of this licensing strategy suggest that LGE designed the licensing agreement to exploit the loopholes created by Federal Circuit case law.³² By licensing method claims and explicitly denying any license to third-party purchasers for the combination of the Intel products with non-Intel components, LGE hoped to circumvent the patent exhaustion doctrine and extract royalties from not only Intel but also from downstream purchasers.³³

Subsequently, *Quanta*, a third-party computer manufacturer, purchased the processors and chipsets from Intel and manufactured computers using the Intel products in combination with non-Intel components in a way that practiced LGE's method patents.³⁴ LGE filed a lawsuit against *Quanta* on the basis that the incorporation of Intel's products into *Quanta*'s computers infringed LGE's patents.³⁵ *Quanta* responded that the license LGE granted to Intel triggered patent exhaustion, and that LGE's infringement action against a legitimate customer, such as *Quanta*, was therefore barred.³⁶ Thus, the case presented two main issues for the Court: whether the patent exhaustion doctrine applies to method patents, and whether the doctrine can be triggered by a sale of an incomplete article that must be combined with other components in order to practice the patent.³⁷

²⁹ See *infra* Section IV.B; Wegner, *supra* note 2, at 682 ("The Court sub silentio overruled Federal Circuit limitations to exhaustion . . ."). The Supreme Court relied exclusively on its own precedent in reaching its decision in *Quanta*, and did not cite to a single Federal Circuit case. See Gilly & Walker, *supra* note 2, at 1 ("[T]he Supreme Court did not cite a single Federal Circuit case other than the case on direct appeal.").

³⁰ *Quanta*, 128 S. Ct. at 2114.

³¹ *Id.*

³² See, e.g., Wegner, *supra* note 2, at 690 ("The LGE patent exploitation scheme in *Quanta* focused upon the key elements of the Federal Circuit's erosion of the exhaustion doctrine.").

³³ See *Quanta*, 128 S. Ct. at 2117 ("LGE argues that the exhaustion doctrine is inapplicable here because it does not apply to method claims, which are contained in each of the LGE Patents."); *id.* at 2121 ("LGE argues that there was no authorized sale here because the License Agreement does not permit Intel to sell its products for use in combination with non-Intel products to practice the LGE Patents."); see also Wegner, *supra* note 2, at 690 ("In this manner, LGE could extract money from Intel for a license to manufacture its chips and seek license royalties from the downstream purchasers, the computer manufacturers.").

³⁴ *Quanta*, 128 S. Ct. at 2114.

³⁵ *Id.*

³⁶ See *id.* at 2114-15.

³⁷ *Id.* at 2113 ("In this case, we decide whether patent exhaustion applies to the sale of components of a patented system that must be combined with additional components in order to practice the patented

B. Patent Exhaustion Applies to Method Patents

As to the first issue, the Court had little trouble concluding that patent exhaustion applies to method patents.³⁸ The Court relied on its own precedent to hold that, even though method patents may not be linked to a tangible device, the claimed methods can still be “embodied” in the device and thus exhausted upon first sale.³⁹ Moreover, the Court, recognizing the relative ease with which claim drafters can characterize patent claims as methods instead of apparatuses, reasoned that excluding method claims from the reach of patent exhaustion would severely undermine the doctrine.⁴⁰ Accordingly, the Court rejected LGE’s argument that method claims are categorically never exhaustible.⁴¹ In doing so, the Court effectively overruled *Bandag, Inc. v. Al Bolser’s Tire Stores*, in which the Federal Circuit ruled that patent exhaustion is inapplicable to method claims.⁴²

C. Patent Exhaustion Can Be Triggered By a Sale of an Incomplete Article that Substantially Embodies the Patent

As to the second issue, the Court reaffirmed the *Univis* decision.⁴³ Further, it restated the *Univis* rule more broadly: “the traditional bar on patent restrictions following the sale of an item applies when the item sufficiently embodies the patent—even if it does not completely practice the patent—such that its only and intended use is to be finished under the terms of the patent.”⁴⁴ Thus, in resolving the second issue, the Court examined the extent to which an uncompleted article must embody a patent in order to trigger patent exhaustion,⁴⁵ and concluded that, in this case, the LGE patents were exhausted by the sale of the Intel chipsets to Quanta because the chipsets “sufficiently” or

methods.”); *see also id.* at 2121 (“The relevant consideration is whether the Intel Products that partially practice a patent-by, for example, embodying its essential features-exhaust *that* patent.”).

³⁸ *Id.* at 2117 (“Nothing in this Court’s approach to patent exhaustion supports LGE’s argument that method patents cannot be exhausted.”).

³⁹ *Id.* (“It is true that a patented method may not be sold in the same way as an article or device, but methods nonetheless may be ‘embodied’ in a product, the sale of which exhausts patent rights. Our precedents do not differentiate transactions involving embodiments of patented methods or processes from those involving patented apparatuses or materials.” (citing *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436, 446, 457 (1940))); *United States v. Univis Lens Co., Inc.*, 316 U.S. 241, 248-51 (1942).

⁴⁰ *Quanta*, 128 S. Ct. at 2117-18 (“Eliminating exhaustion for method patents would seriously undermine the exhaustion doctrine. . . . By characterizing their claims as method instead of apparatus claims, or including a method claim for the machine’s patented method of performing its task, a patent drafter could shield practically any patented item from exhaustion.”).

⁴¹ *Id.* at 2118.

⁴² *See Bandag, Inc. v. Al Bolser’s Tire Stores, Inc.*, 750 F.2d 903, 924 (Fed. Cir. 1984) (“The doctrine that the first sale by a patentee of an article embodying his invention exhausts his patent rights in that article is inapplicable here, because the claims of the Carver patent are directed to a ‘method of retreading’ and cannot read on the equipment Bolser used in its cold process recapping.” (citation omitted)).

⁴³ *See Quanta*, 128 S. Ct. at 2119 (“We agree with Quanta that *Univis* governs this case.”).

⁴⁴ *Id.* at 2117.

⁴⁵ *See id.* at 2118 (“We next consider the extent to which a product must embody a patent in order to trigger exhaustion.”).

“substantially” embodied the LGE patents.⁴⁶ The Court’s conclusion was based on two factors: Intel’s products had “no reasonable noninfringing use,” and the products included “all the inventive aspects” of the patents.⁴⁷

With respect to the first factor, the Court noted that there was no reasonable way to utilize Intel’s chipsets other than incorporating them into computer systems.⁴⁸ Specifically, the Court recognized that Intel’s chipsets could not function until they were connected to buses and memory by computer manufacturers such as Quanta.⁴⁹ Accordingly, because Intel’s chipsets were without utility unless and until they were incorporated into computers that would practice the patents, the Court ruled that Intel’s chipsets, like the lens blanks in *Univis*, had no reasonable noninfringing use.⁵⁰

With respect to the second factor, the Court noted that Intel’s products included all the inventive aspects of the LGE patents because, for one, the only steps required to practice the patents were application of common processes (e.g., connecting buses) and addition of standard parts (e.g., memory).⁵¹ Secondly, nothing creative or inventive was involved in adding such standard parts to practice the patent.⁵² As such, the Court ruled

⁴⁶ *Id.* at 2122 (“Intel’s microprocessors and chipsets substantially embodied the LGE Patents Intel’s authorized sale to Quanta thus took its products outside the scope of the patent monopoly, and as a result, LGE can no longer assert its patent rights against Quanta.”).

