Formalism and Pragmatism in the Analysis of Damages for Indirect Patent Infringement

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Abstract

Given the importance of secondary liability in patent law and the attention that the law of patent damages has drawn in the last several years, it is surprising and disconcerting that the rules on figuring damages for indirect patent infringement are highly unsettled. Two recent opinions from the Court of Appeals of the Federal Circuit (Federal Circuit) have made directly contradictory pronouncements on the issue of accounting for proven acts of primary, or direct, infringement in calculating damages for indirect infringement. Lucent Technologies v. Gateway held that the extent of directly infringing use of the patent should be viewed as one of many pieces of evidence in figuring the indirect infringer’s liability for money damages ("the evidentiary approach"). In contrast, Cardiac Pacemakers v. St. Jude Medical endorsed a rule that enables trial judges to limit damages as a matter of law to proven, enumerated acts of direct infringement of the asserted patent claims ("the atomistic approach").

The choice of a damages rule is of more than purely academic interest: millions of dollars could be riding on whether the evidentiary or the atomistic approach is followed. Moreover, lurking behind the seemingly mundane question of how much the indirect infringer has to pay are fundamental issues concerning the relationship between patent infringement and general tort law principles. While many commentators have ably covered challenging questions raised by secondary infringement in patent law and other areas of intellectual property law, they have principally focused on the elements of proof of indirect liability and have not treated the issue of remedies. The Article fills this gap. It examines what the legal fiction of formally “imputing” an act of one entity to another—a fundamental tenet of secondary liability in tort—means for patent damages. The answer is surprising: the atomistic approach is consistent with general tort law, but is utterly at odds with well-established rules for figuring patent damages in both direct and indirect infringement contexts. Conversely, the evidentiary approach seems to ignore tort law’s imputation principle and embodies pragmatic, patent-specific rules for figuring damages. The Article resolves the tension in favor of the evidentiary approach, and explains that considerations of policy, logic, and precedent justify a damages calculus that reflects the crucial differences between indirect patent infringement and secondary liability in other areas of tort law.

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I. INTRODUCTION

Secondary liability in various areas of law, sometimes also called “indirect liability,”\(^1\) entails holding a party liable for the wrongdoing of another, “primary” actor—the person who actually carried out the offending act.\(^2\) One familiar example of secondary liability is so-called vicarious liability, which is derived from a special relationship (e.g., agent-principal or employee-employer) between the primary actor and the entity on which such liability is imposed.\(^3\) In contrast, certain affirmative acts that help (in official terminology, “aid and abet”), encourage, induce, or otherwise facilitate the commission of a tort by the primary actor provide another, distinct basis for secondary liability.\(^4\) Whatever the basis, the law treats the indirectly liable party as if it were the person who actually committed the wrong, subject to the same penalties as the primary actor, or “principal”; some courts and commentators explain that acts of the principal are to be viewed as “imputed” to the aider-and-abettor.\(^5\) Criminal law, for example, may punish

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\(^1\) See Doug Lichtman & Eric Posner, Holding Internet Service Providers Accountable, 14 SUP. CT. ECON. REV. 221, 228 n.18 (2006) (discussing various terms used to describe third-party liability).

\(^2\) See Joachim Dietrich, Accessorial Liability in the Law of Torts, 31 LEG. STUD. 231, 231 (2011) (explaining that “accessorial liability is the mechanism by which the law holds a third party (the accessory, A) responsible for ‘legal injury’, often damage, suffered by P as a result of a principal wrongdoer’s wrong, such that A is liable for the legal injury done to P” and noting that “[a]ccessorial liability is sometimes described as ‘secondary liability’, meaning that liability is dependent on another’s primary liability” (emphasis added)). Dietrich goes on to point out an important terminological distinction: “The term ‘secondary liability’ is not appropriate for all cases of accessorial liability, however. Some examples of true accessorial liability have themselves developed into discrete wrongs, such as most examples in which the tort of conspiracy is alleged . . . and perhaps the tort of inducing breach of contract.” Id. (emphasis in original). I use the phrase “independent tort” to denominate “accessorial liability” that is not a form of secondary liability. See, e.g., infra note 338 and accompanying text. See generally Mark P. McKenna, Probabilistic Knowledge of Third-Party Trademark Infringement, 2011 STAN. TECH. L. REV. 10 (discussing the difference between secondary liability for another party’s acts and liability for one’s own negligence that caused or permitted the tortuous conduct of another party).

