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Patent Transfer and the Bundle of Rights

Andrew C. Michaels[†]

INTRODUCTION

When patents subject to a license agreement are transferred, to what extent do the benefits and burdens of the license agreement run with the patent? This question involves separating the in personam contract from its effect on underlying in rem intellectual property rights. But this theoretical question is of some contemporary practical significance.

Consider the patent troll.¹ The bête noire of the patent law community,² the troll lies in wait under technological bridges, until it emerges threatening to cast its prey into a

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¹ The more polite terms are “Non-Practicing Entity” (NPE), and “Patent Assertion Entity,” (PAE). See Kristen Osenga, *Formerly Manufacturing Entities: Piercing the “Patent Troll” Rhetoric*, 47 CONN. L. REV. 435, 439 (2014); see also Sara Jeruss, Robin Feldman & Joshua Walker, *The America Invents Act 500: Effects of Patent Monetization Entities on US Litigation*, 11 DUKE L. & TECH. REV. 357, 358 (2012) (“Any discussion of flaws in the United States patent system inevitably turns to the system’s modern villain: non-practicing entities.”).

² See Osenga, *supra* note 1, at 437 (“Everyone seems to hate ‘patent trolls.’”); see also Edward Lee, *Patent Trolls: Moral Panics, Motions in Limine, and Patent Reform*, 19 STAN. TECH. L. REV. 113, 116 (2015) (“In the extreme, such prejudice leads to a moral panic in which rational policymaking and decision-making give way to hysteria to fight the proverbial ‘folk devil’ (substitute: patent troll).”) (citing STANLEY COHEN, *FOLK DEVILS AND MORAL PANICS* (1972)). *But see id.* at 114 (“‘I like patent trolls,’ Judge Richard Posner confessed to a group of patent scholars”); Jean Xiao, *In Defense of Patent Trolls: Patent Assertion Entities as Commercial Litigation Funders*, 16 CHI.-KENT J. INTEL. PROP. 36, 37 (2016). Cf. JOHN LINDLOW, *TROLLS: AN UNNATURAL HISTORY* 9 (2014) (“It is fair to say that the troll has been one of the most powerful and enduring images of otherness in large parts of the world, with a resonance that is inescapable.”).

cascade of costly patent litigation.³ The License on Transfer (LOT) Network fancies itself the “solution to the patent troll problem,”⁴ something like the fabled big billy goat.⁵ The idea is that a group of companies makes a pact that none of them will transfer any of their patents to a troll. If any company breaks the pact, a license is automatically granted to all of the other companies in the group, which takes effect immediately upon transfer of the patent to the troll. The LOT’s plan to “eliminate the patent troll threat,”⁶ is thus apparently premised on some notion that the LOT agreement—or part of it—runs with transferred patents. The enforceability of the LOT is questionable in certain situations,⁷ and implicates the question: to what extent is the LOT an in personam contract, and to what extent does it have in rem effects on intellectual property?

On the one hand, it cannot be that the mere transfer of a patent wipes the patent clean of all outstanding licenses. But at the same time, the LOT agreement is a complex ten-page contract with various provisions relating to bankruptcy, third-party beneficiaries, costs, governing law, and other issues.⁸ It cannot be that a patent troll unwittingly becomes a full party to that contract automatically merely by virtue of acquiring a single patent from a LOT member. So what “runs with the patent” must be something including the bare *license* but something less than the entire contract or *license agreement* creating the license.⁹

Even if the parties to a license agreement attempt to address this issue in the contract, that would not necessarily

³ Cf. LINDLOW, *supra* note 2, at 14–17 (explaining that trolls first entered the literary record in Viking Age poetry, when a “Bragi the Old,” was “accosted . . . in verse” by a troll claiming to be a “giant’s wealth-sucker,” which according to Lindlow, “sounds bad, and is probably an attack on human prosperity.”).

⁴ See *How Lot Works*, LOT NETWORK, <http://lotnet.com/how-lot-works> [<https://perma.cc/Y7VM-Y53V>].

⁵ Cf. LINDLOW, *supra* note 2, at 131 (“Probably the most famous troll is the one under the bridge in *The Three Billy Goats Gruff*.”). In the Norwegian folktale, three billy goats cross a bridge in search of food. Under the bridge lives a troll who threatens to eat each billy goat. The first two billy goats each in turn convince the troll to save its appetite for the next, larger, billy goat following behind. But the third billy goat is so large that it soundly defeats the troll, thus solving the troll problem, as the LOT purports to do. See *id.* at 69–70.

⁶ LOT NETWORK, <http://lotnet.com> [<https://perma.cc/Z66C-J6HV>].

⁷ See *infra* Section II.E.

⁸ See LOT Agreement, Version 2.0 §§ 2.3, 5.3, 5.5, 5.6, 5.11 (May 10, 2017) [hereinafter LOT Agreement], <http://lotnet.com/download-lot-agreement> [<https://perma.cc/4NDT-5KBX>].

⁹ See Christopher M. Newman, *A License Is Not a “Contract Not to Sue”:* *Disentangling Property and Contract in the Law of Copyright Licenses*, 98 IOWA L. REV. 1101, 1103 (2013) (distinguishing between “license” and “license agreement”).

settle the matter.¹⁰ The parties could certainly agree that a license would terminate upon the transfer of a certain patent. But could the parties agree that a confidential license agreement *in its entirety* would run with a patent? It would seem inconsistent with basic principles of contract law to make such private in personam contractual promises binding on patent purchasers without consent.¹¹ Such questions and inconsistencies can arise in the context of patent troll litigation, as trolls often acquire patents from other entities, which may have previously entered into various complex license agreements.¹²

Courts have developed and applied a test stating that aspects of the license agreement that relate to the “actual use” of the patented invention are “encumbrances” running with the patent.¹³ The idea seems to be that some portion of the license agreement somehow breaks off and attaches to the patent, binding the new patent owner upon acquisition of the patent. However, this theory is not consistently applied and is problematic. For example, courts have (reasonably) held that royalty rights do not automatically run with the patent,¹⁴ though it is not clear how royalty rights received in exchange for allowing use of a patented invention do not relate to actual use of that patented invention. The encumbrance theory is also inconsistent with the principle that there can be no covenants running with

¹⁰ See *infra* Section II.E.

¹¹ See *Datatransury Corp. v. Wells Fargo & Co.*, 522 F.3d 1368, 1373 (Fed. Cir. 2008) (“[R]equiring a non-signatory party to arbitrate solely on the basis of an arbitration clause in a license agreement between signatory parties would be inconsistent with basic principles of contract law.”); *United States v. Waterman S.S. Corp.*, 471 F.2d 186, 188 (5th Cir. 1973) (“[T]he government was neither party nor privy to the bill of lading, and therefore, under traditional principles of contract law, is not bound by its provisions, absent consent to be bound.”); see also *McCoy v. Mitsubishi Cutlery, Inc.*, 67 F.3d 917, 920 (Fed. Cir. 1995) (“Whether express or implied, a license is a contract ‘governed by ordinary principles of state contract law.’” (quoting *Power Lift, Inc. v. Weatherford Nipple-Up Sys.*, 871 F.2d 1082, 1085 (Fed. Cir. 1989))).

¹² See, e.g., *Telefonaktiebolaget LM Ericsson Inc. v. Wi-LAN USA, Inc.*, No. 14-21854-CV-MIDDLEBROOKS, 2015 WL 11233112, at *2 (S.D. Fla. Aug. 14, 2015) (“Ericsson . . . argu[es] that Wi-LAN is bound by the Siemens License, the Siemens License precludes claims of patent infringement based in whole or in part on Ericsson’s products for the use of certain patents, and that by seeking licenses from Ericsson’s customers, Wi-LAN has breached the Siemens License.”); *Brief of Dell et al. as Amici Curiae in Support of Respondents at 30–31*, *SCA Hygiene Prods. Aktiebolag v. First Quality Baby Prods., LLC*, 137 S. Ct. 954 (2017) (No. 15-927) (“One recurring pattern . . . involves an operating company that for business or other reasons chooses not to assert a patent during most of that patent’s lifetime, but later sells the nearly expired patent to an NPE.”).

¹³ See, e.g., *Innovus Prime, LLC v. Panasonic Corp.*, No. C-12-00660-RMW, 2013 U.S. Dist. LEXIS 93820, at *15 (N.D. Cal. July 2, 2013) (“[A]greements involving the actual use of the patent ‘run with the patent’ and are binding on subsequent owners.”) (quoting *Datatransury Corp.*, 522 F.3d at 1372).

¹⁴ See *infra* Section II.B.

personal property, given that patents are by statute to be treated as having the attributes of personal property.¹⁵

With the help of Wesley Newcomb Hohfeld's jural relations,¹⁶ and the "bundle of sticks" conception of property, this article attempts to develop a more useful and coherent framework for analysis of these issues. Under the theory of this article, a patentee may give up a stick in the bundle, such as the right to exclude the licensee, through the license agreement. In Hohfeld's terminology, the (non-exclusive) license agreement effects a change in the relation between the patentee and the licensee, from "Right / Duty," to "No-Right / Privilege."¹⁷ Thus by entering into the license agreement, the patentee diminishes the patent bundle of rights, in exchange for other forms of value such as royalty rights or cross-licenses. When the patentee transfers the patent, it transfers only what is left in the bundle of patent rights, though the license agreement or contract remains between the two signatories. This comports with the principle that one cannot transfer what one no longer owns, or, *nemo dat quod non habet*.¹⁸

After using Hohfeld's platform to conceptually separate the license agreement (as contract) from its effect on the underlying intellectual property rights, this article proposes two guiding principles that inform the extent to which the underlying intellectual property can be customized by a license agreement. First, the bundle of patent rights granted by the United States Patent and Trademark Office (USPTO) can be diminished but not enlarged through a license agreement. For example, though royalty rights might be received by a licensor in exchange for giving up one stick in the patent bundle, such rights would not be considered part of the bundle of patent rights, and so would not automatically transfer with the patent. A patent does not initially include a right to receive royalties, and a license agreement cannot operate to add that right to the in rem patent bundle.¹⁹ Second, this article proposes that in close cases courts should err on the side of

¹⁵ See 35 U.S.C. § 261 (2012) ("[P]atents shall have the attributes of personal property."); *infra* Section I.A.

¹⁶ See Wesley Newcomb Hohfeld, *Some Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 23 YALE L.J. 16 (1913); *infra* Section I.C.

¹⁷ See *infra* Section I.C.

¹⁸ See, e.g., *Commerce Bank, N.A. v. Chrysler Realty Corp.*, 244 F.3d 777, 783 (10th Cir. 2001) ("[The holding] that an assignee can acquire rights no greater than those held by the assignor is consistent with the basic principle of commercial law encapsulated in the Latin phrase *nemo dat qui non habet*. . . . The basic concept behind *nemo dat* is that a transferee's rights are no better than those held by his transferor." (footnotes omitted)); *L.L. Brown Paper Co. v. Hydroiloid, Inc.*, 118 F.2d 674, 677 (2d Cir. 1941).

¹⁹ See *infra* Section I.B.

keeping agreements in personam rather than having them run with the patent, so as to minimize information costs, in accord with the numerus clausus principle that in rem rights should have a limited number of forms.²⁰

Part I illustrates the problem, discusses the divide between property and contract, and reviews Hohfeld and the “bundle of sticks” conception of property. Part II compares the bundle theory with the actual use test and the law of covenants and encumbrances that “run with” property interests, and evaluates aspects of license agreements under these two frameworks, demonstrating that the bundle theory provides a more coherent explanation. Part III explores some broader implications of the bundle theory for other doctrines in patent law, such as patent exhaustion, FRAND commitments, prior user rights, and copyright end user software license agreements.

I. BUNDLE THEORY AND HOHFELD

A. *Illustration of the Problem*

Consider companies A and B, which own ten patents each and enter into a cross-license agreement. Under the agreement, A has a license to all ten of B’s patents, and B has a license to all ten of A’s patents. Then, A transfers one of its ten patents (patent X) to company C. Does company C have a right to sue company B for infringement of patent X? It seems clear that in general the answer is no. B paid for a license to patent X when A owned that patent. To protect legitimate expectations, B should not, absent contrary agreement, be deprived of the license bargained for, merely because A later decided to transfer the licensed patent.²¹

Courts that have considered the question have generally reached this result.²² The courts have ruled that even a “bona

²⁰ See *infra* Sections I.B, II.E; see also Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 3 (2000).

²¹ Cf. Lawrence Berger, *A Policy Analysis of Promises Respecting the Use of Land*, 55 MINN. L. REV. 167, 168 (1970) (“It was early apparent that unless agreements (contained in deeds or leases) respecting the use of land were binding not only upon the promisor (covenantor) who entered into them but also upon purchasers from him, such undertakings would be worthless, since otherwise they could be avoided by a mere transfer to a third party.”); Jay P. Kesan & Carol M. Hayes, *FRAND’s Forever: Standards, Patent Transfers, and Licensing Commitments*, 89 IND. L.J. 231, 304 (2014) (“[I]f a patentee could extinguish the benefits of a FRAND commitment by transferring the patent to a third party, this would lead to inequitable results.”).

²² See, e.g., *Innovus Prime, LLC v. Panasonic Corp.*, No. C-12-00660-RMW, 2013 U.S. Dist. LEXIS 93820, at *15 (N.D. Cal. July 2, 2013).

fide purchaser” of a patent takes the patent subject to prior “licenses, of which he must inform himself as best he can at his own risk.”²³ The intuition seems to be that the purchaser of a patent should recognize the possibility that licenses on the patent might exist, and should take steps to investigate whether they in fact do exist.²⁴ In other words, the purchaser is on “inquiry notice” with regard to the potential existence of license agreements affecting the patents to be transferred.²⁵ Of course, a true bona fide purchaser patent assignee may have some claim sounding in tort or contract against a patent seller who is less than forthright about the extent to which the patent has been licensed, particularly where the license or its terms are not public knowledge.²⁶

But how does the license travel with the patent, and how much of the *license agreement* runs with the patent? Courts have treated aspects of a license agreement relating to

²³ Jones v. Berger, 58 F. 1006, 1007 (C.C.D. Md. 1893) (citing WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS § 817 (1890)); see also *Innovus Prime*, 2013 U.S. Dist. LEXIS 93820, at *16 (“This occurs whether or not an assignee had notice.”); *V-Formation, Inc. v. Benetton Grp., SpA*, No. 02-cv-02259-PSF-CBS, 2006 U.S. Dist. LEXIS 13352, at *20 (D. Colo. Mar. 10, 2006) (“The Court does not agree that the doctrine of ‘bona fide purchaser’ as urged by V-Formation precludes Benetton from asserting the covenant not to sue as a defense in this case.”).

²⁴ See Menachem Mautner, “*The Eternal Triangles of The Law*”: *Toward a Theory of Priorities in Conflicts Involving Remote Parties*, 90 MICH. L. REV. 95, 116 (1991) (“Clearly, whenever the purchaser acts with actual knowledge or presumed suspicion of the existence of a prior conflicting claim, the purchaser is the party best located to prevent the conflict by avoiding the transaction.”).

²⁵ See *Sanofi, S.A. v. Med-Tech Veterinarian Prods.*, 565 F. Supp. 931, 940–41 (D.N.J. 1983) (explaining in the context of patent exhaustion that “[b]ecause the purchaser [of patented products] is under an obligation to inquire of the seller as to the existence of any outstanding licenses, the purchaser cannot claim that his expectations have been frustrated if he fails to make the necessary inquiry”). Cf. Van Mahamedi, Note, *Recording Security Interests In Patents: Accepting A Traditional Federal System To Preserve the Policies Of Patent Law*, 2 B.U. J. SCI. & TECH. L. 15 para. 41, n.184 (1996) (“Patent law incorporates the common law rule that an equitable interest in a patent survives a subsequent assignment if the assignee is on ‘inquiry notice’ that the equitable interest exists.” (citing *FilmTec Corp. v. Allied-Signal Inc.*, 939 F.2d 1568, 1573–74 (Fed. Cir. 1991))).