⁴⁷ *Id.* (“Intel’s microprocessors and chipsets substantially embodied the LGE Patents because they had no reasonable noninfringing use and included all the inventive aspects of the patented methods.”).

⁴⁸ *Id.* at 2119 (“LGE has suggested no reasonable use for the Intel Products other than incorporating them into computer systems that practice the LGE Patents. Nor can we discern one: A microprocessor or chipset cannot function until it is connected to buses and memory.”(footnote omitted)).

⁴⁹ *See id.* (“[H]ere, as in *Univis*, the only apparent object of Intel’s sales to Quanta was to permit Quanta to incorporate the Intel Products into computers that would practice the patents.”).

⁵⁰ *See id.* at 2122. Some observers have suggested that the proper test for such combination product cases should be based on the specific language of 35 U.S.C. § 271(c), which provides:

Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

35 U.S.C. § 271(c) (2006). *See generally* William P. Skladony, *Commentary on Select Patent Exhaustion Principles in Light of the LG Electronics Cases*, 47 IDEA 235, 294-95 (2007) (arguing that “the test for patent exhaustion in the context of combination products should be expressly based on the terminology of § 271(c)” because § 271(c) “recognizes the potential culpability of one who sells an article that has no substantial noninfringing use other than infringement of a patented process” (footnote omitted)); Osborne, *supra* note 14, at 294 (arguing that “[t]he Supreme Court should . . . reverse in *Quanta v. LGE* based on 35 U.S.C. § 271(c), the contributory infringement statute” because § 271(c) is fully dispositive of the issues raised in *Quanta*).

⁵¹ *See Quanta*, 128 S. Ct. at 2120 (“Here, as in *Univis*, the incomplete article substantially embodies the patent because the only step necessary to practice the patent is the application of common processes or the addition of standard parts. Everything inventive about each patent is embodied in the Intel Products.”).

⁵² *See id.* (“The Intel Products were specifically designed to function only when memory or buses are attached; Quanta was not required to make any creative or inventive decision when it added those parts.”).

that Intel's chipsets included all the inventive aspects and all but practiced LGE's patents.⁵³ Based on these two factors, the Court concluded that Intel's chipsets "substantially embodied" LGE's patents.⁵⁴

Having determined that method patents are subject to exhaustion and Intel's chipsets substantially embodied LGE's patents, the Court finally discussed whether the sale by Intel was authorized by LGE.⁵⁵ The Court answered in the affirmative.⁵⁶ Further, in doing so, it focused on the broad language of the licensing agreement that authorized Intel to sell its products practicing LGE's patents.⁵⁷ Although the license agreement disclaimed any license to third-parties, the Court's exhaustion analysis turned only on Intel's own license, which did not condition Intel's authority to sell its products.⁵⁸ Accordingly, the Court concluded that Intel's sale to Quanta constituted an "authorized" sale.⁵⁹

In dicta, the Court also rejected LG's argument that patent exhaustion does not apply across patents:

With regard to LGE's argument that exhaustion does not apply across patents, we agree on the general principle: The sale of a device that practices patent A does not, by virtue of practicing patent A, exhaust patent B. But if the device practices patent A *while substantially embodying* patent B, its relationship to patent A does not prevent exhaustion of patent B.⁶⁰

The Court thus made clear that the number of patents embodied by a device is irrelevant to the exhaustion analysis.⁶¹ Rather, the exhaustion analysis depends only on whether the device "substantially embodies" the patents against which exhaustion is asserted.⁶² Thus, the Court implied that even if there were additional unlicensed LGE

⁵³ See *id.* ("Intel all but practiced the patent itself by designing its products to practice the patents.").

⁵⁴ *Id.* at 2122.

⁵⁵ See *id.* at 2121 ("[W]e next consider whether their sale to Quanta exhausted LGE's patent rights. Exhaustion is triggered only by a sale authorized by the patent holder." (citation omitted)).

⁵⁶ See *id.* at 2122 ("Because Intel was authorized to sell its products to Quanta, the doctrine of patent exhaustion prevents LGE from further asserting its patent rights with respect to the patents substantially embodied by those products." (footnote omitted)).

⁵⁷ See *id.* at 2121-22 ("Nothing in the License Agreement restricts Intel's right to sell its microprocessors and chipsets to purchasers who intend to combine them with non-Intel parts. . . . Intel's authority to sell its products embodying the LGE Patents was not conditioned on the notice or on Quanta's decision to abide by LGE's directions in that notice.").

⁵⁸ See *id.* at 2122 ("[T]he question whether third parties received implied licenses is irrelevant because Quanta asserts its right to practice the patents based not on implied license but on exhaustion. And exhaustion turns only on Intel's own license to sell products practicing the LGE Patents.").

⁵⁹ See *id.* ("The License Agreement authorized Intel to sell products that practiced the LGE Patents.").

⁶⁰ *Id.* at 2120.

⁶¹ See *id.* at 2120; see also Schlicher, *supra* note 2, at 816 ("[T]he Court's decision says that exhaustion does not depend on whether the claims asserted to be exhausted are in one patent or in several patents.").

⁶² See *Quanta*, 128 S. Ct. at 2121 ("The relevant consideration is whether the Intel Products that partially practice a patent—by, for example, embodying its essential features—exhaust *that* patent.").

patents used only by third-party purchasers such as Quanta, those patents would also have been exhausted if Intel's chipsets substantially embodied them.⁶³

In view of the above, the *Quanta* Court characterized the patent exhaustion doctrine as follows: "The authorized sale of an article that substantially embodies a patent exhausts the patent holder's rights and prevents the patent holder from invoking patent law to control postsale use of the article."⁶⁴

D. Post-*Quanta* Issues and Implications

In *Quanta*, the Supreme Court clarified the reach of the patent exhaustion doctrine in at least two respects. First, patent exhaustion applies to method patents.⁶⁵ Hence, patent exhaustion cannot be circumvented by simply drafting method claims as opposed to apparatus claims.⁶⁶ This part of the holding is straightforward. Second, an authorized sale of an article that "substantially embodies" a patent exhausts the patent rights to that article, even when the article is incomplete as sold and does not practice the patent.⁶⁷ The details of this second holding, namely with respect to the definition of "substantially embodies," are not so straightforward.

Moreover, the Court left several important questions unanswered with respect to the scope of patent exhaustion in the context of contract law and biotechnology patents.⁶⁸ The following sections will address some of these unresolved issues.

E. When Does a Product "Substantially Embody" a Patent?

The Supreme Court held that the Intel chipsets substantially embodied the LGE patents because the chipsets had (1) "no reasonable noninfringing use" and (2) included "all the inventive aspects" of the LGE patents.⁶⁹ The Court, however, did not elaborate beyond these two factors, nor did it define a general standard or test for determining

⁶³ See *id.* ("While each Intel microprocessor and chipset practices thousands of individual patents, including some LGE patents not at issue in this case, the exhaustion analysis is not altered by the fact that more than one patent is practiced by the same product."); see also Schlicher, *supra* note 2, at 816 ("If the LG [sic] owned and licensed Intel under a microprocessor patent, a system patent, and a method of use patent, the Court implied the result would have been no different."); Wegner, *supra* note 2, at 692 ("But, what happens if *in addition* there are patents that are only practiced by the downstream purchaser (the computer manufacturer)? Exhaustion rights under the *licensed* patent are meaningless if the *unlicensed* patents are also not exhausted.").

⁶⁴ *Quanta*, 128 S. Ct. at 2122.

⁶⁵ See *supra* Part IV.B.

⁶⁶ See *supra* Part IV.B.

⁶⁷ See *supra* Part IV.C.

⁶⁸ See, e.g., Gilly & Walker, *supra* note 2, at 4 ("[B]ecause the Supreme Court did not refer to a single Federal Circuit case on patent exhaustion, it did not rule on the question of whether many of the Federal Circuit's decisions are still good law. By not rendering pronouncements on related patent doctrines, such as the implied license doctrine, the Court has left questions for future litigation.").

⁶⁹ See *supra* notes 47-48 and accompanying text.

when a product “substantially embodies” a patent.⁷⁰ It is not even clear whether just one or both factors must be satisfied to find that a product “substantially embodies” a patent.

With respect to the first factor, the Court relied heavily on *Univis* to articulate two reasons why the Intel chipsets had “no reasonable noninfringing use.” One, the only object of the sale was to permit the buyer, Quanta, to use them in a way that would practice the patents, and two, there was no reasonable use for the Intel chipsets other than to use them in computer systems that practice the LGE patents.⁷¹ This is in line with the reasoning the Court applied in *Univis* in reaching the conclusion that the lens blanks embodied essential features of the patents.⁷² However, the Court in *Quanta* did not further elaborate on what constitutes a “reasonable noninfringing use” of a product. This is because, in the case of microprocessors or chipsets, it was indisputable that they had no possible means to function unless they were incorporated into computers that would practice the patents.⁷³

With other products besides computer chips, this analysis may not be as straightforward. For example, what if the product sold is a seed, and the patent covers a method of growing such a seed? Can an argument be made that using the seeds as food or feed, as opposed to farming and growing them, is a “reasonable” use of the seeds?⁷⁴ In analyzing this argument, would reasonableness be measured through the eyes of one ordinarily skilled in the art? Further, if the suggested alternative use is in a non-analogous art, would the one of ordinary skill be in the art of the underlying patent or in the non-analogous art (i.e., what if the alternative use was reasonable in one field of art but not the other)?

As to the second factor, the Court gave more specific reasons in concluding that Intel’s chipsets included “all the inventive aspects” of the LGE patents. In particular, the

⁷⁰ See Gilly & Walker, *supra* note 2, at 4 (“The Court did not . . . explicitly state whether these two factors are necessary, or simply sufficient, to find an article embodies essential features of, or substantially embodies, a patent.”); James L. Ewing IV & Richard Goldstucker, *Patent Litigation 2008, Prosecuting Litigation-Ready Patents: Pitfalls, Strategies*, 949 PLI/PAT 363, 395 (2008) (“The Court did not establish a standard to determine what it meant by ‘substantially embodies a patent.’”).

⁷¹ *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109, 2119 (2008). (“A microprocessor or chipset cannot function until it is connected to buses and memory. And here, as in *Univis*, the only apparent object of Intel’s sales to Quanta was to permit Quanta to incorporate the Intel Products into computers that would practice the patents.”).

⁷² *Id.* (“The lens blanks in *Univis* . . . were ‘without utility until [they were] ground and polished as the finished lens of the patent.’ Accordingly, ‘the only object of the sale [was] to enable the [finishing retailer] to grind and polish it for use as a lens by the prospective wearer.’” (citations omitted)).

⁷³ *Id.* (“LGE has suggested no reasonable use for the Intel Products other than incorporating them into computer systems that practice the LGE Patents. Nor can we discern one: A microprocessor or chipset cannot function until it is connected to buses and memory.” (footnotes omitted)).

⁷⁴ See Wegner, *supra* note 2, at 696 (“Presumably, rather than being planted using a patented method, the first-generation seeds can be used as food or feed. It can be debated, however, whether this is a reasonable use of such seeds.” (quoting Andrew Baluch, *Seed Exhaustion: Quanta’s Effect on Biotech Patents*, LAW 360, July 7, 2008, <http://www.law360.com/articles/61424>)).

Court found that the Intel chipsets constituted a material part of the patented invention;⁷⁵ only common processes or addition of standard components was required to practice the LGE patents;⁷⁶ no creative or inventive decision-making was involved in applying the common processes or adding the standard components;⁷⁷ and the chipsets were designed to function only with the application or addition of those common processes or standard components.⁷⁸

Notably, the Court did not specify how to distinguish between creative and noncreative decision-making because it was unnecessary to do so for the Court to resolve the issue in the context of computer chips. How is the level of creativity measured? What if the application of processes or addition of components required to practice the patents involves no creative or inventive decision-making, but the processes or components are *not* common or standard? What if the product constitutes a material part of the patented subject matter but was not designed to function with inventive processes? Should courts apply a balancing analysis or require that all the reasons given by the *Quanta* Court be present? All these questions remain open for future litigation.⁷⁹

F. Can Contractual Restrictions Placed by a Patentee Override Patent Exhaustion?

Another question left unresolved by *Quanta* is one of contract law. Although the Court was aware of the potential contractual issues, due to the unique facts of the case, the Court was able to reach a conclusion based solely on the patent exhaustion doctrine.⁸⁰ Consequently, in a now-famous footnote, the *Quanta* Court expressly stated that it will not decide whether LGE has a viable claim against Intel for breach of contract: “We note that the authorized nature of the sale to Quanta does not necessarily limit LGE's other contract rights. LGE's complaint does not include a breach-of-contract claim, and we express no opinion on whether contract damages might be available even though

⁷⁵ *Quanta*, 128 S. Ct. at 2120 (“Like the *Univis* lens blanks, the Intel Products constitute a material part of the patented invention and all but completely practice the patent.”).

⁷⁶ *Id.* (“[A]s in *Univis*, the incomplete article substantially embodies the patent because the only step necessary to practice the patent is the application of common processes or the addition of standard parts.”).

⁷⁷ *Id.* (“*Quanta* was not required to make any creative or inventive decision when it added those parts.”).

⁷⁸ *Id.* (“[T]he Intel Products cannot carry out these functions unless they are attached to memory and buses, but those additions are standard components in the system.”).