²⁶ See Yongae Jun, Note, *The Imperfect State of Patent Perfection*, 5 AKRON INTELL. PROP. J. 279, 281 (2011) (“Courts have argued that . . . section 261 of the Patent Act [regarding recording ownership interests with the USPTO] concerns itself with only ownership rights, as opposed to lesser rights such as liens or licenses.” (citing *In re Cybernetic Servs., Inc.*, 252 F.3d 1039, 1052 (9th Cir. 2001))); Pauline Stevens, *Security Interests in Patents and Patent Applications?*, 6 U. PITT. J. TECH. L. & POL’Y 2, 19 (2005) (“The Manual of Patent Examining Procedure distinguishes ‘security interests’ of the type created under Article 9 from other types of legal interests that transfer of title or ownership rights . . . anything that does not convey an ownership interest in a patent is a ‘mere license.’” (quoting *In re Cybernetic Servs., Inc.*, 252 F.3d at 1052)). Although patents licenses generally need not be recorded, the fact of a license may be recorded upon request. See 35 U.S.C. § 261 (2012); MANUAL OF PATENT EXAMINING PROCEDURE § 301, 313 (2018), <https://mpep.uspto.gov/RDMS/MPEP/current#/current/d0e17683.html> [<https://perma.cc/PWM8-76QX>].

“actual use” of a patent or invention as encumbrances running with the patent.²⁷ This theory seems to be derived from the common law rule that only covenants that “touch and concern” the land will “run with the land,”²⁸ but application of this rule to patent law can be problematic, in part because it is in some tension with the principle that covenants cannot run with personal property, given that by statute, “patents shall have the attributes of personal property.”²⁹

In light of the inconsistency and incoherence wrought by the actual use test currently employed in the courts, this article proposes instead reasoning primarily from *nemo dat*, the general principle that one cannot transfer what one does not own.³⁰ Where a patentee, via a license agreement, has already given up the right to exclude a particular licensee, the patentee cannot then transfer that right. Using the “bundle of sticks” analogy,³¹ where a patentee has already given up one stick in the bundle, the patentee transfers only the sticks that remain.

Returning to the hypothetical, A had already given up the right to exclude B from practicing patent X, so A could not transfer that right to C. A transferred to C a diminished bundle of sticks, that is, only those sticks that remained in the bundle. As such, company C did not acquire the right to sue company B for infringement of patent X. The *nemo dat* principle is sometimes invoked alongside the actual use encumbrance test

²⁷ See, e.g., *Innovus Prime*, 2013 U.S. Dist. LEXIS 93820, at *15 (“[A]greements involving the actual use of the patent ‘run with the patent’ and are binding on subsequent owners.” (citing *Datatreasury Corp. v. Wells Fargo & Co.*, 522 F.3d 1368, 1372 (Fed. Cir. 2008))).

²⁸ See CHARLES E. CLARK, REAL COVENANTS AND OTHER INTERESTS WHICH “RUN WITH THE LAND” 92–96 (2d ed. 1947); Berger, *supra* note 21, at 207.

²⁹ 35 U.S.C. § 261; see also *In re Particle Drilling Techs.*, No. 09-33744, 2009 Bankr. LEXIS 2151, at *7 (S.D. Tex. July 29, 2009) (“Patents are personal property. Real property concepts (such as covenants running with the land) do not apply to personal property.”); *Jones v. Cooper Indus., Inc.*, 938 S.W.2d 118, 123 (Tex. App. 1996) (“Since a patent is to be treated as personal property, there can be no covenants that ‘run with’ the patent.”).

³⁰ See *Sanofi*, 565 F. Supp. at 939 (explaining that it is “a principle of patent law . . . that the purchaser does not acquire any rights greater than those possessed by the owner of the patent.” (citing *Featherstone v. Ormonde Cycle Co.*, 53 F. 110, 111 (C.C.N.Y. 1892))).

³¹ See, e.g., *Lexmark Int’l, Inc. v. Impression Prods., Inc.*, 816 F.3d 721, 741 (Fed. Cir. 2016) (en banc), *rev’d and remanded* 137 S. Ct. 1523 (2017) (“It has long been a familiar feature of our legal landscape that property rights in a particular thing—like the separate interests in making, selling, using, etc., an invention—are viewed as a ‘bundle’ of rights (or sticks) that can generally be transferred separately.”); STEPHEN R. MUNZER, A THEORY OF PROPERTY 22–36 (2d prt. 1992); Thomas C. Grey, *The Disintegration of Property*, in PROPERTY: NOMOS XXII 69 (J. Roland Pennock & John W. Chapman eds., 1980).

within a single case, or even a single sentence.³² But these two possibilities—the “encumbrance” theory and the “bundle” theory—have significant differences. To begin with, they are aesthetic opposites in that under the encumbrance theory, something (an encumbrance) is added to the patent, whereas under the bundle theory, something (a stick or a right) is subtracted. They are different aesthetics, frameworks for conceptualizing and understanding the issues.

There are practical differences as well. If the license agreement is a contract, and if the contract (or part of it) is an encumbrance that travels with the patent, a new patent owner who attempts to sue the prior licensee or otherwise fails to abide by the contract terms could then potentially be subject to a claim for breach of contract.³³ By contrast, under the bundle theory, although a prior licensee would have a license *defense* to an infringement claim by the new patent owner, the prior licensee would not have a breach of contract *claim* against the new patent owner as the contract remains in personam between the original two parties.³⁴

The bounds of the rights of the new patent owner are also potentially different under the two theories. Royalty rights to a percentage of licensee sales on a patented invention would certainly relate to the use of the patented invention, and possible use of the patent as well (depending on what it means to “use” a patent).³⁵ The encumbrance theory thus seems to counsel that such royalty rights should run with the patent, just as rent from a tenant would run with the land to a new

³² See, e.g., *Datatreasury*, 522 F.3d at 1372 (“[B]ecause the owner of a patent cannot transfer an interest greater than that which it possesses, an assignee takes a patent subject to the legal encumbrances thereon.”); *Innovus Prime*, 2013 U.S. Dist. LEXIS 93820, at *15; *Paice LLC v. Hyundai Motor Co.*, Civ. No. WDQ-12-0499, 2014 U.S. Dist. LEXIS 95042, at *32 (D. Md. July 11, 2014) (“[A] patent owner cannot transfer an interest greater than that which it possesses, and assignees take patent rights subject to the legal encumbrances thereon.”).

³³ See, e.g., *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1450 (7th Cir. 1996) (“[W]e treat the licenses as ordinary contracts”); *Kesan & Hayes*, *supra* note 21, at 286 (“When a patent owner grants a license to another party, the license is often analyzed as a contract.”); Mark R. Patterson, *Must Licenses Be Contracts? Consent and Notice in Intellectual Property*, 40 FLA. ST. U. L. REV. 105, 109 (2012) (“This Article argues that the weight of judicial authority and sound policy support a contractual approach to license formation.”); H. Justin Pace, Note, *Anti-Assignment Provisions, Copyright Licenses, and Intra-Group Mergers: The Effect of Cincom v. Novelis*, 9 NW. J. TECH. & INTELL. PROP. 263, 267 (2010) (“Copyright and patent licenses are contracts and as such are interpreted according to state law.”).

³⁴ Cf. *Telefonaktiebolaget LM Ericsson v. Wi-LAN USA, Inc.*, No. 14-21854-CV-MIDDLEBROOKS, 2015 WL 11233112, at *5 (S.D. Fla. Aug. 14, 2015) (“Ericsson does not have standing to maintain its claim for breach of contract.”).

³⁵ See *infra* Section II.B.

landlord.³⁶ But where, as in the illustrative hypothetical of this Section, only a fraction of the licensed patents are transferred, it could be difficult to apportion the extent to which royalty benefits shift to the new owner.

Under the bundle theory, royalty rights would not travel with a patent. To be sure, a patent transferor and transferee could make an in personam agreement to transfer monetary payments along with the patent. That is different from saying that the royalty payments transfer automatically as a part of the *in rem* patent bundle of rights. The bundle of patent rights granted by the USPTO did not include the right to receive royalties. The royalty rights were extracted by the original patent owner *in exchange for giving up* the right to exclude the licensee. But that does not make the royalty rights part of the patent bundle,³⁷ for an in personam contract entered into by a patent owner cannot add to the in rem bundle of patent rights transferred to a subsequent patent owner.

B. *Numerus Clausus*

This article posits that the bundle of patent rights can be diminished but not enlarged through a license agreement. It is true that through claim construction, a patent owner might broaden the scope of particular patent claims.³⁸ Nevertheless, a patent provides the right to exclude others from practicing each claim in the patent, even if the scope of the claims might be somewhat elastic or malleable.

When a patentee enters a license agreement, it is giving up that right to exclude with respect to a particular entity, thus removing a stick (or right) from the bundle of rights to exclude. But a patentee may not conversely add sticks to the bundle through such actions. Allowing a patentee, through a private in personam agreement, to add to the in rem bundle of property rights granted by the USPTO would impose significant information costs on society, as such in rem rights are “against the world” and thus impose correlative duties on everyone

³⁶ See Berger, *supra* note 21, at 222 (“[T]he burden of a covenant to pay rent runs with the land to the assignee of the tenant and the benefit runs to the successor in ownership of the landlord’s reversion.”).

³⁷ Cf. *In re Particle Drilling Techs.*, No. 09-33744, 2009 Bankr. LEXIS 2151, at *8 (S.D. Tex. July 29, 2009) (“[A] royalty interest in a patent cannot be considered a covenant that runs with the land.”) (citing *Jones v. Cooper Indus. Inc.*, 938 S.W.2d 118, 123 (Tex. App. 1996)); *infra* Section II.B.

³⁸ See Jason Rantanen, *The Malleability of Patent Rights*, 2015 MICH. ST. L. REV. 895, 927 (2016).

else.³⁹ In part for this reason, as explained by Thomas Merrill and Henry Smith in their article on *The Property/Contract Interface*, there are limits on the extent to which individuals can customize *in rem* property rights:

[W]here we find legal relations that are purely in rem, we also consistently find that the doctrine adopts the form characteristic of property law—immutable bright-line rules. . . . [W]e find a tendency for protective and even notice rules to become more difficult to contract around—more standardized—as duty holders become more numerous and indefinite and so closer to the true in rem situation.⁴⁰

Such limitations on the customization of in rem rights are related to the idea of *numerus clausus*, that property should take a limited number of forms.⁴¹ Christina Mulligan has explained that “[a] property right system without a *numerus clausus* principle would likely impose significant costs on parties trying to purchase or use property . . . in the form of mistakes made from understanding what a party was buying.”⁴² Professor Mulligan finds that

[t]he justifications for the *numerus clausus* principle in real property law are even more persuasive in the intellectual property context because the scope of intellectual property rights is more difficult to delineate than the scope of real property rights. [That is,] [t]he metaphysical nature of intellectual property prevents protected objects from being clearly identifiable, particularly in a patent context, where inventions can be independently created by multiple parties.⁴³

The *numerus clausus* principle would seem to counsel, in close cases, for erring on the side of keeping aspects of the license agreement in personam so as to avoid unduly imposing

³⁹ See Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 795 (2001) (“The disadvantages of the exclusion strategy are largely a function of the limitations on such rights imposed by the need to minimize the unit costs of processing information. In order to keep these costs low, it is simply not possible to make these duties very complex or detailed.”); cf. Michael Goodman, *What’s So Special About Patent Law?*, 26 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 797, 852 (2016) (“Because a patent grant is a monopoly issued from the government, a patent’s validity raises issues of public policy and is of legitimate interest to members of the public, including many who may be uninvolved in any particular infringement suit.”).

⁴⁰ Merrill & Smith, *supra* note 39, at 850.

⁴¹ Merrill & Smith, *supra* note 20, at 8 (“The existence of unusual property rights increases the cost of processing information about all property rights. Those creating or transferring idiosyncratic property rights cannot always be expected to take these increases in measurement costs fully into account, making them a true externality. Standardization of property rights reduces these measurement costs.”); see also Christina Mulligan, *A Numerus Clausus Principle for Intellectual Property*, 80 TENN. L. REV. 235, 235 (2013).

⁴² Mulligan, *supra* note 41, at 256.

⁴³ *Id.* at 235.

information costs by multiplying the number of forms (or modules) that an in rem patent right could take.⁴⁴

To use the terminology of Professors Merrill and Smith, license agreements can be thought of as lying along the interface of property and contract.⁴⁵ The license agreements themselves are in personam contracts, but they may have the effect of diminishing the underlying bundles of in rem patent rights. While the parties have great freedom to make in personam agreements, there are information costs associated with allowing such agreements to change the underlying in rem property rights and affect the rights of subsequent owners of the property. Such costs are relatively unproblematic when the in rem patent rights are diminished, but would be more troublesome if the in rem rights were to be enlarged, thereby increasing the correlative duties owed by the public. And given that a patent right is granted by the USPTO, how could such a right be created through a private license agreement?

The relative clarity of the bundle theory is advantageous, as compared with importing wholesale the convoluted law of covenants running with land.⁴⁶ In a patent transfer situation, the parties (transferor and transferee) are already dealing and negotiating the transfer of the patent. Where royalties are concerned, the relevant analysis is primarily between the patent transferor and transferee, and the question is just, as a default rule, who will the licensee be paying? If the royalties do not run, the transferor continues to get paid. If the royalties do run, the payments go to the patent transferee (the new owner) instead. As such, it matters not so much where the entitlement is placed, but it is important to be clear about where the entitlement lies.⁴⁷ If the entitlements are

⁴⁴ See Henry E. Smith, *Property as the Law of Things*, 125 HARV. L. REV. 1691, 1706 (2012) (“The special in rem character of property forms the basis of an information-cost explanation of the *numerus clausus* and standardization in property. In rem rights are directed at a wide and indefinite audience of duty holders and other affected parties, who would incur high information costs in dealing with idiosyncratic property rights and would have to process more types of information than they would in the absence of the absence of the *numerus clausus*. . . . Modules help contain third-party information costs.” (citing Merrill & Smith, *supra* note 20, at 26–34)).

⁴⁵ See Merrill & Smith, *supra* note 39, at 849 (“Each of the four institutions we have examined involves some combination of in personam and in rem relations.”).

⁴⁶ Cf. Berger, *supra* note 21, at 234 (“The rules of law about covenants running with the land are so complex that only a very few specialists understand them. Sometimes complexity in the law is necessary. In this particular case, it is not.”).

⁴⁷ Cf. Guido Calabresi & Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1094 (1972) (“Recently it has been argued that on certain assumptions, usually termed the absence of transaction costs, Pareto optimality or economic efficiency will occur regardless of the initial entitlement.”); R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 8 (1960)

clear, the parties will more easily be able to be take them into account in negotiating the price of the patent transfer, or (essentially) “contract around the default rule” and agree to transfer (through contract, rather than automatically through property) additional aspects of any license agreements (such as royalty rights).⁴⁸ As Robert Cooter and Thomas Ulen explain in *Law and Economics*:

[B]argainers are more likely to cooperate when their rights are clear and less likely to agree when their rights are ambiguous. . . . One implication of this finding is that property law ought to favor criteria for determining ownership that are clear and simple.⁴⁹

Uncertainty in where the entitlements lie can only serve to complicate matters, creating costs related to confusion in negotiation, and potentially even future disputes leading to litigation. In furtherance of greater clarity regarding the separation of property and contract in license agreements, unpacking the legal rights and duties at play in a patent transfer situation using Hohfeld’s framework of jural relations⁵⁰ can be helpful.