⁷⁹ See Gilly & Walker, *supra* note 2, at 4 (“The application of this reasoning to different articles of manufacture, different patents, and different industries is unlikely to be as straightforward as it was for this case. It is thus unclear where the line will be drawn in the future between additional parts that require creative decisions and those that simply require adding standard parts.”).

⁸⁰ The parties had agreed that they intended nothing that would upset patent exhaustion as it might otherwise apply. *Quanta*, 128 S. Ct. at 2114 (“The License Agreement purports not to alter the usual rules of patent exhaustion . . .”). Hence, there could be no contractual override in this particular case. See also Wegner, *supra* note 2 at 694 (“[T]he Court reached its conclusion of freedom from patent liability strictly keyed to patent exhaustion principles, without resorting to any contractual proscriptions in the license agreement”).

exhaustion operates to eliminate patent damages.”⁸¹

In avoiding contractual issues altogether, the Court left open the question of whether contractual limitations can override patent exhaustion. Clearly, the Court did not suggest that a patentee is forbidden from placing contractual limitations on a purchaser.⁸² However, the Court did not clarify whether the patentee may circumvent patent exhaustion by using such contractual limitations for the purpose of reserving patent rights.

The only hint the Court provided was a citation to a nineteenth century Supreme Court case, *Keeler v. Standard Folding Bed Co.*⁸³ The Court quoted the following language from *Keeler*:

Whether a patentee may protect himself and his assignees by special contracts brought home to the purchasers is not a question before us, and upon which we express no opinion. It is, however, obvious that such a question would arise as a question of contract, and not as one under the inherent meaning and effect of the patent laws.⁸⁴

Although it is not entirely clear, the Court appears to imply that when a patentee reserves certain patent rights by restricting a purchaser’s use of patented goods, the relevant inquiry is a question of contract law, not patent law.⁸⁵ Put another way, the Court seems to suggest that, if the patentee enters into such a contract, the only recourse for the patentee may be a cause of action for breach of contract, not patent

⁸¹ *Quanta*, 128 S. Ct. at 2122 n.7; At least one commenter feels that it was appropriate for the Court to leave this issue open. See Wegner, *supra* note 2, at 694-695 (“*Quanta* does not resolve the viability of the many *contractual* restrictions that a patentee may place on his purchaser, a wise application of judicial restraint by the Court. . . . It was indeed appropriate for the Court to show restraint and refrain from going into the question whether *Mallinckrodt* should remain viable law.”). But see Lorelei Ritchie, *Reconciling Contract Doctrine with Intellectual Property Law: An Interdisciplinary Solution*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 105, 106 (2008) (“[T]he Court disappointingly once again missed an opportunity to consider the intersection of patent law and contract doctrine, and instead presumed the primacy of patent doctrine with barely a footnote about contract law.”).

⁸² See Schlicher, *supra* note 2, at 778 (emphasizing that *Quanta* “should not preclude a patent owner or licensee that sells unpatented products of the type governed by *Quanta* from controlling the buyer’s rights by granting the buyer an express written license providing limited rights”); see also Kieff, *supra* note 2, at 326 (“The types of contractual restrictions that implement a limited patent license are not foreign to property or contract law generally, are commonly used throughout consumer society, and are even more common in transactions among large commercial parties.”). However, it is noted that limitations in a license do not clarify what the licensee can or cannot lawfully do outside of the license.

⁸³ *Keeler v. Standard Folding Bed Co.*, 157 U.S. 659 (1895); see Schlicher, *supra* note 2, at 846 (noting that the Court’s reference to contract law “seem[s] to be explained only by its citation to *Keeler*”).

⁸⁴ *Quanta*, 128 S. Ct. at 2122 n.7 (quoting *Keeler*, 157 U.S. at 666).

⁸⁵ See *id.*; see also Schlicher, *supra* note 2, at 846 (“[T]he Court seemed to suggest that if a patent owner made a sale that was conditional on the purchaser agreeing that it had only a limited license under some patent, the violation of that condition by the purchaser would give rise only to an action for breach of contract, and not a claim for patent infringement.”). However, the issue might also be characterized as a question of patent law, i.e., how far the doctrine of patent exhaustion, and its partial override of 35 U.S.C. § 271 can be extended.

infringement.⁸⁶ Does *Keeler* support such a proposition?

In fact, *Keeler* does not directly address the contractual issues that may arise from conditional sales of patented articles,⁸⁷ and the Court in *Quanta* did not explain the particular relevance of *Keeler* in resolving such issues.⁸⁸ In *Keeler*, the Court was faced with a situation in which a patentee assigned to another an exclusive right under its patent to only a specified territory of the U.S.⁸⁹ In particular, the Court addressed whether a purchaser of a patented article must pay the assignee for using and selling the article within the assignee's territory, or otherwise be held liable for infringement.⁹⁰ In the end, the Court concluded that the patentee's authorized sale to the purchaser of the patented item gave the purchaser absolute property rights in that item, unrestricted in time or place.⁹¹ The Court also noted that the patentee's rights are not undercut by so holding because "no article can be unfettered from the claim of his monopoly without paying its tribute."⁹²

As mentioned above, the language of *Keeler* quoted in *Quanta* appears to suggest that, where a patentee makes a "conditional" sale to a purchaser who agrees to a limited license under the patentee's patent and, for example, a covenant not to act outside the license, the purchaser's violation of that condition would give rise only to an action for breach of contract, not a claim for patent infringement.⁹³ However, the sale involved in

⁸⁶ See Schlicher, *supra* note 2, at 836 ("The Court said a patent owner may enter a contract with a purchaser in which the purchaser agrees to limit its use of a product in some way. However, the Court seemed to indicate that such a contract could not be used to reserve to the patent owner any of its patent rights with respect to that customer's use of the product. The Court said the patent owner's remedy if it made such a contract was an action for breach and not a claim for infringement."). Schlicher suggests, that taken literally, this means a patentee cannot enforce its patent against infringers if the patentee both sold a product covered by the patent and also granted a limited license under the patent. *Id.* at 765 ("Taken literally, this also means that a patent owner may not sell, grant a limited license, and enforce the patents against unauthorized activities. However, it is far from clear the Court has precluded selling and licensing separately.").

⁸⁷ *Keeler*, 157 U.S. at 661-62 ("Suppose, however, the patentee has exercised his statutory right of assigning by conveying to another an exclusive right under the patent to a specified part of the United States. . . . [The specific issues arising under this scenario] are now to be considered in the state of facts disclosed in this record.").

⁸⁸ As a result, some observers feel that the Court actually obscures the meaning of *Keeler*. See, e.g., Schlicher, *supra* note 2, at 846 (noting that *Keeler* does not directly support the proposition that the Court implies, and consequently, that "the Court casts an unfortunate shadow on the meaning of *Keeler*, and the ability of a patent owner to prevent exhaustion by expressly conditioning a purchase transaction so that it limits the scope of the rights a purchaser acquires").

⁸⁹ *Keeler*, 157 U.S. at 662.

⁹⁰ *Id.* ("Does . . . [the purchaser] obtain an absolute property in the article, so that he can use and vend it in all parts of the United States, or, if he take the article into the assigned territory, must he again pay for the privilege of using and selling it?").

⁹¹ *Id.* at 666 (holding that Supreme Court precedent supports the proposition that "one who buys patented articles of manufacture from one authorized to sell them becomes possessed of an absolute property in such articles, unrestricted in time or place").

⁹² *Id.* at 666-67.

⁹³ *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109, 2122 n.7 (2008) ("It is, however, obvious that such a question would arise as a question of contract, and not as one under the inherent meaning and

Keeler was not conditional and the license involved imposed no limits.⁹⁴ Therefore, one can only speculate as to what the *Quanta* Court intended by citing *Keeler*.

Contractual issues are relevant to the analysis of patent exhaustion because patent exhaustion inherently involves the interaction between patent and contract law.⁹⁵ Prior case law indicates that patentees have the power to contract around patent exhaustion.⁹⁶ Most recently, the Federal Circuit in *B. Braun Med. Inc. v. Abbott Labs.* stated that:

[Patent exhaustion] does not apply to an expressly conditional sale or license. In such a transaction, it is more reasonable to infer that the parties negotiated a price that reflects only the value of the ‘use’ rights conferred by the patentee. As a result, express conditions accompanying the sale or license of a patented product are generally upheld.⁹⁷

Due to the contractual nature of patent exhaustion, its analysis necessarily involves a contract-based viewpoint and a focus on the actual terms of the initial sale.⁹⁸ The Court in *Quanta*, however, did not refer to any Federal Circuit cases, including *B. Braun*, and did not expressly uphold or overrule any of them.⁹⁹ These contractual issues, therefore, will remain uncertain until future litigation shapes the contours of the Court’s implications.

G. Biotechnology Issues Raised by *Quanta*

The Supreme Court’s ruling in *Quanta* may be of particular concern to the biotechnology industry.¹⁰⁰ Biotechnology, a relatively new area of science involving live

effect of the patent laws.”); Schlicher, *supra* note 2, at 846 (“[I]f a patent owner made a sale that was conditional on the purchaser agreeing that it had only a limited license under some patent, the violation of that condition by the purchaser would give rise only to an action for breach of contract, and not a claim for patent infringement.”).

⁹⁴ See *supra* note 87 and accompanying text; see also Schlicher, *supra* note 2, at 847 (“In [*Keeler*], the terms of the sales imposed no limits.”).

⁹⁵ See Kieff, *supra* note 2, at 323 (“Even the early cases in the Court’s first sale jurisprudence made clear that the doctrine arises from the interaction between patent and contract law.”).

⁹⁶ See, e.g., *id.* (“The power to contract around the default first sale rule was clearly demonstrated in numerous cases over the ensuing years.”); Wegner, *supra* note 2, at 688 (noting that *B. Braun Med. Inc. v. Abbott Labs.*, 124 F.3d 1419 (Fed. Cir. 1997) in view of *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992), “established a principle that contractual restrictions could vitiate an implication that a purchaser from a patentee had an implied license to use patented goods, thereby trumping patent exhaustion”).

⁹⁷ *B. Braun*, 124 F.3d at 1426.

⁹⁸ See *supra* note 95 and accompanying text. For a discussion of the intersection of normative values between intellectual property and contract law, see Ritchie, *supra* note 81, at 116-22, which suggests an “interdisciplinary framework for properly viewing the convergence of contract and intellectual property law.”

⁹⁹ See *supra* notes 29, 68.

¹⁰⁰ See, e.g., Wegner, *supra* note 2, at 695 (“Biotechnology presents a whole new factual context in which to consider patent exhaustion.”); James W. Beard, *The Limits of Licensing Quanta v. LGE and the New Doctrine of Simultaneous Exhaustion*, 2008 UCLA J.L. & TECH. 3, 36 (2008) (“One of the most

organisms capable of self- or artificial replication, presents unique considerations for patent law.¹⁰¹ To illustrate, for example, a single sale to a purchaser of self-replicating patented products could seriously undermine the patentee's rights because the purchaser can reproduce and sell copies of those products with relative ease, due to the products' self-replicating nature.¹⁰² Does patent exhaustion allow the purchaser to do so without fear of infringement? The effect of *Quanta* on the scope of patent exhaustion raises significant concerns for biotechnology companies because they are so heavily dependent on the legal protections afforded by patent law to attract the capital necessary to sustain innovation and development.¹⁰³

1. Patent Exhaustion in Biotechnology Prior to *Quanta*

In 2006, in *Monsanto Co. v. Scruggs*, the Federal Circuit held that patent exhaustion does not apply to subsequent generations of patented, self-replicating technology.¹⁰⁴ In this case, patentee Monsanto Company had been licensing its biotechnology patents on genetically modified soybeans and cotton¹⁰⁵ to seed companies with certain restrictions, "including that seed companies may not sell seed containing Monsanto's technology to growers unless the grower signs one of Monsanto's license

notable areas of concern raised in the *Quanta* biotechnology amici briefs was the risk of future litigators using the patent exhaustion doctrine to defeat license restrictions on self-replicating technology."); *see also* Wegner, *supra* note 2, at 695 ("Modern biotechnology was unforeseen at the time of *Univis* more than sixty-five years ago and there is scant guidance given in *Quanta* . . .").

¹⁰¹ *See* Brief of the Biotechnology Industry Organization as Amicus Curiae in Support of Neither Party at 7, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008) (No. 06-937) ("[T]he products that biotechnology companies often patent—many of which involve live organisms or living matter, rather than the inanimate products traditionally patented—require sensitive application of the patent laws.").

¹⁰² *See* Brief of the Biotechnology Industry Organization, *supra* note 101, at 7 (explaining that, without proper restrictions, the first sale of self-replicating products "would effectively extinguish the patentee's rights, because the purchaser would obtain, in effect, a never-ending supply of the product that it could use, sell, and market in competition with the patentee"); Wegner, *supra* note 2, at 695 ("When a self-replicating living invention is sold, does the purchaser have a right to reproduce that invention to make one -- or thousands or more -- copies?").

¹⁰³ *See, e.g.*, Brief of the Biotechnology Industry Organization, *supra* note 101, at 8 ("Patents have become the primary asset - often the lifeblood - of biotechnology companies. In addition, billions of dollars in business decisionmaking [sic] and investment have been made predicated on patent law protection for the biotechnology products that are developed." (citation omitted)); *id.* at 11 ("The patent law's current level of protection for such inventions has made enormous innovation possible in the last two decades, and the patent exhaustion doctrine should accommodate the unique demands of modern technological development."); Beard, *supra* note 100, at 35 ("Few patents prove as valuable as those owned and utilized by the biotechnology industry. Patents procured for new drugs or genetic technologies can reap millions, even billions, of dollars in profits for the inventor. At the same time, however, the cost of developing these technologies is astronomical.").

¹⁰⁴ *Monsanto Co. v. Scruggs*, 459 F.3d 1328, 1336 (Fed. Cir. 2006) ("The doctrine of patent exhaustion is inapplicable in this case. . . . Applying the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder.").