C. *Hohfeld’s Jural Relations*

As a general matter, the work of Wesley Newcomb Hohfeld is concerned with precision in terminology, leading to greater precision in analysis. The bundle of rights picture of property has strong roots in Hohfeld’s work on fundamental jural relations.⁵¹ The lack of precision in court decisions as to what runs with the patent stems in part from failure to distinguish between “license” as pure change in jural relation, and the “license *agreement*” which, *inter alia*, effects that change.⁵² Indeed, this is precisely the type of looseness of

(“[T]he ultimate result (which maximizes the value of production) is independent of the legal position if the pricing system is assumed to work without cost.”).

⁴⁸ Kesan & Hayes, *supra* note 21, at 303 (“[M]arkets require contracting or exchange, and uncertainty threatens exchange.”); see also JULES L. COLEMAN, RISKS AND WRONGS 68 (1992).

⁴⁹ ROBERT COOTER AND THOMAS ULEN, *LAW AND ECONOMICS* 89 (6th ed. 2012).

⁵⁰ See generally Hohfeld, *supra* note 16.

⁵¹ See Merrill & Smith, *supra* note 39, at 783 (explaining that Hohfeld’s work “directly anticipates the adoption of the bundle-of-rights metaphor favored by the Legal Realists”); J.E. Penner, *The “Bundle of Rights” Picture of Property*, 43 U.C.L.A. L. REV. 711, 729 (1996) (“Hohfeld’s contribution to the bundle of rights picture is quite understandable, since in a significant sense, he devised it, although he did not fully elaborate its contours.”).

⁵² Wesley Newcomb Hohfeld, *Faulty Analysis in Easement and License Cases*, 27 YALE L.J. 66, 92, 92 n.49 (1917) (explaining that the “chameleon-hued term, ‘license,’” “is rapidly shifted about by lawyers and courts,—usually even by the more

language that motivated Hohfeld's articulation of the jural relations, and for which they can serve as useful tools for analysis.⁵³ In short, a patent is often said to provide a "right to exclude,"⁵⁴ and as such, using Hohfeld's platform, correspondingly provides by definition that others have a "duty" not to infringe.⁵⁵ So if each right held by the patentee is a stick in the bundle, the license agreement diminishes the size of the patent bundle when the patentee gives up a right to exclude.

The first thing to grasp about Hohfeld's jural relations is that they are merely a platform for analysis; the jural relations are *sui generis* creations, and Hohfeld explicitly declined to provide formal definitions.⁵⁶ The jural relations are a device for fostering precision in legal analysis. They do not themselves purport to make normative prescriptions about what the law should be.⁵⁷

careful writers,—so as to cover not only more complex groups of operative facts, but also the *jural relations* flowing either from a 'mere permission' or from more complex sets of facts." (emphasis in original)); *see also* Hohfeld, *supra* note 16, at 24 ("Passing to the field of contracts, we soon discover a similar inveterate tendency to confuse and blur legal discussions by failing to discriminate between the mental and physical facts involved in the so-called 'agreements' of the parties, and the legal 'contractual obligation' to which those facts give rise.").

⁵³ Hohfeld, *supra* note 16, at 20 ("At the very outset it seems necessary to emphasize the importance of differentiating purely legal relations from the physical and mental facts that call such relations into being."); *see also* Pierre Schlag, *How to Do Things with Hohfeld*, 78 L. & CONTEMP. PROBS. 185, 192 (2015) ("Consider the term 'contract.' Sometimes it refers to the mental agreement reached by the parties (e.g., the mental state); at other times to the physical embodiment of that agreement, (e.g., the document); and, at other times, to the various rights, duties, and powers brought into being in virtue of reaching the agreement (e.g., the legal relations).").

⁵⁴ *See, e.g.*, *Lexmark Int'l, Inc. v. Impression Prods., Inc.*, 816 F.3d 721, 740 (Fed. Cir. 2016) (en banc), *rev'd and remanded* 137 S. Ct. 1523 (2017) ("[T]he right to use did not come from the patent statute, which grants only rights to exclude, not rights to practice."); *Bio-Tech. Gen. Corp. v. Genentech, Inc.*, 80 F.3d 1553, 1559 (Fed. Cir. 1996) ("A patent grants only the right to exclude others and confers no right on its holder to make, use, or sell." (quoting *Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.P.A.* 944 F.2d 870, 879 n.4 (Fed. Cir. 1991))); 5 DONALD S. CHISUM, CHISUM ON PATENTS § 16.02[1] (2017) ("A patent grants to the patentee and his assigns the right to exclude others from making, using, and selling the invention."); Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1806 (2007) ("Although it is sometimes overlooked, patent law is explicitly based on exclusion rather than on rights to use . . .").

⁵⁵ *See* Hohfeld, *supra* note 16, at 33 ("[T]he correlative of X's right that Y shall not enter on the land is Y's duty not to enter.").

⁵⁶ *Id.* at 30 ("The strictly fundamental legal relations are, after all, *sui generis*; and thus it is that attempts at formal definition are always unsatisfactory, if not altogether useless.").

⁵⁷ *See* Schlag, *supra* note 53, at 189–90 ("Hohfeld's work might best be read as a contribution about *how* to think, not *what* to think. . . . Hohfeld does not offer a *substantive theory* of law or entitlements or property or contracts or anything of the sort. All he offers is an *analytical method*." (emphasis in original) (footnotes omitted)).

The motivation for this framework is, as Hohfeld puts it, “the ambiguity and looseness of our legal terminology.”⁵⁸ Hohfeld offers the term “property” as a “striking example,” as sometimes it is used to refer to the physical object that is the property, but sometimes it is “used to denote the legal interest (or aggregate of legal relations) appertaining to such physical object.”⁵⁹ As Hohfeld explains, confusion can arise because “[f]requently there is a rapid and fallacious shift from the one meaning to the other,” and at times, the term “is used in such a ‘blended’ sense as to convey no definite meaning whatever.”⁶⁰

The term “license” is a perfect example of the type of ambiguous language that could benefit from Hohfeldian analysis.⁶¹ “License” might refer to the license *agreement*, the contract, between the licensor and the licensee. Or it might refer to the *legal relations* that arise from the license agreement, such as the privilege to infringe a particular patent.⁶² The distinction matters because while transfer of a patent is generally held not to affect the licensee’s privilege to infringe, that does not mean that the entire license agreement runs with the patent.

Hohfeld was concerned with a similar issue regarding the term “contract,” in that “[o]ne moment the word may mean the *agreement* of the parties; and then, with a rapid and unexpected shift, the writer or speaker may use the term to indicate the *contractual obligation* created by law as a result of the agreement.”⁶³ Charles Clark also recognized this problem and argued for distinguishing between the “license” as such, and the acts of agreement which create the license.⁶⁴ Similarly, Christopher M. Newman explains that to “discuss clearly the relationship between license and contract, we must also distinguish between

⁵⁸ Hohfeld, *supra* note 16, at 21.

⁵⁹ *Id.*

⁶⁰ *Id.* at 21–22.

⁶¹ See Charles E. Clark, *Licenses in Real Property Law*, 21 COLUM. L. REV. 757, 757 (1921) (“Here courts tend inveterately to confuse acts and the legal relations which result therefrom and the battle begun over words terminates in a result shaped by those words.”).

⁶² Indeed, Hohfeld stated that the “chameleon-hued term, ‘license,’” is “rapidly shifted about by lawyers and courts,” but did not go much further in this regard because “dealing at all adequately with the intricate and confused subject, would, in and of itself, require a long article.” Hohfeld, *supra* note 52, at 92, 92 n.49. See, e.g., *Datatreasury Corp. v. Wells Fargo & Co.*, 522 F.3d 1368, 1372–73 (Fed. Cir. 2008); see also discussion *infra* Section II.A.

⁶³ Hohfeld, *supra* note 16, at 25 (emphasis in original); see also Schlag, *supra* note 53, at 192.

⁶⁴ Clark, *supra* note 61, at 760–61 (“The use of the one term ‘license’ to describe a privilege accompanied by an immunity from revocation and a privilege not so accompanied creates an illusion of certainty and an erroneous belief in identity.”).

acts that signify assent to binding agreements, documents in which those agreements are memorialized, and various legal consequences that follow from them.”⁶⁵

Hohfeld developed the jural relations as a terminology for the purely legal relations, so as to avoid confusing them with the physical or mental facts that give rise to those legal relations. It is helpful to break the jural relations into two sets, here is the first set in terms of “correlatives”:

Right	↔	Duty
Privilege	↔	No Right

And here is the first set again but in terms of “opposites”:

Right	X	No Right
Privilege	X	Duty ⁶⁶

Rights and Duties are “correlatives,” in that if A has a Right against B, then B owes a corresponding Duty to A.⁶⁷ This is not any type of a normative or prescriptive statement, this is just how Hohfeld’s analytical method works, by definition. So if A has a Right that B stay off of Whiteacre, then B has a Duty to stay off Whiteacre, because that is precisely what it means to say that A has such a Right, under Hohfeld’s framework.⁶⁸ But if B has a Privilege to enter Whiteacre, then A has a No Right that B Stay off Whiteacre, as No Rights are the correlatives of Privileges just as Rights are the correlatives of Duties.⁶⁹ The correlatives are represented by two-way arrows above because where one is present (on one side of a relation) the other is also present (on the other side).

“Rights” and “No Rights” are “opposites” in that one cannot have both a Right and a No Right to the same thing.

⁶⁵ Newman, *supra* note 9, at 1129. Professor Newman goes on to add: “Not all legal consequences that are triggered by acts of contracting flow from contract law.” *Id.* Indeed, as explored in this article, a license agreement or contract, may be seen as diminishing underlying intellectual property rights.

⁶⁶ Hohfeld, *supra* note 16, at 30.

⁶⁷ *Id.* at 32 (“[I]f X has a right against Y that he shall stay off the former’s land, the correlative (and equivalent) is that Y is under a duty toward X to stay off the place.”).

⁶⁸ Schlag, *supra* note 53, at 201 (“It is not so much that rights ‘imply’ or ‘give rise’ to duties. Rather, one’s rights *are* duties in someone else just as one’s duties *are* rights in someone else. As Karl Llewellyn observed, rights and duties are simply different ways of talking about the same legal relation.” (emphasis in original) (footnotes omitted)).

⁶⁹ Hohfeld, *supra* note 16, at 33 (“[T]he correlative of X’s privilege of entering himself is manifestly Y’s ‘no-right’ that X shall not enter.”).

The No Right is the negation of a Right. Similarly, Privileges and Duties are opposites. As Hohfeld explains, “[t]he privilege of entering is the negation of a duty to stay off.”⁷⁰ One cannot have both a Privilege to enter and a Duty to stay off. As such, the opposites are represented by X’s above because where one is present on one side of a relation, the other is absent on the same side.

The primary difference between calling something a Right and calling it a Privilege, is that a Right forms the predicate basis for an affirmative legal *claim*, whereas a Privilege is a *defense* to a legal claim, or the freedom from such a claim. As explained by Hohfeld: “A right is one’s affirmative claim against another, and a privilege is one’s freedom from the right or claim of another.”⁷¹ Once this is understood, the seemingly odd terminology of a “No Right” begins to make sense. A violation of a Duty opens one up to a legal claim under the correlative Right. By contrast, the exercise of a Privilege does not subject one to a legal claim, as the correlative is a “No Right.” But a Privilege does not imply an affirmative claim against one who interferes with the exercise of the Privilege.⁷²

The second set of jural relations functions similarly to the first set, here is the second set in terms of correlatives:

Power	↔	Liability
Immunity	↔	Disability

Here is the second set again but in terms of opposites:

Power	X	Disability
Immunity	X	Liability ⁷³

A Power is similar to a Right, a Liability is similar to a Duty, a Disability (or “No Power”) is similar to a No Right, and an Immunity is similar to a Privilege.⁷⁴ The difference is that, unlike a Right which represents the potential for an affirmative claim

⁷⁰ *Id.* at 32.

⁷¹ *Id.* at 55; see also Wendy J. Gordon, *An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement Theory*, 41 STAN. L. REV. 1343, 1355 (1989) (“In the Hohfeldian lexicon, a *right* is an entitlement to have the government interfere on one’s behalf.” (emphasis in original) (footnote omitted)).

⁷² Schlag, *supra* note 53, at 201 (“This gets us to the crux of the matter with regard to the difference between rights and privileges. The former establishes the predicate for a legal remedy, namely a duty in B.”).

⁷³ Hohfeld, *supra* note 16, at 30.

⁷⁴ *Id.* at 55 (“[A] power bears the same general contrast to an immunity that a right does to a privilege.”).

against another, a “power is one’s affirmative ‘control’ over a given legal relation as against another.”⁷⁵ For example, if A makes a contractual offer to B, B now has the Power to accept that offer, and A is Liable in the sense that A would be bound if B chooses to accept.⁷⁶ Upon expiration of the offer, B’s Power becomes a Disability, and A’s Liability becomes an Immunity.

The first set of jural relations tracks the patent license situation rather well. A patent holder has the Right to exclude others from practicing the claimed invention; as such, others have a Duty to refrain from infringing the patent. When a patent holder grants a non-exclusive license, the licensee can be said to have been granted a Privilege to infringe the patent.⁷⁷ The patent owner licensor now has a “No Right” in that she has given up the Right to exclude the licensee. She has given up that stick in the bundle of sticks that is the patent. The licensee is thereby freed from his Duty to refrain from infringing, but is not granted any affirmative Right to practice the invention.⁷⁸ As the United States Court of Appeals for the Federal Circuit has explained:

Even if couched in terms of “licensee is given the right to make, use, or sell X,” the [license] agreement cannot convey that absolute right because not even the patentee of X is given that right. His right is merely one to exclude others from making, using or selling X⁷⁹

As such, the license agreement, in the form of a contract, can be said to affect the following purely legal change: the relationship between the licensor and the licensee, with respect to the patent, flips from one of Right / Duty, to one of No Right / Privilege. The flip, or the granting of the license, could be called an exercise of the patent holder’s Power to give up or waive the Right to exclude.

⁷⁵ *Id.*

⁷⁶ *Id.* at 49.

⁷⁷ *See Ortho Pharm. Corp. v. Genetics Inst., Inc.*, 52 F.3d 1026, 1031 (Fed. Cir. 1995) (“In its simplest form, a license means only leave to do a thing which the licensor would otherwise have a right to prevent. Such a license grants to the licensee *merely a privilege* that protects him from a claim of infringement by the owner of the patent monopoly.” (quoting *Western Elec. Co. v. Patent Reproducer Corp.*, 42 F.2d 116, 118 (2d Cir.), *cert. denied*, 282 U.S. 873 (1930)) (emphasis added)); *Innovus Prime, LLC v. Panasonic Corp.*, No. C-12-00660-RMW, 2013 U.S. Dist. LEXIS 93820, at *13 (N.D. Cal. July 2, 2013) (“A patent license is nothing more than a promise by the patent owner not to sue the licensee.”).

⁷⁸ *See Kesan & Hayes*, *supra* note 21, at 289 (“If a patent licensee has a privilege to use the licensed patent, this indicates that the licensee has no duty to refrain from using the patent.”).

⁷⁹ *Spindelfabrik Suessen-Schurr Stahlecker & Grill GmbH v. Schubert & Salzer Maschinenfabrik Aktiengesellschaft*, 829 F.2d 1075, 1081 (Fed. Cir. 1987) (citing 35 U.S.C. § 154 (1982)).

Under the bundle theory, when a patent is transferred, while the license agreement (the contract) will remain between the original two parties, this flip in jural relation will travel with the patent, remaining between the patentee and the licensee. The distinction between that which travels with the patent and that which does not thus tracks Hohfeld's distinction between the "purely legal relations" and the "physical and mental facts that call such relations into being."⁸⁰ In place of the Right to exclude the licensee, the transferred bundle contains a No Right to exclude, and the licensee thus maintains its Privilege to infringe the patent.

In this article, the term "licensee" generally refers to a non-exclusive licensee unless otherwise specified, which as just explained would have only a Hohfeldian Privilege to infringe. But an exclusive licensee could have standing to bring an infringement claim,⁸¹ and as such would have a bundle of Rights to exclude potential infringers in much the same way as a patent owner.⁸² A non-exclusive licensee does not acquire a property interest, however, because the No Right / Privilege relation is the same as if there were no patent at all.⁸³

D. *In Rem (Multital) Versus In Personam (Paucital)*

Another important point to understand is that in Hohfeld's scheme, all rights are between human beings, rather than things. As Hohfeld explains, "since the purpose of the law is to regulate the conduct of human beings, all jural relations must, in order to be clear and direct in their meaning, be predicated of such human beings."⁸⁴ Similarly, at the dawn of the twentieth century, Oliver Wendell Holmes stated: "All proceedings, like all rights, are really against persons. Whether they are proceedings or rights in rem depends on the number of persons affected."⁸⁵

⁸⁰ Hohfeld, *supra* note 16, at 20.

⁸¹ See *infra* notes 93–96 and accompanying text.

⁸² Cf. Madeline Morris, *The Structure of Entitlements*, 78 CORNELL L. REV. 822, 831 (1993) ("If I have a reserved-space pass to parking space X, then I have a Hohfeldian right to that space; you have a corresponding duty not to park in that space. If on the other hand, I have a general monthly parking pass, then I have a Hohfeldian *privilege* to park in space X; I may park in space X if it is empty, but I am not guaranteed access to it." (emphasis in original)).

⁸³ This is arguably a difference from copyright licenses, because copyright infringement requires actual copying, so a copyright infringer (or licensee) is necessarily making use of the copyright. See 17 U.S.C. § 501(a) (2012).

⁸⁴ Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 26 YALE L.J. 710, 721 (1917). This second Hohfeld article is somewhat of a continuation of or sequel to his first (1913) article on the jural relations of the same title.

⁸⁵ *Tyler v. Court of Registration*, 55 N.E. 812, 814 (Mass. 1900).

The notion that all rights are between people, not things, is in tension with the terminology of “in rem,” which “literally means ‘against or about a thing.’”⁸⁶ This bothered Hohfeld. Again in the name of precision and avoidance of confusion, Hohfeld was insistent that “[a] right *in rem* is not a right ‘against a thing.’”⁸⁷ Hohfeld was of the view that “because of the unfortunate terminology involved, the expression ‘right *in rem*’ is all too frequently misconceived, and meanings attributed to it that could not fail to blur and befog legal thought and argument.”⁸⁸ Thus Hohfeld proposed the alternative terminology (which never really caught on) of “multital” (instead of in rem) and “paucital” (instead of in personam).⁸⁹

According to Hohfeld, the real difference between a right in rem and a right in personam is not that the former is against a thing and the latter is against a person. They are both against people. The difference is one of quantity; the in rem right is held against many other people (it is multital), whereas the in personam right is held against one person, or a few people (it is paucital). Or as Hohfeld put it, “a right in personam is one having few, if any, ‘companions’; whereas a right in rem always has many such ‘companions.’”⁹⁰ Although Hohfeld himself did not use the term “bundle of rights,” once we conceive of an in rem right as a multitude of “companion” rights, we are well on our way towards the bundle theory.⁹¹

There are a couple of other general characteristics of in rem rights that are worth mentioning. One is that in rem rights are generally negative in character in that they require that persons abstain from doing something (i.e., the duty *not* to infringe a patent).⁹² This makes sense as it would be rather onerous if an in rem right required its many subjects to all affirmatively do something. Another is that the class of duty holders subject to an in rem right is not only large, but also

⁸⁶ Merrill & Smith, *supra* note 39, at 782 n.28 (quoting BLACK’S LAW DICTIONARY 797 (7th ed. 1999)).

⁸⁷ Hohfeld, *supra* note 84, at 720; *see also id.* at 733 (“[T]he attempt to conceive of a right *in rem* as a right *against a thing* should be abandoned as intrinsically unsound, as thoroughly discredited according to good usage, and, finally, as all too likely to confuse and mislead.” (emphasis in original)).

⁸⁸ *Id.* at 720.

⁸⁹ *Id.* at 712.

⁹⁰ *Id.* at 723.

⁹¹ *See id.* at 743 (“[T]he supposed single right *in rem* correlating with ‘a duty’ on ‘all’ persons really involves as many separate and distinct ‘right-duty’ relations as there are persons subject to a duty.”).

⁹² Merrill & Smith, *supra* note 39, at 788; *see also* A.M. Honoré, *Rights of Exclusion and Immunities Against Divesting*, 34 TUL. L. REV. 453, 458–59 (1960).

indefinite with respect to identity.⁹³ For example, a patent owner would not be able to name every person subject to the duty to refrain from infringement.

As with his framework of jural relations, Hohfeld's multital / paucital framework maps well onto the patent license situation.⁹⁴ A patent owner has a multital bundle of rights to exclude against other persons. The license agreement is a paucital contract that serves to negate or eliminate one of those rights, with respect to the licensee.⁹⁵ The patent owner retains the bundle of rights, but there is one less right in the bundle. The bundle does not revert to its original size upon transfer.⁹⁶ But the license agreement, the in personam contract, nevertheless remains between the patent transferor and the licensee.

Because a patent is not a tangible thing and does not provide a "right to use," it is particularly well suited to the bundle of rights conception. Perhaps the strongest critique of the bundle of rights theory of property is that it fails to sufficiently reflect the fact that ownership often provides the right to use and control a discrete physical thing.⁹⁷ For example, Henry Smith has argued against theorizing property as a bundle of rights to exclude, in part because "[r]ights to exclude are a means to an end, and the ends in property relate to people's interests in using things."⁹⁸ It is true that in the case of physical things like land, it is sometimes much simpler to conceive of ownership as dominion over the tangible parcel of land, rather than as an abstract bundle of legal relations

⁹³ Merrill & Smith, *supra* note 39, at 783–84; *see also* Albert Kocourek, *Rights in Rem*, 68 U. PA. L. REV. 322, 335 (1920).

⁹⁴ *See* Hohfeld, *supra* note 84, at 719 ("A's right against B is a multital right, or right *in rem*, for it is simply one of A's class of *similar*, though separate, rights, actual and potential, against *very many* persons. The same points apply as regards . . . A's right that B shall not manufacture a certain article as to which A has a so-called patent." (emphasis in original)).

⁹⁵ Penner, *supra* note 51, at 745 ("Licenses do not affect all holders of the general duty to exclude themselves from the property of others; only those party to the license are relieved of the duty.").

⁹⁶ *Cf.*, Merrill & Smith, *supra* note 39, at 787 ("[I]f A sells Blackacre to B, this [sic] does not result in any change in the duties of third parties W, X, Y or Z toward Blackacre. Those duties shift silently from A to B without any requirement that W, X, Y, or Z be aware of the transfer, or even the identities of A or B." (citation omitted)).

⁹⁷ *See* Penner, *supra* note 51, at 743 ("The right to property is a right of exclusion which is grounded by the interest we have in the use of things."); *see also* Merrill & Smith, *supra* note 39, at 787 ("In personam rights attach directly to specific persons, whereas in rem rights attach to persons only because of their relationship to a particular 'thing.'"); *id.* at 783 ("[I]n rem rights . . . attach to persons through their relationship to particular things."); Schlag, *supra* note 53, at 223 ("From a *conceptual perspective*, James Penner objected that Hohfeldian decomposition effectively liquidates the conceptual architecture of law and thus provides no theory of property." (emphasis in original)).

⁹⁸ Smith, *supra* note 44, at 1704.

against the world.⁹⁹ But this critique would seem to have less force as applied to patents, which are more abstract and intangible by their very nature.¹⁰⁰ The counterpart of the right to use land might be the patent right to a particular market position—a monopoly on the patented invention—but the monopoly is intangible and is provided by virtue of the bundle of rights to exclude others from infringing.¹⁰¹ Also, although a patent is sometimes conceptualized as a government-sanctioned monopoly, that characterization is not always correct in economic terms.¹⁰²

II. PATENT LICENSES ON TRANSFER

The bundle of rights is often discussed in the context of whether an exclusive patent licensee has standing to sue. The Federal Circuit has stated that “[t]o have co-plaintiff standing in an infringement suit, a licensee must hold some of the proprietary sticks from the bundle of patent rights.”¹⁰³ These “proprietary rights granted by any patent are the rights to exclude others from making, using or selling the invention in the United States.”¹⁰⁴ While a non-exclusive, or “bare” license would not transfer any rights to exclude and thus would not transfer standing, an exclusive licensee owns some of the proprietary sticks and may have standing.¹⁰⁵

⁹⁹ Cf. James Y. Stern, *What Is the Right to Exclude and Why Does It Matter*, PROPERTY THEORY: LEGAL AND POLITICAL PERSPECTIVES (M.H. Otsuka & J.E. Penner eds., Cambridge University Press) (forthcoming).

¹⁰⁰ Cf. Smith, *supra* note 54, at 1795 (“In the case of intellectual property, the ‘things’ that are the objects of the right to exclude need to be constructed . . .”).

¹⁰¹ See Penner, *supra* note 51, at 816 (“[O]ne is inexorably led into a realm of interminable abstract confusion if one regards the ownership of a patent as really the ownership of an idea, rather than a monopoly on action whose scope is defined by an extremely important expression of what actions are monopolized, i.e., the patent specification and claims.”); see also *Biotech. Indus. Org. v. District of Columbia*, 505 F.3d 1343, 1346 (Fed. Cir. 2007) (Gajarsa, J., concurring) (“[T]he primary mechanism by which the right to exclude promotes such innovation is by providing the patentee with the opportunity to obtain greater profits than it could have obtained without such a right to exclude.”); *King Instruments Corp. v. Perego*, 65 F.3d 941, 950 (Fed. Cir. 1995) (“The Act supplies a carrot in the form of economic rewards resulting from the right to exclude.”).

¹⁰² David J. Teece & Edward F. Sherry, *On Patent “Monopolies”: An Economic Re-Appraisal*, COMPETITION POLY INT’L ANTITRUST CHRONICLE, April 2017, at 19, 20 (“In most situations, a patent holder does not hold a ‘monopoly’ over a relevant technology market.”).

¹⁰³ *Ortho Pharm. Corp. v. Genetics Inst., Inc.*, 52 F.3d 1026, 1031 (Fed. Cir. 1995).

¹⁰⁴ *Id.* at 1031–32; see also *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1552 (Fed. Cir. 1995) (en banc).

¹⁰⁵ *Ortho Pharm. Corp.*, 52 F.3d at 1032 (“[A] licensee with proprietary rights in the patent is generally called an ‘exclusive’ licensee.”); see also Christopher M. Newman, *An Exclusive License Is Not an Assignment: Disentangling Divisibility and Transferability of Ownership in Copyright*, 74 LA. L. REV. 59, 79 (2013) (“A bare license, however, is nothing more than a privilege.”).

Thus, a patent can be thought of as a bundle of rights to exclude, for it is the right to exclude that is “at the very heart of patent law.”¹⁰⁶ Accordingly, royalty rights arising from a license agreement have been held not to confer standing, as the royalty rights are “merely a means of compensation under the agreement,” rather than a part of the patent right itself.¹⁰⁷ The United States District Court for the Eastern District of Texas has stated: “A patentee’s right to royalty payments or infringement damages does not limit or detract from the assignment of a patent or substantial rights thereunder.”¹⁰⁸

The patent right to exclude could be broken down further: exclude from making, exclude from using, etc., but as a shorthand, it can be thought of as the right to exclude others from infringing the patent. As explained in the previous Part, it is still a bundle in the sense that it is in rem, not just a right to exclude one party from infringing, but rather a right to exclude (in the bundle) for each potential infringer. With the patent conceptualized as a bundle of rights to exclude, this article now looks at the effect of patent transfer on various aspects of patent licenses.

A. *Arbitration Clauses*

The coexistence of the encumbrance theory alongside elements of the bundle theory is well demonstrated in the following paragraph from the Federal Circuit’s decision in *Datatreasury Corp. v. Wells Fargo & Co.*:

Appellants rely on cases standing for the general proposition that because the owner of a patent cannot transfer an interest greater than that which it possesses, an assignee takes a patent subject to the legal encumbrances thereon. . . . However, the legal encumbrances deemed to “run with the patent” in these cases involved the right to use the patented product, not a duty to arbitrate. The cases do not support a conclusion that procedural terms of a licensing agreement unrelated to the actual use of the patent (e.g. an arbitration clause) are binding on a subsequent owner of the patent.¹⁰⁹

¹⁰⁶ *Penril Datacomm Networks, Inc. v. Rockwell Int’l Corp.*, 934 F. Supp. 708, 712 (D. Md. 1996).

¹⁰⁷ *Chan v. Time Warner Entm’t Co.*, No. SA-03-CA-0087-RF, 2003 U.S. Dist. LEXIS 16390, at *19 (W.D. Tex. July 23, 2003).

¹⁰⁸ *Dexas Int’l, Ltd. v. Tung Yung Int’l (USA) Inc.*, No. 6:07cv334, 2009 U.S. Dist. LEXIS 34766, at *28 (E.D. Tex. Feb. 25, 2009) (citing *Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.P.A.*, 944 F.2d 870, 875 (Fed. Cir. 1991)).

¹⁰⁹ *Datatreasury Corp. v. Wells Fargo & Co.*, 522 F.3d 1368, 1372–73 (Fed. Cir. 2008).

The beginning of this paragraph is in some accord with the bundle theory in invoking *nemo dat*, the principle that the owner of a patent cannot transfer an interest greater than that which it possesses. However, the court quickly transitions to the encumbrance theory and the notion that only encumbrances related to the “actual use of the patent” run with the patent.

In *Datatresury*, the agreement at issue was between Wells Fargo Services Corp. (WFSC) and WMR e-Pin LLC (WMR). The agreement, *inter alia*, provided a license to U.S. Patent No. 5,265,007 (the 007 Patent) as well as “all applications and patent disclosures related thereto,” and also included an arbitration clause which provided: “Any dispute or disagreement arising between WMR and Wells Fargo concerning the applicability or interpretation of this License Agreement shall be resolved in accordance with the dispute resolution procedures”¹¹⁰ After entering into the agreement with WFSC, WMR assigned the 007 Patent to *Datatresury*, along with three other patents. *Datatresury* then filed a complaint in the Eastern District of Texas accusing Wells Fargo of infringing the three other patents. There was a dispute as to whether the three patents in suit were “related” to the 007 Patent within the meaning of the WFSC / WMR agreement.¹¹¹ Wells Fargo argued that this dispute should be submitted to arbitration in accordance with the agreement. But the court held that *Datatresury* was not bound by the arbitration clause because it was not a signatory of the contract and did not participate in “negotiating any of its terms,” and that the arbitration clause did not run with the 007 Patent as it was “unrelated to the actual use of the patent.”¹¹²

Although this result seems correct, the reasoning is suspect. One could question whether the arbitration clause is really unrelated to the use of the patent. If a patent is a right to exclude that is enforced through litigation, then one of the primary uses of a patent might be to bring a suit for infringement. As such, a clause specifying the forum in which such a suit would take place—as an arbitration clause does—could be said to relate to the use of the patent.

The bundle theory provides more clarity in explaining the result of *Datatresury*. The arbitration clause provides the Power to move an infringement suit to arbitration. If both

¹¹⁰ *Id.* at 1370–71.

¹¹¹ *See id.* at 1372 n.2.