¹⁰⁵ *Id.* at 1333 (noting that patents at issue relate to "glyphosate herbicide resistant soybeans and cotton").

agreements.”¹⁰⁶ Scruggs, however, purchased the patented seeds from the seed companies without signing the required license agreement, and subsequently began planting and harvesting new generation of seeds obtained from the original batch of purchased seeds.¹⁰⁷ After investigating Scruggs’ activities, Monsanto filed suit against defendant Scruggs for infringement of its patents.¹⁰⁸

One of the affirmative defenses raised by Scruggs was patent exhaustion.¹⁰⁹ Specifically, Scruggs argued that patent exhaustion bars Monsanto’s infringement claims because Scruggs had purchased the Monsanto seeds in an unrestricted sale from the seed companies, thereby removing the patented seeds from the monopoly of patent law.¹¹⁰ The Federal Circuit, however, rejected Scruggs’ patent exhaustion defense for two reasons.¹¹¹ First, the sale was not unrestricted because the use of the seeds was conditioned on obtaining a license from Monsanto.¹¹² Second, even if the sale of the original batch of seeds were an unrestricted sale, patent exhaustion would not apply to any of the subsequent generation of seeds because there was never an actual sale of the subsequent generation of seeds.¹¹³ The court stated: “The fact that a patented technology can replicate itself does not give a purchaser the right to use replicated copies of the technology. Applying the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder.”¹¹⁴

2. Position Taken by the Biotechnology Industry

The Supreme Court in *Quanta* did not specifically address the biotechnology industry, but the Biotechnology Industry Organization (BIO) and the American Seed Trade Association (ASTA) each submitted an amicus brief (in support of neither party) and advised the Court about the potential consequences of its decision on the biotechnology industry.¹¹⁵ Concerned that a broad interpretation of patent exhaustion

¹⁰⁶ *Id.*

¹⁰⁷ *Id.* at 1336 (“Scruggs purchased both [the patented] soybean seeds and [the patented] cotton seeds from seed companies, but never signed a licensing agreement. It planted the purchased seeds, and after harvesting the soybeans and cotton, retained the new generation of seeds. Its subsequent crops were planted with those retained seeds, as well as with seeds obtained from subsequent generations of crops.”).

¹⁰⁸ *Id.* at 1333 (“Monsanto investigated Scruggs’ activities and filed suit for infringement of [its] patents.”).

¹⁰⁹ *Id.* at 1334 (“Scruggs’ affirmative defenses to infringement included . . . the doctrine of patent exhaustion . . .”).

¹¹⁰ *Monsanto*, 459 F.3d at 1335-36 (“Scruggs argues that it purchased the Monsanto seeds in an unrestricted sale, and that it was therefore entitled to use those seeds in an unencumbered fashion under the doctrine of patent exhaustion. The first sale/patent exhaustion doctrine establishes that the unrestricted first sale by a patentee of his patented article exhausts his patent rights in the article.”).

¹¹¹ *Id.* at 1336 (“The doctrine of patent exhaustion is inapplicable in this case.”).

¹¹² *Id.* (“There was no unrestricted sale because the use of the seeds by seed growers was conditioned on obtaining a license from Monsanto.”).

¹¹³ *Id.* (“Without the actual sale of the second generation seed to Scruggs, there can be no patent exhaustion.”).

¹¹⁴ *Id.*

¹¹⁵ Brief of the Biotechnology Industry Organization, *supra* note 101, at 9 (noting that the purpose of the brief, among other things, is “to explain the adverse implications of a sweeping patent exhaustion rule

may defeat license restrictions on their technology, both BIO and ASTA urged the Court to reach a decision that would preserve the patentee's rights in subsequent generations of self-replicating products.¹¹⁶

In addition to the aforementioned *Scruggs* decision, BIO and ASTA emphasized that, when analyzing patent exhaustion, the Court must be cognizant of the distinction between the exclusive right to "use" the invention and the exclusive right to "make and vend" the invention.¹¹⁷ The Supreme Court long ago held that each of the exclusive rights conferred by the Patent Act is recognized as a separate, independent substantive right.¹¹⁸ When, for example, a patentee grants a licensee the right to "make and vend" a patented product, the licensee obtains a share in the monopoly with respect to only that right, and has no claim to share in the monopoly with respect to the right to "use" the product.¹¹⁹

Because biotechnology inventions have the capacity to self-replicate in the hands of a downstream purchaser, BIO and ASTA argued that a sale of a patented, self-replicating product should not trigger patent exhaustion with respect to the patentee's exclusive right to "make" the patented product.¹²⁰ Hence, according to BIO and ASTA,

for an industry that works cooperatively with public universities and other research entities (many of which have limited financial resources) to develop cutting edge technology to treat diseases and to feed a hungry world"); Brief of the American Seed Trade Association as Amici Curiae in Support of Neither Party at 4, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008) (No. 06-937) ("If seed patentees were stripped of [the] ability to protect and enforce their exclusive patent rights with respect to second-generation seed, the consequences for the seed industry would be devastating.").

¹¹⁶ See Brief of the Biotechnology Industry Organization, *supra* note 101, at 33-34 (urging the Court not to erode "long-established" case law, and noting that the patent exhaustion doctrine "was designed to protect against patentees who overreach the proper boundaries of patent law, not to unravel the fundamental protections in patent law that have proven critical to the development of biotechnology"); Brief of the American Seed Trade Association, *supra* note 115, at 3 (urging the Court "to make clear that restrictions on the use of an article produced by a patented article containing self-replicating technology, such as second-generation seed, do not implicate the patent exhaustion/first sale doctrine").

¹¹⁷ Brief of the Biotechnology Industry Organization, *supra* note 101, at 12 ("[P]atent law has long established that the authorized *use* of a patented product does not authorize the *making* of the product."); Brief of the American Seed Trade Association, *supra* note 115, at 18 ("It is well-settled that '[t]he authority to use and sell a purchased device . . . does not include the right to make a new device.'" (quoting *Hewlett-Packard v. Repeat-O-Type Stencil Mfg. Co.*, 123 F.3d 1445, 1451 (Fed. Cir. 1997))); see 35 U.S.C. § 154(a) (2006) (The Patent Act protects a patentee's "right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States . . .").

¹¹⁸ *Adams v. Burke*, 84 U.S. 453, 456 (1873) ("The right to manufacture, the right to sell, and the right to use are each substantive rights, and may be granted or conferred separately by the patentee.").

¹¹⁹ *Bloomer v. McQuewan*, 55 U.S. 539, 549 (1852) ("[T]he distinction is there taken between the grant of the right to make and vend the machine, and the grant of the right to use it.").