¹¹² *Id.* at 1372–73.

parties hold this Power, then both parties are subject to the correlative Liability of having the case moved to arbitration. This Power arose from the WFSC / WMR agreement, which was an in personam contract between those two parties, and that contract remained between those two parties when the 007 Patent was transferred. The Power to move the case to arbitration was not granted by the USPTO and was never part of the patent bundle, so the contract did not operate to add that Power to the bundle. Nor was the correlative Liability added to the patent bundle. The arbitration clause remains a feature of the license *agreement*, the contract, and thus remains between the two contracting parties.

The theory that a license is an encumbrance that “runs with” a patent has apparent roots in the law of covenants that run with land. Under the common law deriving from *Spencer’s Case*,¹¹³ for a covenant to run with land, one requirement has been that the covenant “touch or concern” the land.¹¹⁴ This requirement is similar to the Federal Circuit’s ruling that only encumbrances that are not “unrelated to the actual use of the patent” will “run with the patent.”¹¹⁵ It is also in some accord with the common law’s refusal to allow easements “in gross”—unrelated to a particular parcel of land—to run with the land.¹¹⁶ When easements in gross have been allowed to bind “future owners of the servient parcel,” they have been “clearly defined, limited interests, affecting only a portion of the servient land.”¹¹⁷ This requirement of limited complexity and clear definition in easements or covenants that run with the land is in accord with the *numerus clausus* principle, in that in rem alterations of property interests cannot be infinitely complex.

As demonstrated by the arbitration clause at issue in *Datatresury*, one problem with the encumbrance formulation is that it is rather indeterminate. This has been true even with

¹¹³ *Spencer’s Case*, 5 Co. 16a, 77 Eng. Rep. 72 (K.B. 1583).

¹¹⁴ See CLARK, *supra* note 28, at 96; Berger, *supra* note 21, at 207 (“*Spencer’s Case* established that the burden of a covenant does not run to an assignee unless it ‘touches and concerns’ the leased property and is not merely ‘collateral.’”).

¹¹⁵ *Datatresury Corp. v. Wells Fargo & Co.*, 522 F.3d 1368, 1372 (Fed. Cir. 2008).

¹¹⁶ See *Loch Sheldrake Assocs. v. Evans*, 118 N.E.2d 444, 447 (N.Y. 1954) (“If we are to speak with strictest accuracy, there is no such thing as an ‘easement in gross’ . . . since an easement presupposes two distinct tenements, one dominant, the other servient.”); Molly Shaffer Van Houweling, *The New Servitudes*, 96 GEO. L.J. 885, 894 (2008) (“The English courts . . . refused to enforce easements ‘in gross,’ which benefit a person or entity without regard to land ownership.”); Newman, *supra* note 105, at 86 (“One line of doctrine held that easements were permissible only if made appurtenant to an adjacent tenement.”).

¹¹⁷ Gerald Korngold, *Privately Held Conservation Servitudes: A Policy Analysis in the Context of in Gross Real Covenants and Easement*, 63 TEX. L. REV. 433, 476–77 (1984).

respect to the common law “touches and concerns” rule for land.¹¹⁸ But given that patent rights are intangible with no physical thing or land to “touch,” the problem is even worse for patents.¹¹⁹ What exactly is “use of the patent,” and how related is related enough? This indeterminacy is exacerbated (or demonstrated) by the fact that in addition to “use of the patent,” the rule has also been alternatively formulated in terms of “use of the patented product,” and “use of the invention.”¹²⁰

B. Royalty Rights

When a landowner leases land, and then transfers the leased land, the benefit of rent is said to run with the land to the new landowner.¹²¹ The patent law analogue of the rent a landowner receives is the royalties that a patent owner might receive under a license agreement. Applying the “actual use” test, one would think that just as the rent paid by a tenant runs with the land, royalty rights paid by the licensee should run with the patent, for it would be hard to argue that such royalty rights do not relate to the use of the patent or use of the invention.

But in this regard, the case law has reached the opposite conclusion, further demonstrating the inadequacy and inconsistency of the encumbrance theory. In *Jones v. Cooper Industries, Inc.*, the Texas Court of Appeals stated that “royalties, . . . would not ‘run with’ title to the patents and be binding upon subsequent assignees,” invoking the principle that “[s]ince a patent is [by statute] to be treated as personal property, there can be no covenants that ‘run with’ the

¹¹⁸ CLARK, *supra* note 28, at 96 (“It has been found impossible to state any absolute tests to determine what covenants touch and concern land and what do not.”).

¹¹⁹ Cf. Peter S. Menell, *The Property Rights Movement’s Embrace of Intellectual Property: True Love or Doomed Relationship?*, 34 *ECOLOGY L.Q.* 713, 739 (2007) (“[E]xtrapolating from real property law to intellectual property law overlooks important distinctions between the underlying resources at issue.”); Gordon, *supra* note 71, at 1368 (“Intellectual property is concerned not with entry or physical interference but with forbidding specified *uses* of the work that may be quite independent of physical touching.”); Smith, *supra* note 54, at 1795; Smith, *supra* note 44, at 1703 (“Many important features of property follow from the semitransparent boundaries between things.”).

¹²⁰ *Compare* Paice LLC v. Hyundai Motor Co., Civ. No. WDQ-12-499, 2014 U.S. Dist. LEXIS 95042, at *32 (D. Md. July 7, 2014) (“licensing terms not tied to the right to use a patented *invention* do not encumber” (emphasis added)), *with* *Datatransury*, 522 F.2d at 1372–73 (“[T]he legal encumbrances deemed to ‘run with the patent’ in these cases involved the right to use the *patented product*, not a duty to arbitrate. The cases do not support a conclusion that procedural terms of a licensing agreement unrelated to the actual use of the *patent* (e.g. an arbitration clause) are binding on a subsequent owner of the patent.” (emphasis added)).

¹²¹ Berger, *supra* note 21, at 222.

patent.”¹²² Similarly, in *In re Particle Drilling Techs.*, the court found that a “royalty interest in a patent cannot be considered a covenant that runs with the land,” again invoking the notion that patents are, under 35 U.S.C. § 261, to have the attributes of personal property, and the common law principle that “[r]eal property concepts (such as covenants running with the land) do not apply to personal property.”¹²³

The notion that royalty rights should not automatically run with a patent seems reasonable, in part because royalty rights will not often correspond directly to the use of a single patent in the way that rent corresponds to the use of single tract of land. The license agreement may cover an entire portfolio of patents relating to the same products or even different types of products. If only one or some of these patents are transferred, it might be difficult to apportion how much of the royalty rights should transfer. Of course, when transferring the patent, the transferor and transferee could contract around the default rule and agree that some royalties will pass to the transferee along with the patent. But keeping the royalties with the transferor seems to provide the clearest and most coherent default rule, thereby lowering bargaining (or transaction) costs.¹²⁴

Furthermore, some of the consideration for a license agreement may be in the form of a cross-license to the licensee’s patents.¹²⁵ Would the cross license also run with the patent in the way an easement to use an adjoining tract of land runs with a parcel of land? This would seem problematic. Returning to the hypothetical illustration from Part I, the patent transferor (A) and the transferee (C) may not be similarly situated (cross) licensees from the perspective of B. That is, C may be a much larger company and as such B may have been able to gain much more from granting a license to C

¹²² *Jones v. Cooper Indus., Inc.*, 938 S.W.2d 118, 122–23 (Tex. App. 1996); *see also* 35 U.S.C. § 261 (2012) (“[P]atents shall have the attributes of personal property.”); *Pressure Sys. Int’l v. Airgo IP, LLC*, Civ. Action H-08-245, 2010 U.S. Dist. LEXIS 90166, at *16 (S.D. Tex. 2010) (“Agreements about patent rights do not run with the patents; they are also personal.”).

¹²³ *In re Particle Drilling Techs.*, No. 09-33830, 2009 Bankr. LEXIS 2151, at *7 (S.D. Tex. 2009).

¹²⁴ *See* Jeremy Kidd, *Kindergarten Coase*, 17 GREEN BAG 2D. 141, 155 (2014) (“[E]stablish rules that are clear and predictable, so that the costs of bargaining post-intervention are lower. Bargaining can be difficult enough without having to spend time and money determining where everyone stands.”).

¹²⁵ *See, e.g., Innovus Prime, LLC v. Panasonic Corp.*, No. C-12-00660-RMW, 2013 U.S. Dist. LEXIS 93820, at *3 (N.D. Cal. 2013) (“Phillips entered into an agreement with Panasonic whereby each party agreed not to assert against the other any patents relevant to ‘audio and video products.’”).

as compared with A.¹²⁶ With respect to cross-licenses as well, there is again the recurrent problem of apportionment if A transfers only some of the relevant patents to C.

The principle invoked by the *Jones* and *In re Particle Drilling* courts in holding that royalties do not run with patents—that patents are personal property with which covenants cannot run—is overbroad and proves too much, in that this principle could similarly prevent license rights from running with patents, but it cannot be that the mere transfer of a patent wipes the patent clean of all licenses. And so the courts have held; “[i]t is a longstanding principle that an assignee of a patent takes the patent subject to prior licenses.”¹²⁷ Thus courts seem to invoke the notion that covenants cannot run with personal property only selectively and inconsistently, with no acknowledgement of the inconsistency and no sufficient guidance on when the principle should be invoked.

Unlike the encumbrance theory, the bundle theory provides an explanation for why a covenant not to sue runs with a patent but royalty rights do not. The royalty right was never a part of the bundle of rights granted by the USPTO. The patent can be thought of as a bundle of rights to exclude.¹²⁸ A patentee that grants a license essentially sells one of the sticks in the bundle, the one that provides the right to exclude the licensee. That stick is no longer in the bundle. Perhaps royalty rights are received in exchange, but that does not make the royalty rights part of the patent bundle. When the patent is transferred, what is transferred is the group of sticks that remain in the bundle. Thus, the transferee of the patent takes the patent “diminished by [the licensee’s] right to use the patented process within the scope of [the] license,”¹²⁹ even though the transferee does not become a party to the license *agreement*. The bundle theory thus accords with the principle that “the owner of a patent cannot transfer an interest greater than that which it possesses.”¹³⁰

¹²⁶ Cf. UNIF. COMPUT. INFO. TRANSACTIONS ACT § 503(1)(B) (2002) (transfer of a contractual interest prohibited when the transfer “would materially change the duty of the other party”).

¹²⁷ *Innovus Prime, LLC*, 2013 U.S. Dist. LEXIS 93820, at *14 (citing *Keystone Type Foundry v. Fastpress Co.*, 272 F. 242, 245 (2d Cir. 1921)).

¹²⁸ See, e.g., *Lexmark Int’l, Inc. v. Impression Prods., Inc.*, 816 F.3d 721, 746 (Fed. Cir. 2016) (en banc), *rev’d and remanded* 137 S. Ct. 1523 (2017) (“A patentee exercises its congressionally granted rights only when it invokes its power to exclude others, not when it sells its product.”).

¹²⁹ *L.L. Brown Paper Co. v. Hydroiloid, Inc.*, 118 F.2d 674, 677 (2d Cir. 1941).

¹³⁰ *Datatreasury Corp. v. Wells Fargo & Co.*, 522 F.3d 1368, 1372 (Fed. Cir. 2008); see also *Innovus Prime, LLC*, 2013 U.S. Dist. LEXIS 93820, at *15 (“Patent

The discussion of royalty rights highlights an important feature of the bundle approach. Under the bundle approach, only the burdens of a license agreement may run with the patent—the benefits do not run as a default matter—though a patent transferor could agree to transfer them in the sale. The burdens run to the extent that they are conceived as lessening or diminishing the bundle of patent rights, but the bundle of patent rights cannot be enlarged by a license agreement.

C. Confidentiality Provisions

Contractual obligations to keep confidential the terms of a patent license agreement have also been held not to bind subsequent owners of a licensed patent. In *Paice LLC v. Hyundai Motor Co.*, the plaintiff, Paice, LLC, had previously sued Toyota for infringement of certain patents, which litigation in the District of Maryland settled.¹³¹ Subsequently, Abell, a non-profit organization, became a co-owner of the patents, which related to hybrid electric technology and fuel efficiency.¹³² Paice and Abell then sued Hyundai on the same patents, and sought to disclose the Paice-Toyota settlement agreement in the Hyundai litigation as evidence of reasonable royalties for purposes of damages.¹³³ Toyota intervened to prevent the disclosure of the settlement agreement, invoking a confidentiality provision in the agreement, which stated that “[t]he terms of this Agreement are confidential and shall not be disclosed unless required by law.”¹³⁴ The court granted Toyota’s motion to prevent disclosure of the settlement agreement with respect to Paice, but not with respect to co-plaintiff Abell, because Abell was not a party to the settlement agreement.¹³⁵

Applying *Datatreasury*, the *Paice* court held that the confidentiality provision did not run with the patents, because it was “clearly a procedural term unrelated to the right to use Paice’s (and now Abell’s) patents.”¹³⁶ Toyota argued that “use” within the meaning of *Datatreasury* “contemplates use of the license agreement in a patent infringement trial,” but the court

owners cannot transfer an interest greater than what they possess.” (citing *Datatreasury Corp.* 522 F.3d at 1372)).

¹³¹ *Paice LLC v. Hyundai Motor Co.*, Civ. No. WDQ-12-0499, 2014 U.S. Dist. LEXIS 154254, at *8–9 (D. Md. Oct. 29, 2014).

¹³² *Id.* at *2–3.

¹³³ *Id.* at *10, 19.

¹³⁴ *Id.* at *9–10.

¹³⁵ *Id.* at *11.

¹³⁶ *Paice, LLC v. Hyundai Motor Co.*, CIVIL NO. WDQ-12-499, 2014 U.S. Dist. LEXIS 95042, at *33 (magistrate memorandum opinion).

disagreed.¹³⁷ The court recognized the “potential problem” of “a patent owner, in bad faith, transferring interest in the patent for the sole purpose of circumventing a confidentiality provision,” but noted that this problem did not apply in the present case and that “a future court may create an exception” for such a situation.¹³⁸

The confidentiality provision is an in personam agreement between the two signatories to the contract. It cannot prevent third parties from attempting to compel disclosure of the agreement. There is no sense in which confidentiality obligations can be thought of as changing the bundle of patent rights, so under the bundle theory it does not run with the patent, and the result is the same as that reached by the courts.

However, courts may have to watch out for bad faith or sham transactions on the part of patent owners; that is, transferring a patent merely to get around a confidentiality provision (or other covenants such as an arbitration clause). On the other hand, given that the covenant not to sue does not run with the patent, the bad faith issue is avoided on that score. The avoidance of an incentive for and need to consider possible bad faith is a major reason for conceptualizing certain agreements as in rem, running with the patent, and a countervailing force to the numerus clausus and information cost policy considerations.¹³⁹

D. Termination

The power to terminate the license presents some more difficult questions. At common law, if a lease gives a landowner the right to terminate the lease that benefit would generally run with the land.¹⁴⁰ This would seem to be the case under the encumbrance theory as well, as it seems that the right to terminate the license relates to the “actual use” of the patent, because termination of the license would allow for use of the patent unencumbered by the license.

But there are good reasons why a termination right should not run. Presumably, the thing stopping the patent

¹³⁷ *Id.*

¹³⁸ *Paice*, 2014 U.S. Dist. LEXIS 154254, at *17–18.

¹³⁹ *Cf. Merrill & Smith*, *supra* note 20, at 39 (“The number of forms of property is subject to a tradeoff between measurement and error costs on the one hand and frustration costs on the other.”).

¹⁴⁰ *Berger*, *supra* note 21, at 233 (“[I]t has been held that the benefit of a covenant allowing the landowner to terminate the lease under certain described conditions runs to the landlord’s successor in interest.”).

owner from exercising the right to terminate is the benefit (e.g., royalty rights or cross-license rights) that the patent owner is receiving under the license agreement, which would cease upon termination. If these benefits do not run with the patent, then there would be nothing stopping a subsequent patent owner from exercising the right to terminate. Thus, if termination power runs with the patent, this could in some cases eviscerate the general rule that patent assignees must respect pre-existing licenses. Note that this problem does not exist in the land situation because the tenant would be paying rent to the new owner of the land.¹⁴¹

Applying the bundle theory, a patentee's Power to terminate the license agreement does not run with a transferred patent, if the Power to terminate is viewed as a Power to terminate the entire license agreement, rather than only the license to one patent. The licensee thus has a Liability to termination of the entire contract. The Power to terminate is a feature of the *contract*, which remains between the original two parties, it does not affect the bundle of patent rights.

The Power to terminate arises from the license agreement, as the Power was not part of the bundle granted by the USPTO. Under the bundle theory, the license agreement cannot add the termination power to the patent bundle. This comports with *nemo dat* and the idea that in close cases such as this, we should err on the side of giving the patent transferee less rather than more, so as to protect the rights of the licensee, who is not a party to the patent transfer transaction. It also comports with the *numerus clausus* principle, in that, in close cases we should err on the side of leaving features of the license agreement in personam, so as to cut information costs, as compared with creating undue variation the underlying in rem IP rights.

Because termination options are an in personam feature of the contract, the licensee (and the original licensor / patent transferee) maintain their options to terminate the license but the patent transferee does not acquire any such option. If the licensee or original licensor terminates the license agreement, the patent transferee's No Right to sue the licensee would revert back to a Right. That is, the patent bundle acquired by the patent transferee did not entirely lack the Right to sue the licensee, it lacked that right only while the license agreement is in effect.

¹⁴¹ See *id.* at 222.

Where an agreement specifies that a license is granted only for a certain amount of time, say five years, the patentee has given up the Right to exclude only within that period. The patent is diminished in that it no longer includes the Right to exclude the licensee for the five years specified in the license agreement. Under the theory of this article, if such a patent were to be transferred during the five-year period the new owner would not obtain a Right to exclude the licensee during that time period, but could potentially exclude the licensee after that period, (assuming of course that the patent has not already expired).

E. LOT Revisited

This article now returns to the LOT agreement discussed in the introduction. The LOT is an agreement entered into by a group of companies that is supposed to effectively prevent any of them from transferring their patents to a patent troll, or Patent Assertion Entity (PAE), by granting a license which becomes active only upon transfer of the patent to a troll.

Section 1.1 of the LOT agreement—License Grant and Release—provides to every Licensee a “fully vested and irrevocable . . . license to make, have made . . . Products and Services at any time on or after any Transfer of the respective Subject Patent to an Assertion Entity.”¹⁴² Section 1.2 states:

With respect to each Subject Patent of the Licensor, the License constitutes a present, fully vested and irrevocable (except as provided in Section 2 below) waiver of the right under the respective Subject Patent for any Assertion Entity to make any Patent Assertion of the respective Subject Patent against any Licensee . . .¹⁴³

Thus Section 1.2 is structured as a “present” waiver. But what exactly is being presently waived? It is the potential *future* right of an “Assertion Entity”—not a party to the agreement—to enforce the patent.

A paper by one of the LOT founders implies that the LOT is an encumbrance that runs with the patent, though the paper contains no analysis on this point.¹⁴⁴ But it cannot be

¹⁴² LOT Agreement, *supra* note 8, § 1.1.

¹⁴³ *Id.* § 1.2.

¹⁴⁴ See C. Eric Schulman, *How Scalable Private-Ordering Solutions Improve IP Law: Lessons Learned from My Founding of the License on Transfer (LOT) Network 2* (Working Draft, 2016) <https://ssrn.com/abstract=2827904> [<https://perma.cc/RT7C-7R4W>] (“This structure protects LOT members from being attacked when a PAE acquires a LOT-encumbered patent.”).

that the entire LOT agreement is an encumbrance, as it contains many provisions not directly related to the actual use of the patent, including provisions relating to withdrawal, third-party beneficiaries, bankruptcy, costs, governing law, and other issues.¹⁴⁵

The LOT agreement also attempts to declare that:

All Licenses granted in this Agreement are intended to and shall run with the Subject Patents to which they pertain for the full duration of such Subject Patents and be binding on subsequent owners and licensees. Any transfer or grant of rights in or to a Licensor's Subject Patent(s), whether by such Licensor or any subsequent transferee, shall be subject to the Licenses and continuing obligations of this Agreement with respect to such Subject Patent(s).¹⁴⁶

But the enforceability of this provision is questionable, at least in certain situations. If a PAE were to purchase one of the patents in question, the PAE would not be a party to the LOT agreement, as the PAE would not have signed the agreement. One cannot be bound by a contract to which one is not a party.¹⁴⁷ Significant information costs would be imposed if a patent buyer could be bound (potentially without notice) by the complex provisions of any license agreement entered into by any prior owner.¹⁴⁸

The LOT agreement is full of such complexities. The license of Section 1.1 becomes active upon "Transfer" to an "Assertion Entity," as noted above. Section 6.18 of the agreement defines Transfer to Assertion Entity as:

(i) the assignment, sale, exclusive license, or transfer, in whole or in part, of such Patent to an Assertion Entity, *whether by Licensor or any subsequent transferee or exclusive licensee of the Subject Patent,*

¹⁴⁵ See LOT Agreement, *supra* note 8, §§ 2.3, 5.3, 5.5, 5.6, 5.11.

¹⁴⁶ *Id.* § 1.5.

¹⁴⁷ See, e.g., *Reuben v. U.S. Air*, Civ. Action No. 11-1235, 2012 U.S. Dist. LEXIS 84038, at *19 (W.D. Pa. June 18, 2012) ("It is fundamental contract law that one cannot be liable for a breach of contract unless one is a party to that contract." (citing *Pa. Chiropractic Ass'n v. Indep. Blue Cross*, 2001 Phila. Ct. Com. Pl. LEXIS 112, at *16 (Pa. Commw. Ct. July 16, 2001))).

¹⁴⁸ *Merrill & Smith*, *supra* note 39, at 793 ("The unique advantage of in rem rights—the strategy of exclusion—is that they conserve on information costs relative to in personam rights in situations where the number of potential claimants to resources is large, and the resource in question can be defined at relatively low cost."); see also *Merrill & Smith*, *supra* note 20, at 31–34. Even where the purchaser has notice, the information costs are not eliminated, as such costs are borne by market participants generally. See *id.* at 32 ("A and B may have subjective reasons for creating property rights based on days of the week. But, the possible existence of such rights will cause information costs for others—such as E, F, G, H, I, and J—to rise. Those considering whether to purchase property rights in watches will have more to investigate: They will have to assure themselves that they are getting all the days of the week that they want. . . . An indefinite set of types of rights will raise the cost of preventing violations through investigation of rights.").

or (ii) acquisition of ownership or control of the Subject Patent by an Assertion Entity (including any circumstance in which Licensor or any subsequent transferee owning or controlling the Subject Patent is or becomes an Assertion Entity . . .), with the earliest date any Entity owning or controlling such Patent is or *becomes an Assertion Entity* or Controlled by an Assertion Entity being deemed to be the effective date of such Transfer.¹⁴⁹

Thus, even if a patent is initially transferred to a regular operating company that is not a party to the LOT agreement and if that company then transfers the patent to an Assertion Entity (or becomes an Assertion Entity), the LOT license is supposedly activated. Assertion Entity is defined in Section 6.2 as “an Entity and each one of its Affiliates if such Entity and all of its Affiliates collectively derived from Patent Assertion more than half of their total consolidated gross revenue measured over the full twelve (12) months preceding a particular date . . .”¹⁵⁰ As such, in order for the LOT agreement to be fully enforceable, the definitions of Transfer and of Assertion Entity must be part of the “encumbrance” that “runs with the patent.” But it is certainly questionable whether these complex definitions relate to the “actual use of the patent” any more than the arbitration clause that the Federal Circuit held not to run with the patent in *Datatreasury*, or the royalty rights and confidentiality provisions that have also been held not to run.¹⁵¹

Something like the LOT agreement could potentially be conceptualized as a license granted immediately prior to transfer *from the party that agreed* to the LOT agreement. The LOT member could give up the sticks corresponding to the rights to exclude the other LOT members immediately prior to transferring the patent to a PAE, and the PAE would thus receive a diminished bundle of sticks without the rights to exclude the LOT members. This would be in some accord with the LOT’s name—a license granted “on” (or immediately prior to) the transfer of a patent from a LOT member.

But the problem for the LOT agreement is that the agreement is not actually structured this way; it purports to also apply even where the patent is not transferred directly from a LOT member to a PAE. For example where the patent is first transferred to a non-LOT operating company, which then transfers it to a PAE, the full bundle must be transferred to the non-LOT operating company, and then the bundle must

¹⁴⁹ LOT Agreement, *supra* note 8, § 6.18 (emphasis added).

¹⁵⁰ *Id.* § 6.2.

¹⁵¹ See *supra* Section II.A (discussing *Datatreasury*); *supra* Sections II.B–C.

somehow be diminished upon transfer from the non-LOT operating company to the PAE, even if neither is a party to the LOT agreement.¹⁵² Similarly, if the patent is transferred to a non-LOT operating company, which then becomes a PAE, the bundle must somehow be diminished at the moment the company turns into a PAE (as defined by the LOT agreement) even though the company is not a party to the LOT agreement.

Furthermore, Section 1.2 purports to presently waive the “right under the respective Subject Patent for any Assertion Entity to make any Patent Assertion of the respective Subject Patent against any Licensee”¹⁵³ But can a patent owner waive the right of someone else to assert the patent without waiving its own right to assert the patent? This would conceptually require multiplying the bundle of patent rights to include the inchoate rights of anyone who might potentially later own the patent, which would seem to be a convoluted and problematic notion of property. It would also run counter to the *numerus clausus* principle, which holds that property should be kept within one of a limited number of standardized forms, so as to limit information costs. If the LOT agreement were entirely enforceable as written, it would impose significant information costs, as one trying to figure out the scope of a patent would need to know the (potentially confidential) complex details of license agreements entered into by previous owners of the patent. Thus, a prohibition on diminishing the patent bundle in ways that depend on the identity of the subsequent owner of the patent might be a reasonable place to draw a *numerus clausus* line.

Such information costs counsel in favor of viewing such complex details as part of the license agreement (contract) module, rather than as running with the underlying property rights. This sort of “[m]odularity is a method for dealing with complexity in systems,” and is efficient because “[i]nformation is blocked across modules, and this allows economization on information and the substitution of structures without massive ripple effects.”¹⁵⁴ One of the purposes of modularity is to “make information irrelevant;”¹⁵⁵ keeping the overly complex details of license agreements in personam effectively makes such details—and their potentially litigious interpretation—irrelevant to non-signatories. Of course, drawing the lines of modularity may be difficult, but “the *numerus*

¹⁵² See LOT Agreement, *supra* note 8, § 6.18, 6.2.

¹⁵³ *Id.* § 1.2.

¹⁵⁴ Smith, *supra* note 54, at 1759, 1761.

¹⁵⁵ *Id.* at 1759.

clausus principle under which the law limits *in rem* rights to a fixed and finite menu of forms,”¹⁵⁶ counsels in favor of keeping some amount of *complexity in personam*.

The enforceability of the LOT agreement is thus questionable, particularly where the patent is not transferred directly from a LOT member to a PAE. One of the LOT founders apparently likens the LOT to an Open Source copyright license.¹⁵⁷ In the case of an Open Source license, users of a copyrighted work are granted a license free of charge provided they agree to the terms of the license.¹⁵⁸ But this does not involve a transfer of the copyright itself (i.e., the government issued rights to exclude) or terms of the license agreement running with such a transfer. In other words, the Open Source license restricts licensees, whereas the LOT agreement purports to restrict future owners of the patent.¹⁵⁹ Because the Open Source licensee has agreed to the license,¹⁶⁰ the notice and information cost concerns are not as great as in the case of the LOT attempting to bind future patent acquirers to the complex terms of a contract to which they have not agreed.

To be sure, the terms of the original license agreement, to the extent that they altered the rights in the patent bundle, are in some cases important to the new patent owner. For example, through a license agreement, a patentee might agree not only to refrain from suing the licensee, but also to refrain from suing the licensee’s customers.¹⁶¹ In such a case, the bundle could be diminished by not only the stick corresponding to right to exclude the licensee, but also by the sticks corresponding to the rights to exclude the licensee’s customers.

But on the other hand, the *numerus clausus* principle would seem to counsel in favor of viewing as *in personam* the

¹⁵⁶ *Id.* at 1780.

¹⁵⁷ Schulman, *supra* note 144, at 1 (“Open Source is one example of a POS in the copyright context. This paper uses the License On Transfer (LOT) Network (the largest networked patent cross license by number of patents) as a case study of a POS.”).

¹⁵⁸ *See, e.g., Jacobsen v. Katzer*, 535 F.3d 1373 (Fed. Cir. 2008).

¹⁵⁹ However, the bundle approach and the *numerus clausus* principle may still be relevant in determining whether a failure to abide by the terms of an Open Source license gives rise to a claim for copyright infringement or is actionable only as a breach of contract. *See infra* Section III.D.

¹⁶⁰ *See, e.g., Jacobsen*, 535 F.3d at 1379 (“By requiring that users copy and restate the license and attribution information, a copyright holder can ensure that recipients of the redistributed computer code know the identity of the owner as well as the scope of the license granted by the original owner.”).

¹⁶¹ *See, e.g., Telefonaktiebolaget LM Ericsson v. Wi-LAN USA, Inc.*, No. 14-21854-CV-MIDDLEBROOKS, 2015 WL 11233112, at *1 (S.D. Fla. Aug. 14, 2015) (“Ericsson maintains that pursuant to the Siemens License, LME and Siemens provided each other, their related companies, and their customers with protection from the other’s patents.”).

agreement not to sue the licensee's customers, in that it would be a rather indefinite and complex diminishment of the patent right. What counts as a customer? Customers at what time? That is, if patents as property rights should have a limited number of forms, it would seem that a patentee should not be able to carve out the right to sue a licensee's customers, (unless perhaps those customers are specifically defined and named in the license agreement). Professor Mulligan finds that "[o]ver the past few decades, intellectual property licensing agreements have become more complex," and this complexity suggests that "the measurement costs created by intellectual property licenses may outweigh frustration costs and other harms that potentially result from the introduction of a numerus clausus principle."¹⁶²

It is important to remember that the subsequent patent owner still is not a party to the contracts agreed to by prior owners of the patent. It is one thing to diminish the patent bundle by giving up the rights to exclude certain other entities. But it is another thing for a patent owner to purport to give up the rights of others who might potentially own the patent in the future, while purportedly keeping those rights for itself in the present.

In general, the bundle analysis in this Part suggests that relatively discrete covenants not to sue a licensee or specific customers of the licensee diminish the bundle of rights and thus run with the patent, by preventing subsequent patent owners from suing those whom the previous patent owner gave up the right to sue. On the other hand, agreements that do not diminish the underlying bundle of patent rights, such as royalty rights, or do so only in overly idiosyncratic ways, such as aspects of the LOT agreement, do not run with the patent.

The next Part demonstrates how this same analysis can be useful outside of the license context, such as when a patentee gives up the right to sue with regard to certain products (via patent exhaustion), or the right to demand an injunction without offering a reasonable royalty license (via FRAND commitments).

III. BROADER IMPLICATIONS

The bundle theory and the encumbrance theory are different ways of thinking about the effect of patent transfer on aspects of license agreements. Sometimes these different

¹⁶² Mulligan, *supra* note 41, at 289–90.

theories lead to significantly different results. Having determined that the bundle theory more elegantly and coherently explains the license on transfer situation, this article now explores the application of the bundle theory to other areas of patent law.