¹²⁰ Brief of the Biotechnology Industry Organization, *supra* note 101, at 13 ("Exhaustion is limited to the purchaser's right to use and sell the product, and does not extend to the patentee's right to 'make a new article.'" (quoting *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 343 (1961))); Brief of the American Seed Trade Association, *supra* note 115, at 18 ("[E]ven if the restriction at issue does not deprive the purchaser of a reasonable use of the article[,] the Court nevertheless should make clear that the

where a patentee licenses its patents and the licensee sells the patented products to a downstream purchaser, the patent exhaustion doctrine gives the purchaser only the rights to “use” the purchased products, not the right to make copies.¹²¹ Put another way, where exhaustion applies, the patentee’s patent rights are only relinquished with respect to the particular products sold and not to reproduced copies.¹²²

In sum, prohibiting purchasers from exploiting a product’s self-replicating character and making unauthorized copies is one of the primary concerns for the biotechnology industry.¹²³ It is common practice in the biotechnology industry to restrict licensees and eligible purchasers from further making or copying the products.¹²⁴ These restrictions, according to the biotechnology industry, are reasonable because they only prohibit “uses such as commercial uses that the buyer ‘does not purchase or pay for.’”¹²⁵ Based on these considerations, the biotechnology industry argues that patent exhaustion should not preclude the patentee from restricting the making or recreation of patented products.¹²⁶

3. Patent Exhaustion in Biotechnology After *Quanta*

How do the *Scruggs* holding and the position taken by the biotechnology industry square with the *Quanta* holding? There is no clear answer, but there are several clues. With respect to *Scruggs*, the Federal Circuit held that patent exhaustion does not apply to subsequent generations of patented, self-replicating products unless there is an actual sale of the subsequent generation of products.¹²⁷ However, as explained above, *Quanta* made clear that patent exhaustion is applicable to method patents, and that a sale of a device that “substantially embodies” the claimed method exhausts the patent, even though the “method” itself is never actually sold (what is sold is the “apparatus”).¹²⁸ Furthermore, the Court also held that, although generally a sale of a device that practices patent A does not exhaust patent B by virtue of practicing patent A, patent B may be exhausted by virtue of its relationship to patent A if the device practices patent A while substantially

sale of a patented article containing self-replicating technology does not exhaust the patentee’s rights in any copies made by the patented article, such as second-generation seed.”).

¹²¹ Brief of the Biotechnology Industry Organization, *supra* note 101, at 13 (“With respect to seeds, while the patent exhaustion doctrine may give the purchaser full rights to *use* the seeds actually purchased, the patentee’s rights are not exhausted with respect to the second-, third-, fourth-, or nth-generation of seeds that might be *made* by the purchaser.”).

¹²² *Id.* (“Where exhaustion applies, the patent monopoly is relinquished only ‘with respect to the article sold,’ and not with respect to copies of it that the purchaser might make.” (citation omitted)).

¹²³ *Id.* at 10 (“[O]ne central concern of the biotechnology industry is not restricting ‘use’ of the patented product per se, but prohibiting purchasers from ‘making’ the patented product by, for example, exploiting an item’s self-replicating character.”).

¹²⁴ *Id.* at 7 (“[T]he manufacture and further transfer of self-replicating products are often prohibited and restricted to use in research.”).

¹²⁵ *Id.* at 10 (quoting *Bloomer v. McQuewan*, 55 U.S. 539, 549 (1852)).

¹²⁶ *Id.* at 16 (“[T]his Court’s decision should leave undisturbed the longstanding rule that patent exhaustion does not preclude restrictions on the making or re-creation of a patented product.”).

¹²⁷ See *supra* notes 111-14 and accompanying text.

¹²⁸ See *supra* Part IV.B.

embodying patent B.¹²⁹ The Court's reasoning may suggest that an actual sale of the product in question is not always necessary to trigger patent exhaustion. If *Quanta* is interpreted this way, the validity of the Federal Circuit's holding, that patent exhaustion applies only to products actually sold, would be called into question.¹³⁰

However, the *Scruggs* holding is premised on the strong public policy consideration specific to self-replicating technologies, i.e., that "[a]pplying the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder."¹³¹ Whether *Quanta* may be read to override this public policy consideration is open to further scrutiny by district courts. In fact, one court, the District Court for the Northern District of Mississippi, has already determined that *Quanta* in no way undermines the Federal Circuit's established rules,¹³² a holding with which another district court has agreed.¹³³ More specifically, shortly after *Quanta* was decided, *Scruggs* (from the aforementioned *Scruggs* case) sought reconsideration of the district court's denial of their motion for summary judgment in the Northern District of Mississippi, arguing that reconsideration was warranted because the district court's order ran contrary to the Supreme Court's ruling in *Quanta*.¹³⁴ The court, however, cautioned against an overly broad interpretation of *Quanta*,¹³⁵ and held that the sale of the patented seeds at issue, unlike the sale of patented chips by Intel in *Quanta*, was not authorized by the patentee, Monsanto.¹³⁶ Because there was no unrestricted sale, the court ruled that

¹²⁹ See *supra* note 60 and accompanying text.

¹³⁰ At least one observer believes that the Federal Circuit decision has been reversed by *Quanta*. Tod Michael Leaven, *The Misinterpretation of the Patent Exhaustion Doctrine and the Transgenic Seed Industry in Light of Quanta v. LG Electronics*, 10 N.C. J. L. & TECH. 119, 139 (2008) ("As discussed above, *Quanta* held that method patents were exhausted even though they were never sold. The Federal Circuit's holding that patent exhaustion only applies to the exact item sold has been reversed." (footnotes omitted)). *But see infra* notes 131-38 and accompanying text.

¹³¹ *Monsanto Co. v. Scruggs*, 459 F.3d 1328, 1336 (Fed. Cir. 2006); see also Wegner, *supra* note 2, at 695 ("Seed patents provide a prime example in the context of post-*Quanta* patent exhaustion where a public policy conclusion has been stated as basis for a denial of exhaustion, where the Federal Circuit has already spoken.").

¹³² *Monsanto Co. v. Scruggs (Scruggs II)*, No. 3:00CV-161-P-D, 2009 WL 536833 at *1 (N.D. Miss. Mar. 3, 2009) ("[T]he *Quanta* decision in no way undermines the basis for the Federal Circuit's holding on the issue of patent exhaustion.").

¹³³ *Static Control Components, Inc. v. Lexmark Int'l, Inc.*, 615 F. Supp. 2d 575, 588 (E.D. Ky. 2009) ("[T]he district court [for the Northern District of Mississippi] reminded the parties that 'the "first sale" doctrine of exhaustion of the patent right is not implicated, as the new seeds grown from the original batch had never been sold.'" (citation omitted)).

¹³⁴ *Scruggs II*, 2009 WL 536833, at *1 ("Defendants urge that the Court's opinion on the issue of patent exhaustion represents a subsequent contrary decision by controlling authority which necessarily excuses the application of the law of the case doctrine and warrants a reexamination of certain issues presented in *Scruggs*' dispositive motion.").

¹³⁵ See *id.* (arguing that Defendants "read *Quanta* too broadly").