Various doctrines in patent law deal with the alteration of patent rights due to actions by the patentee or others interacting with the patent.¹⁶³ As it is with patent licenses, the bundle theory can be useful in conceptualizing the extent to which such alterations travel with the patent upon its transfer.

A. *Patent Exhaustion*

The Federal Circuit en banc majority opinion in *Lexmark International Inc. v. Impression Products, Inc.*, included an application of the bundle of sticks conception in the area of patent exhaustion.¹⁶⁴ The plaintiff, Lexmark, made and sold printers as well as toner cartridges, and “own[ed] a number of patents covering the cartridges and their use.”¹⁶⁵ The relevant cartridges were sold domestically and “at a discount” but “subject to an express single-use/no-resale restriction.”¹⁶⁶ The defendant, Impression, later acquired the cartridges, not directly from Lexmark, but rather after a third party had “physically modified them [so as] to enable re-use, in violation of the . . . restriction.”¹⁶⁷ Impression then resold the cartridges, and Lexmark sued for patent infringement.¹⁶⁸ Impression attempted to assert a defense under the doctrine of patent exhaustion, arguing that by selling the cartridges, Lexmark had exhausted its patent rights in those cartridges and could no longer sue for infringement.¹⁶⁹ The court’s en banc majority however found no exhaustion, and in so holding, noted that “[i]t has long been a familiar feature of our legal landscape that property rights in a particular thing—like the separate interests in making, selling, using, etc., an invention—are

¹⁶³ Cf. Rantanen, *supra* note 38, at 919 (“[W]hen I say that patent rights are malleable, I mean that their scope and strength can be altered by actors interacting with those rights even after the government has issued that right.”).

¹⁶⁴ *Lexmark Int’l, Inc. v. Impression Prods., Inc.*, 816 F.3d 721 (Fed. Cir. 2016) (en banc), *rev’d and remanded* 137 S. Ct. 1523 (2017).

¹⁶⁵ *Id.* at 727.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

viewed as a ‘bundle’ of rights (or sticks) that can generally be transferred separately.”¹⁷⁰

The *Lexmark* dissent was of the view that an authorized sale of a patented article exhausts the patentee’s property rights in that article, regardless of any contractual conditions placed on the sale.¹⁷¹ In urging the Supreme Court to grant the petition for certiorari, the U.S. Solicitor General argued in part that the Federal Circuit majority had been guilty of a “failure to distinguish between the rights which are given to the inventor by the patent law and which he may assert against the world through an infringement proceeding and rights which he may create for himself by private contract.”¹⁷² The distinction drawn by the government is not unlike the distinction between the license agreement and its effect on the underlying patent rights, precisely the sort of the distinction that Hohfeld’s framework can help to flesh out.¹⁷³

Normally, a patentee making an unrestricted sale of a patented article would be giving up the Right to exclude with respect to that article. Whoever owns that article has a Privilege (or “authority”) to infringe the patent with that article.¹⁷⁴ This Privilege would be unaffected by any subsequent transfer of the patent, because the patent owner would transfer the bundle of patent rights appropriately diminished, including the “No Rights” correlative to the Privileges of those who had purchased patented articles from the previous patentee. But according to the Federal Circuit majority in *Lexmark*, when a patentee explicitly places conditions on the sale (e.g., single use, no resale), the patentee is only giving up the Right to exclude provided that the article is used in accordance with those conditions. Thus, the patent bundle is diminished to a lesser extent than it would be in the case of an unrestricted or unconditional sale of a patented article.

¹⁷⁰ *Id.* at 741.

¹⁷¹ *Id.* at 781 (Dyk J., dissenting) (“The right to exclude expires (or is ‘exhausted’) by an authorized sale.”).

¹⁷² Brief for the United States as Amicus Curiae, at 8, *Impression Prods., Inc., v. Lexmark Int’l, Inc.*, 137 S. Ct. 1523 (2017) (No. 15-1189) [hereinafter Brief for the United States] (quoting *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 514 (1917)).

¹⁷³ See *supra* Section I.C.

¹⁷⁴ *Lexmark*, 816 F.3d at 734 (“[S]ome sales confer authority on the purchaser to take certain actions—such as selling or using the purchased article in the United States or importing it into the United States—that would otherwise be infringing acts.”); cf. Christopher M. Newman, *Vested Use-Privileges in Property and Copyright*, 30 HARV. J.L. & TECH. 75, 78 (2017) (“Title to a thing includes the privilege to engage, or to refrain from engaging, in any use of which the thing is susceptible.”).

The question then is whether restrictions placed on an authorized sale should be allowed to lessen the extent to which a patentee parts with its in rem patent rights corresponding to the article sold, or whether such restrictions are mere in personam agreements between the buyer and the seller. One advantage of the bright-line rule urged by the Solicitor General and by the dissent would be lower information costs on downstream purchasers of patented articles.¹⁷⁵ Indeed, patent law's exhaustion doctrine has origins in common law rules limiting servitudes on personal property, which in part serve to ensure that the purchaser of a product may use it as would be expected.¹⁷⁶

The *Lexmark* case also seems to raise what J.E. Penner called "the question of individuation." That is, whether property can be divided any which way (like slicing a cake) or whether it is comprised of certain indivisible base units (like a club is comprised of individual people).¹⁷⁷ Penner, skeptical of the bundle approach, seemed to think that property is more like the cake.¹⁷⁸ As Christopher Newman explains, a more divisible approach serves "to increase the amount of value people can get from joint or independent use of resources," but "[a]t the same time, the law must be careful to guard against excessive fragmentation of ownership, which has both systemic and particular costs."¹⁷⁹ The *Lexmark* majority would allow patentees to control the extent to which they part with their

¹⁷⁵ See *supra* Section I.B; see also *Lexmark*, 816 F.3d at 779 (Dyk J., dissenting) ("Post-sale restraints would 'cast a cloud of uncertainty over every sale.'" (quoting *Tessera, Inc. v. Int'l Trade Comm'n*, 646 F.3d 1357, 1370 (Fed. Cir. 2011))); Brief For The United States, *supra* note 172, at 14 ("This Court long ago recognized that '[t]he inconvenience and annoyance to the public' if patent rights are not exhausted by the first authorized sale are 'too obvious to require illustration.'" (quoting *Keeler v. Standard Folding Bed Co.*, 157 U.S. 659, 667 (1895))).

¹⁷⁶ See *Helferich Patent Licensing, LLC v. N.Y. Times Co.*, 778 F.3d 1293, 1305 (Fed. Cir. 2015); *LifeScan Scot., Ltd. v. Shasta Techs., LLC*, 734 F.3d 1361, 1373 (Fed. Cir. 2013) ("The basic principle underlying the Supreme Court's exhaustion cases is that the authorized transfer of ownership in a product embodying a patent carries with it the right to engage in the product's contemplated use."); see also Glen O. Robinson, *Personal Property Servitudes*, 71 U. CHI. L. REV. 1449, 1464 (2004) ("[W]e naturally assume that the purchaser of a patented article is buying the physical machine as well as the license to use it pursuant to the patent.").

¹⁷⁷ Penner, *supra* note 51, at 754–55.

¹⁷⁸ *Id.* ("If we are to take the bundle of rights analysis of property seriously we have to believe that the individual rights are like members of a club However, as the analysis will show, they are merely like slices of a cake, no more than momentary functional descriptions made with a particular legal concern in mind.").

¹⁷⁹ Newman, *supra* note 105, at 82–83; see also Smith, *supra* note 54, at 1780 ("Intellectual property exhibits the *numerus clausus*, albeit in somewhat attenuated form outside the core of intellectual property."); cf. ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY 5 (2011) ("The most important core principle of the institution of private property is this: it assigns to individual people control over individual assets. It creates a one-to-one mapping between owners and assets.").

patent rights upon sale,¹⁸⁰ whereas the dissent and the government take more of an all-or-nothing approach to sales of patented articles.¹⁸¹

The Supreme Court ultimately sided with the latter view, holding that “a patentee’s decision to sell a product exhausts all of its patent rights in that item, regardless of any restrictions the patentee purports to impose or the location of the sale.”¹⁸² The Court reasoned that “when an item passes into commerce, it should not be shaded by a legal cloud on title as it moves through the marketplace.”¹⁸³ This reasoning could be seen as implicitly invoking the *numerus clausus* principle;¹⁸⁴ a patentee may not sell an item and still retain part of the right to exclude. Rather, the patentee that decides to sell an item must give up the entire right to exclude with respect to the use of that item. Having already given up that right, a patentee would not be able to transfer it, so a subsequent owner of a patent would not seem to acquire the right to exclude with respect to items sold (while owning the patent) by previous patent owners, that right having been exhausted upon patentee sale of the item by the previous owner.

At oral argument before the Supreme Court in *Lexmark*, the petitioner began by arguing that “by exhausting the patentee’s monopoly on that item, the sale confers on the purchaser, or any subsequent owner, the *right* to use or sell.”¹⁸⁵ Similarly, the respondent spoke of the “*right* to use,” and how “patent *rights* are conveyed with a product,” despite invoking the *nemo dat* principle that “nobody can convey more than they

¹⁸⁰ See *Lexmark*, 816 F.3d at 736 (“[T]he patent grant of § 154 is a ‘right to exclude,’ which ‘may be waived in whole or in part’” (quoting *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 703 (Fed. Cir. 1992))).

¹⁸¹ See Brief For the United States, *supra* note 172, at 17 n.3 (“[A] patentee can only reserve his U.S. rights in full; he cannot divide the U.S. rights and retain some but not all.”); see also Brief For Professors John F. Duffy And Richard M. Hynes as Amicus Curiae in Support of Neither Party at 18, *Impression Prods., Inc. v. Lexmark, Int’l, Inc.*, 137 S. Ct. 1523 (No. 15-1189) (“By limiting the scope of rights so that patent law cannot be used to enforce any such restrictions, the patent exhaustion doctrine eliminates the possibility that patent law could interfere with the complex regulation [such as UCC Article 9] of post-sale restrictions and encumbrances that can be placed on sold goods.”).

¹⁸² *Impression Prods., Inc. v. Lexmark Int’l, Inc.*, 137 S. Ct. 1523, 1529 (2017).

¹⁸³ *Id.* at 1534.

¹⁸⁴ See *supra* Sections I.B, I.I.E; see also Mulligan, *supra* note 41, at 238 (“Generally, common law courts have not explicitly recognized the *numerus clausus*, although in practice, courts ‘treat previously-recognized forms of property as a closed list that can be modified only by the legislature,’ despite the absence of any such instruction to that effect from the legislatures themselves.” (quoting Merrill & Smith, *supra* note 20, at 9–11)).

¹⁸⁵ Transcript of Oral Argument at 3, *Impression Prods., Inc. v. Lexmark Int’l, Inc.*, 137 S. Ct. 1523 (2017) (No. 15-1189) [hereinafter Transcript of Oral Argument] (emphasis added).

have.”¹⁸⁶ These arguments show precisely the sort of imprecision that Hohfeld sought to combat, and further demonstrate the truth of Pierre Schlag’s statement that “[o]ne of the most striking aspects of Hohfeld’s work is how much its architecture and arguments remain relevant—even bitinglly so—today.”¹⁸⁷ The *nemo dat* principle is inconsistent with the idea that the patentee somehow conveys any patent Right (in the Hohfeldian sense) to use the patented product, for under prevailing law, the patent does not grant rights to use, only rights to exclude.¹⁸⁸ It would be more precise then, to say that the patentee seller gives up the Right to exclude (replacing it with a No Right) with respect to a particular article, such that the owner of the article has a Privilege (rather than a Right) to infringe the patentee’s patent. This would also be more consistent with the notion that patent exhaustion provides a defense rather than any affirmative right or claim.¹⁸⁹

Thinking of the patent as a bundle of *rights to use* logically seems to imply that when a patentee sells a patented article under normal unrestricted circumstances, the patentee must give a right to use that article, a stick in the *patent* bundle, to the purchaser of the patented *article*. The respondent in *Lexmark* argued that normal transfer of a patented article includes “both . . . the physical material, and the bundle of rights that go with it.”¹⁹⁰ But it seems strange to say that the purchaser of the patented article acquires a portion of the *patent* right, which then travels downstream with the article to subsequent purchasers. Could a downstream purchaser pass the article along without passing along the patent right? Or are the right and the article somehow inextricably bound together after they leave the hands of the patentee and seller?

¹⁸⁶ *Id.* at 30–31, 37 (emphasis added).

¹⁸⁷ Schlag, *supra* note 53, at 187.

¹⁸⁸ *See, e.g., Bloomer v. McQuewan*, 55 U.S. 539, 549 (1852) (“The franchise which the patent grants, consists altogether in the right to exclude every one from making, using, or vending the thing patented . . .”) *Bio-Tech. Gen. Corp. v. Genetech, Inc.*, 80 F.3d 1553, 1559 (Fed. Cir. 1996); CHISUM, *supra* note 54, at § 16.02[1]. *But see* Adam Mossoff, *Exclusion and Exclusive Use in Patent Law*, 22 HARV. J.L. & TECH. 321 (2009).

¹⁸⁹ *See Excelstor Tech., Inc. v. Papst Licensing GmbH & Co. KG*, 541 F.3d 1373, 1376 (Fed. Cir. 2008) (“[E]xhaustion is a defense to patent infringement, not a cause of action.”).

¹⁹⁰ Transcript of Oral Argument, *supra* note 185, at 34–35; *cf. Lexmark, Inc. v. Impression Prods., Inc.*, 816 F.3d 721, 741 (Fed. Cir. 2016) (en banc), *rev’d and remanded* 137 S. Ct. 1523 (2017) (“It has long been a familiar feature of our legal landscape that property rights in a particular thing—like the separate interests in making, selling, using, etc., an invention—are viewed as a ‘bundle’ of rights (or sticks) that can generally be transferred separately.”).

It seems much cleaner to think of the patent as a bundle of rights to exclude, in accordance with the prevailing law. A patentee *gives up* the Right to exclude with respect to a particular article upon selling that article under normal unrestricted circumstances. The stick (or Right) in the bundle is destroyed (replaced with a No Right). As such, the owner of the article has a Privilege. The Privilege is not something that has to be passed along downstream with the article, it is simply the natural consequence of the patentee having given up its Right to exclude regarding that article.

Some of the imprecision in language from oral argument seems to have made its way into the Court's *Impression Products, Inc. v. Lexmark International, Inc.* decision, which states: "[a]llowing patent rights to stick remora-like to [an] item [sold by a patentee] as it flows through the market would violate the principle against restraints on alienation."¹⁹¹ In strict Hohfeldian terms, it is fundamentally incorrect to speak of patent rights sticking to an item; patent rights remain with the patentee (if not exhausted) and only the correlative duties would flow with the item.¹⁹² But perhaps more importantly, the Court's reasoning is overbroad. It is logically fallacious in that it "proves too much; an item initially purchased from an unauthorized seller, flowing through commerce, would remain subject to 'remora-like' patent rights," as would "an item purchased directly from a patentee, if other patents held by other entities also covered the item (or a component of it)."¹⁹³ The Court fails to fully grapple with this in that it "does not explain why such rights do not also violate the principle against restraints on alienation."¹⁹⁴

B. *FRAND Commitments*

Technology companies sometimes seek to have their patented inventions incorporated into the guidelines promulgated by standard setting organizations (SSOs). In doing so, such companies often promise that if their invention is adopted into the standard, they will license the patent rights on fair, reasonable, and non-discriminatory (FRAND) terms to anyone who infringes

¹⁹¹ *Impression Prods., Inc. v. Lexmark Int'l, Inc.*, 137 S. Ct. 1523, 1538 (2017).

¹⁹² *See supra* Section I.C.

¹⁹³ *Id.*

¹⁹⁴ *See* Andrew C. Michaels, Response, *Impression Products, Inc. v. Lexmark International, Inc.: A Glib Rebuke of the Federal Circuit*, GEO. WASH. L. REV. ON THE DOCKET (June 11, 2017), <http://www.gwlr.org/impression-products-v-lexmark/> [<https://perma.cc/U4E6-B5F5>].

due to compliance with the standard.¹⁹⁵ But what happens if the company that made the FRAND commitment then transfers the patent? Is the subsequent patent owner bound by the FRAND commitment? For much the same reasons that subsequent patent owners are generally held to be bound by a commitment not to sue made by a previous owner of the patent, it seems that the answer should be yes. As Jay Kesan and Carol Hayes explain, “if a patentee could extinguish the benefits of a FRAND commitment by transferring the patent to a third party, this would lead to inequitable results.”¹⁹⁶

That is, if an SSO were induced by a FRAND commitment to adopt a particular invention into the standard, it would be inequitable if the FRAND commitment could then be shirked through a transfer of the patent. But as with patent licenses, there is some uncertainty as to the theory or mechanism by which a subsequent patent owner would be bound by a previous owner’s FRAND commitment. Kesan and Hayes primarily adopt the encumbrance theory, arguing in favor of “conceptualiz[ing] the FRAND commitment as an encumbrance that runs with the patent, similar to a servitude under real property law.”¹⁹⁷ They explain that “it is fairly uncontroversial to conclude that a FRAND commitment relates to the use of the patent,” and moreover, that subsequent owners should be considered to be on notice because the “standards documents are publicly available, and many SSOs also make FRAND commitments publicly available.”¹⁹⁸ They note that “[t]he primary hurdle to analogizing to servitudes is that patents are treated as having the attributes of personal property, and servitudes on personal property are generally disfavored in the law,” but sidestep this hurdle by pointing out that the “law of servitudes has become more liberalized over the years.”¹⁹⁹

Practically the entire FRAND commitment relates to the patent, and as Kesan and Hayes note, the commitments are generally publicly available, so it is relatively unproblematic to think of the entire FRAND commitment as an encumbrance running with the patent. By contrast, as discussed earlier, license privileges often arise from broad confidential license agreements

¹⁹⁵ See, e.g., Kesan & Hayes, *supra* note 21, at 238 (“[T]o facilitate the adoption of standards, SSOs often require patent holders to agree to license essential patents on FRAND terms.” (citation omitted)).

¹⁹⁶ *Id.* at 304.

¹⁹⁷ *Id.* at 313.

¹⁹⁸ *Id.* at 295.

¹⁹⁹ *Id.* at 295–96.

with many different types of in personam commitments. But the FRAND commitment could also be conceptualized using the bundle approach. The patent owner trades certain aspects of the bundle of rights in exchange for adoption of the invention into the standard. The FRAND commitment can be said to qualify the right to exclude with respect to those who use the standard, in that “the patent owner cannot play the patent holdout game.”²⁰⁰ That is, a patent owner seeking to enforce must be willing to negotiate a FRAND license with the potential infringer. And the bundle theory still accords better with the treatment of patents as personal property and the law’s disfavoring of servitudes on personal property.

Indeed, Kesan and Hayes also attempt to apply Hohfeld to the FRAND scenario, albeit in a different manner, stating that “[t]he FRAND commitment may be understood as imposing on the patent owner a duty to negotiate in good faith, and through a Hohfeldian analysis, this means that there is a correlative right to good faith negotiation that is held by the potential licensee.”²⁰¹ If such a duty travels with the patent, this would mean that all potential infringers would have an affirmative claim (e.g., breach of contract) against a subsequent patentee who did not comply with the duty to negotiate in good faith. This seems questionable. For support, Kesan and Hayes cite *Apple, Inc. v. Samsung Electronics Co.*, where the court stated that under French law, “Samsung’s contractual obligation arising from its FRAND declarations to ETSI at the very least created a duty to negotiate in good faith with Apple regarding FRAND terms.”²⁰² But that case did not involve a patent transfer; Samsung was the plaintiff and the party that made the commitment to the SSO (ETSI). Samsung thus had a duty to comply with its own contractual obligations, but that does not mean that such contractual obligations necessarily entirely travel with the patent.

The FRAND commitment can be better conceptualized as the patentee giving up or qualifying its Rights to exclude, instead of as creating affirmative Rights in each of the SSO members. Thus, the SSO members have a *Privilege* to a negotiated license on FRAND terms, rather than a Right to negotiation. The important thing to the SSO members is not negotiation for its own sake, rather it is freedom from holdout pressure. The Privilege is not an affirmative claim, but if a subsequent patent

²⁰⁰ *Id.* at 297.

²⁰¹ *Id.* at 290 (emphasis omitted) (citation omitted).

²⁰² *Apple, Inc. v. Samsung Elecs. Co.*, No. 11-CV-01846, 2012 U.S. Dist. LEXIS 67102, at *43 (N.D. Cal. May 14, 2012).

owner attempts to “play the holdout game” or sue an SSO member without negotiating, the SSO member may invoke the Privilege as a defense, thereby relieving the SSO member of holdout pressure.²⁰³ As such, the FRAND obligations on patent owners are better thought of as No Rights instead of Duties, as the patent owner has no right to play the holdout game. With respect to the numerus clausus principle, it seems worth recognizing and allowing this particular form of diminishment of the patent bundle, so as to protect the viability of FRAND commitments and avoid the inequitable results that could result if the FRAND commitments had only in personam effects.

C. *Prior User Rights*

Although a patent generally provides only a right to exclude and not a right to use, some use rights may arise irrespective of the patent by virtue of invention or prior use. The Supreme Court has stated that the right of an inventor to use its own creation “existed before and without the passage of law and was always the right of an inventor.”²⁰⁴ As explained in the classic textbook by Albert H. Walker:

A patentee has two kinds of rights in his invention. He has a right to make, use, and sell specimens of the invented thing; and he has a right to prevent all other persons from doing either of those acts. The first of these rights is wholly independent of the patent laws; while the second exists by virtue of those laws alone.²⁰⁵

Given that subsequent independent creation is not a modern-day defense to a claim of patent infringement, it seems that the inventor’s independent use right is no longer in full effect.²⁰⁶ But the notion of use rights for inventors carries

²⁰³ The specifics of the FRAND commitment will delineate the precise extent to which the underlying intellectual property rights are diminished. Cf. Jorge L. Contreras, *A Market Reliance Theory for FRAND Commitments and Other Patent Pledges*, 2015 UTAH L. REV. 479, 492 (2015) (“The legal mechanisms by which FRAND commitments are made vary considerably.”).

²⁰⁴ *Bauer v. O’Donnell*, 229 U.S. 1, 10 (1913); see also *Pennock v. Dialogue*, 27 U.S. 1, 23 (1829) (explaining that the Patent Act of 1800 “may well be deemed merely affirmative of what would be the result from the general principles of law,” in that “[i]t gives the right to the first and true inventor and to him only” (emphasis omitted)).

²⁰⁵ ALBERT H. WALKER, *TEXT-BOOK OF THE LAW OF PATENTS FOR INVENTIONS* § 155, (John H. Hilliard & Eugene Eblé eds., Baker, Voorhis & Co., 5th ed. 1917) (citing *United States v. Am. Bell Tel. Co.*, 167 U.S. 224 (1897); *Bloomer v. McQuewan*, 55 U.S. 539 (1852); *Victor Talking Mach. Co. v. The Fair*, 123 F. 424 (7th Cir. 1903); *Jewett v. Atwood Suspender Co.*, 100 F. 647 (Cir. Ct. D. Vt.1900)); see also ROBINSON, *supra* note 23, § 420 (“The right created by the letters-patent is collateral to the right to the invention . . .”).

²⁰⁶ See, e.g., *Smith*, *supra* note 54, at 1810 (“Patent law, but not copyright law, gives a right against independent inventors . . .”).

forward to present day patent law to some extent in the form of prior user rights. The America Invents Act (AIA) provides a defense to infringement “based on prior commercial use,”²⁰⁷ and before the AIA, a “prior user who did not abandon, suppress, or conceal the invention,” was able to use Section 102(g)(2) to “invalidate the later patent of another and thereby escape liability for infringement.”²⁰⁸

If use rights inhere by virtue of invention and are separate from the patent, they should not travel with the patent. Practicing one patent (A) might require the practice of another blocking patent (B).²⁰⁹ The inventor of patent A could have a prior user right to practice patent B. But the prior user right is not granted by the USPTO, it is separate from the patent. That is, the inventor of patent A would have had the prior user right with respect to patent B even if she had never applied for patent A. Thus, the prior use “right” to practice patent B is personal to the inventor of patent A (the prior user of the invention claimed in patent B), and would not run with patent A if the patent were transferred.

In Hohfeld’s terms, the prior use “right” is a misnomer, as it is really more of a prior use Privilege, providing a defense to infringement rather than any affirmative claim. As such, patent bundle B would not include a Right to exclude the inventor of patent A (the prior user of patent B), instead it would include a No Right correlative to the prior user’s Privilege to infringe patent B.

D. *End User License Agreements*

Copyright software end user licenses have presented issues similar to those discussed above with regard to patent licenses.²¹⁰ The United States Court of Appeals for the Ninth Circuit was tasked with determining whether a breach of a

²⁰⁷ 35 U.S.C. § 273 (2012).

²⁰⁸ U.S. PAT. & TRADEMARK OFF., REPORT ON THE PRIOR USER RIGHTS DEFENSE 48 (2012) (footnote omitted); *see also* Leahy-Smith American Invents Act of 2011, Pub. L. No. 112-29, § 3(b) 125 Stat. 284, 285–87 (codified as amended at 35 U.S.C. § 102(d)(2)).

²⁰⁹ *See, e.g.*, *Lexmark Int’l, Inc. v. Impression Prods. Inc.*, 816 F.3d 721, 745–46 (Fed. Cir. 2016) (en banc), *rev’d and remanded* 137 S. Ct. 1523 (2017) (“Patent rights are only rights to exclude, not rights to practice. . . . It is for that reason, for example, that a patentee may be prevented from practicing its own patent by another’s patent.” (citing *Contrell v. Wallick*, 117 U.S. 689, 694 (1886); *Blake v. Robertson*, 94 U.S. 728, 733 (1877); *Smith v. Nichols*, 88 U.S. 112, 118–19 (1875))).

²¹⁰ *See generally* Christina Mulligan, *Licenses and the Property/Contract Interface*, 93 IND. L.J. _ (forthcoming) (Brook. L. Sch. Legal Studies Res. Paper No. 544, <http://ssrn.com/abstract=2987325> [<https://perma.cc/36E8-7WFJ>]).

copyright license was actionable as copyright infringement, or merely breach of contract, in the case of *MDY Industries, LLC v. Blizzard Entertainment, Inc.*²¹¹ In doing so, the court attempted to determine which terms of the license agreement limited the scope of the license so that they were “conditions,” actionable under copyright law, and distinguish those from mere “covenants,” actionable only under contract law. In a test somewhat reminiscent of the Federal Circuit’s “actual use” test for patent licenses, the Ninth Circuit held that the clause at issue—a prohibition on the use of “bots” while playing the game *World of Warcraft*—was a mere covenant because there was no “nexus between the condition and the licensor’s exclusive rights of copyright.”²¹² Similar issues could arise, for example, in determining whether a franchisee breach of a franchise agreement necessarily gives rise to a claim for trademark infringement or trade secret misappropriation, as opposed to merely a claim for breach of contract, (which might matter from a remedies perspective).²¹³

But like the actual use test in patent law, this “nexus” test in copyright has not necessarily been consistently applied.²¹⁴ In *Jacobsen v. Katzer*, the Federal Circuit “found that several terms in a publicly-licensed work were enforceable copyright conditions, even though those terms did not directly implicate copyright-infringing behavior.”²¹⁵ The terms at issue related to what materials to distribute along with the Artistic public license; the Federal Circuit reasoned that the license was expressly conditioned on compliance with such terms, and that public licensing would be less effective if such terms sounded only in contract.²¹⁶ In attempting to distinguish *Jacobsen* from *Blizzard*, Professor Mulligan suggests that “the terms in *Jacobsen* were appropriately understood as consideration for receiving the software in the first place, whereas the terms in *Blizzard* are not easily or realistically characterized that way.”²¹⁷

²¹¹ *MDY Indus., LLC v. Blizzard Entm’t Inc.*, 629 F.3d 928, 939 (9th Cir. 2010).

²¹² *Id.* at 941.

²¹³ *Cf. La Quinta Corp. v. Heartland Props. LLC*, 603 F.3d 327, 345 (6th Cir. 2010) (“[T]he liquidated damages award fell short of the \$430,000 in lost royalties that Baymond would have received over the remainder of the license term . . .”). Similar sorts of issues may arise in trade secret law as well. Deepa Varadarajan, *The Trade Secret-Contract Interface*, 103 IOWA L. REV. _ (forthcoming 2018).

²¹⁴ Mulligan, *supra* note 210, at 41 (comparing the *Blizzard* case with *Jacobsen v. Katzer*, 535 F.3d 1373, 1379 (Fed. Cir. 2008)).

²¹⁵ Mulligan, *supra* note 210, at 41.

²¹⁶ *Jacobsen*, 535 F.3d at 1381.

²¹⁷ Mulligan, *supra* note 210, at *42.

Although developed in the context of patent licenses, the framework of this article could also be applied to these sorts of issues as well. For example, the end user license agreement in *Blizzard* could be seen as diminishing the underlying copyright exclusive rights, in that it no longer contains the right to exclude the software licensee. The question then becomes whether the license terms prohibiting the use of bots were effective to allow the copyright holder to retain the right to exclude a user who is playing the game using bots. The Ninth Circuit in *Blizzard* held that it was not, and one might rationalize this using the numerus clausus principle, in that it would unduly multiply the forms of copyright if one could grant a licensee the privilege to use the software without the use of bots, while retaining the right to exclude with the use of bots. On the other hand, *Jacobsen* could be explained by the notion that open source or public licenses are a somewhat defined form of copyright that is worth recognizing for reasons of public policy.²¹⁸

CONCLUSION

The “actual use” doctrinal test being employed in the courts is not up to the task of clearly and consistently delineating the extent to which a patent license agreement runs with transferred patents. The question is one of separating an in personam license agreement from the agreement’s effects on underlying in rem intellectual property rights.

In answering such questions, it can be helpful to think of the patent as a bundle of Hohfeldian rights granted by the USPTO. The patent owner, through a license agreement, may diminish the bundle by exchanging sticks in the bundle for other forms of value, but may not enlarge the in rem bundle. When a patent is transferred, what is transferred is whatever remains in the bundle. The in personam contract, that is, the *license agreement*, remains between the two signatories. In close cases, the numerus clausus principle counsels in favor of keeping agreements in personam, but this principle must be balanced against the need to avoid creating incentives for sham transactions or bad faith transfers of patents.

²¹⁸ See *Jacobsen*, 535 F.3d at 1378 (“Public licenses, often referred to as ‘open source’ licenses, are used by artists, authors, educators, software developers, and scientists who wish to create collaborative projects and to dedicate certain works to the public.”); *id.* at 1382 (“Indeed, because a calculation of damages is inherently speculative, these types of license restrictions might well be rendered meaningless absent the ability to enforce through injunctive relief.”).

Conceptualizing patent transfers in this way could add some degree of precision and clarity to the analysis of the effect of prior license agreements on transferred patents, and hopefully facilitate more coherent development of the law going forward. Beyond the context of license agreements, the bundle of sticks conceptualization can also be useful more generally in assessing the extent to which other actions by a prior owner, such as selling patented articles or making FRAND commitments, run with a transferred patent and affect the rights of subsequent owners of the patent.