¹³⁶ *Id.* ("[C]ontrary to *Quanta*,] the license agreements between Monsanto and its seed partners, Asgrow and D & PL, only permit the sale of seed containing Monsanto's patented biotechnology to licensed growers. It is an established fact that *Scruggs* did not have a license. Hence, his purchase of the seed was unauthorized.").

patent exhaustion was inapplicable.¹³⁷ Moreover, the court held that “the *Quanta* decision in no way undermines the basis for the Federal Circuit’s holding on the issue of patent exhaustion.”¹³⁸ Accordingly, reconsideration was denied.¹³⁹ The court, however, was not adamant about its decision, and provided *Scruggs* with an opportunity to seek interlocutory appeal under 28 U.S.C. § 1292(b).¹⁴⁰ Specifically, the court stated:

[T]he Court is fully cognizant of the wealth of persuasive authority which posits the opposite conclusion, e.g. that *Quanta’s* holding on the doctrine of patent exhaustion is a substantial limitation on the rights of patent holders. In view thereof, the Court is of that opinion that this matter “involves a controlling question of law as to which there is substantial ground for difference of opinion and that an immediate appeal from the order may materially advance the ultimate termination of the litigation.”¹⁴¹

As this case demonstrates, *Quanta* does not provide a clear guide for district courts on the issues raised by biotechnology patents. It remains to be seen whether other district courts will read *Quanta* to embrace or reject the Federal Circuit holding.

Further, it is uncertain how *Quanta’s* interpretation of *Univis* would apply to biotechnology patents.¹⁴² As discussed above, *Quanta* held that patent exhaustion applies to the sale of an incomplete article if the article “substantially embodies” the patents at issue, and that an article “substantially embodies” the patents if it (i) has “no reasonable noninfringing use” and (ii) includes “all the inventive aspects” of the patents.¹⁴³ Whether self-replicating products, such as transgenic seeds, meet these requirements is yet to be determined.¹⁴⁴

Finally, the biotechnology industry, for the reasons described above, advocates a narrower application of patent exhaustion on biotechnology patents.¹⁴⁵ Specifically, the biotechnology industry claims that the authority to use a purchased product does not confer the right to freely reproduce new products by exploiting the original product’s

¹³⁷ *Id.* (“Without the actual sale of the second generation seed to *Scruggs*, there can be no patent exhaustion.” (quoting *Monsanto Co. v. Scruggs*, 459 F.3d 1328, 1336 (Fed. Cir. 2006))).

¹³⁸ *Id.*

¹³⁹ *Id.* (“[D]efendant’s Motion to Reconsider is not well-taken and should be denied.”).

¹⁴⁰ *Scruggs II*, 2009 WL 536833, at *2 (“Defendants are . . . entitled to seek an interlocutory appeal of this ruling within ten (10) days of the entry of this Order in accordance with the provisions of 28 U.S.C. § 1292(b).”).

¹⁴¹ *Id.* (quoting 28 U.S.C. § 1292(b) (2006)).

¹⁴² *See, e.g., Wegner, supra* note 2, at 696 (“Yet to be determined is whether or how the *Quanta* interpretation of *Univis* should be applied to seed patent exhaustion.”).

¹⁴³ *See supra* Section IV.C.

¹⁴⁴ *See* Andrew Baluch, *Seed Exhaustion: Quanta’s Effect on Biotech Patents*, LAW 360, Jul. 7, 2008, <http://www.law360.com/articles/61424> (“Presumably, rather than being planted using a patented method, the first-generation seeds can be used as food or feed. It can be debated, however, whether this is a reasonable use of such seeds.”) (emphasis added); *id.* (“In the case of a patented method of growing crops, does the farmer perform any additional, inventive steps besides the (presumably standard) steps of watering and fertilizing the first-generation seeds?”).

¹⁴⁵ *See supra* Section IV.G.2.

self-replicating nature.¹⁴⁶ However, with regard to at least some self-replicating products, such as transgenic seeds, the reasonable “use” of the seeds may entail planting the purchased batch of seeds, which causes the seeds to “make” or produce second-generation seeds.¹⁴⁷ Put another way, the “making” of the seeds is inherent in or part of the “use” process. At least in this respect, the distinction between the exclusionary rights to “make” and “use” the invention on which the biotechnology industry relies is obscure.

When discussing the patent exhaustion doctrine, the *Quanta* Court cited *Bloomer v. McQuewan*, which held that the right to “make” is severable from the right to “use,”¹⁴⁸ and indicated that *Bloomer* is still good law.¹⁴⁹ Thus, the law still recognizes “a difference between end users of patented articles and licensees of the right to make and/or sell those articles.”¹⁵⁰ Whether the Court agreed with the position taken by the biotechnology industry, however, remains unclear at this time.

As explained above, *Quanta* left open important questions with respect to the scope of the patent exhaustion doctrine in the context of biotechnology. These concerns are not limited to the biotechnology industry, but are also shared by other industries that deal with products that can make copies of themselves, e.g., the computer software industry.¹⁵¹ Accordingly, the potential impact of future biotechnology cases may prove more far-reaching and widespread.

V. CONCLUSION

Quanta, the most recent Supreme Court precedent on the patent exhaustion doctrine, offers a new perspective on how to balance the rights of a patentee with the rights of a purchaser or licensee. By upholding the patent exhaustion defense with respect to method patents and combination products, the Court confirmed that patent law generally does not authorize patentees to place postsale restrictions on their patented products. However, the guidance provided by the Court is not sufficiently clear beyond the unique set of facts presented in *Quanta*, and the law on patent exhaustion is far from settled. The unresolved issues, such as the scope of patent exhaustion in the context of

¹⁴⁶ See *supra* Section IV.G.2.

¹⁴⁷ See, e.g., *Monsanto Co. v. McFarling*, 363 F.3d 1336, 1342 (Fed. Cir. 2004) (“[A purchaser] plants and grows the first-generation seed in an identical fashion whether he intends to sell the second-generation seed as a commercial crop for consumption or whether he intends to replant it.”); *Leaven*, *supra* note 130, at 138 (“[A] farmer cannot use the first generation of seed without making a second generation.”).

¹⁴⁸ See *supra* note 119.

¹⁴⁹ *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109, 2115 (2008) (“The Court held that the extension of the patent term did not affect the rights already secured by purchasers who bought the item for use ‘in the ordinary pursuits of life.’” (quoting *Bloomer v. McQuewan*, 55 U.S. 539, 549 (1852))).

¹⁵⁰ *Static Control Components Inc. v. Lexmark Intern., Inc.*, 615 F. Supp. 2d 575, 579 (E.D. Ky. 2009) (discussing *Quanta* in light of *Bloomer*).

¹⁵¹ See *Wegner*, *supra* note 2, at 698 (“While the question of seed patent exhaustion (is at first blush most important to this narrow aspect of industry, the implications are far wider in scope. As pointed out by Baluch, ‘[t]he debate, of course, is not limited only to seeds, but implicates any product that can make copies of itself: self-replicating cell lines, genetic material, and even software.’” (quoting Baluch, *supra* note 144)).

contract law and biotechnology patents, remain to be explored by district courts and the Federal Circuit.