\(^3\) See KENNETH S. ABRAHAM, THE FORMS AND FUNCTIONS OF TORT LAW 181-82 (2d ed. 2002) (explaining that, under the doctrine of respondeat superior, “employers are vicariously liable, even absent their own negligence, for torts committed by their employees ‘within the scope of employment’”).

\(^4\) See, e.g., Bigio v. Coca-Cola Co., 675 F.3d 163, 171-72 (2d Cir. 2012) (“‘One who aids, abets, or incites, or encourages or directs, by conduct or words, . . . the perpetration of a trespass is liable equally with actual trespassers.’” (quoting Walls v. Moreland Altobelli Assocs., Inc., 659 S.E. 2d 418, 421 (Ga. App. 2008)); Halberstam v. Welch, 705 F.2d 472, 483 (D.C. Cir. 1982) (“To establish a claim against the wife [for civil assault carried out by the husband], the plaintiff would have had to present ‘evidence that she assisted, supported, or supplemented her husband’s action or that she instigated, advised, or encouraged the commission of the tort.’” (quoting Duke v. Feldman, 226 A.2d 345, 348 (Md. 1967))).

\(^5\) See Hazel Carty, Joint Tortfeasance and Assistance Liability, 19 LEG. STUD. 489, 489-90 (1999) (“‘Where there is the necessary participation the law will . . . impute’ the commission of the same wrongful act to two or more persons at once. The key issue is how close these participation links come to rendering facilitators or assisters liable.” (citation omitted)).
an aider-and-abettor of a criminal act to the same degree as “the principal.”

Likewise, tort law relies on the imputation principle when it treats the secondarily actor as jointly and severally liable to the plaintiff along with the primary actor.

The law of patent infringement, a cause of action that is often described as a species of a property tort, incorporates indirect liability provisions. Similar to other areas of law that prescribe such liability, the Patent Act holds indirectly liable those who cause others to infringe or aid in the commission of directly infringing acts. As with secondarily liable parties in other areas of tort law, indirect infringers are jointly and severally liable with direct infringers to the patent owner.

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6 See, e.g., 18 U.S.C. § 2(a) (2012) (“Whoever commits an offense against the United States or aids, abets, counsels, commands, induces or procures its commission, is punishable as a principal.”) (emphasis added).

7 See, e.g., Benton v. Merrill, Lynch & Co., 524 F.3d 866 (8th Cir. 2008) (“[A] party who aids or abets the commission of a tort is “jointly and severally liable therefor” (quoting Hinton v. Bryant, 367 S.W. 2d 442, 444 (Ark. 1963)); Thomson-Houston Elec. Co. v. Ohio Brass Co., 80 F. 712, 721 (6th Cir. 1917) (“From the earliest times, all who take part in a trespass, either by actual participation therein or by aiding and abetting it, have been held to be jointly and severally liable for the injury inflicted.”).

8 See, e.g., Carbice Corp of Am. v. Am. Patents Dev. Corp., 283 U.S. 27, 33 (1931) (“Infringement, whether direct or contributory, is essentially a tort, and implies invasion of some right of the patentee.”); Dowagiac Mfg. Co. v. Minnesota Moline Plow Co., 235 U.S. 641, 648 (1915) (“[T]he exclusive right conferred by the patent was property, and the infringement was a tortious taking of a part of that property.”); see also Thomson-Houston, 80 F. at 721 (“An infringement of a patent is a tort analogous to trespass or trespass on the case.”).

9 See National Presto Indus., Inc. v. West Bend Co., 76 F.3d 1185, 1194 (Fed. Cir. 1996) (“The statutory liability for inducement of infringement derives from the common law, wherein acts that the actor knows will lead to the commission of a wrong by another, place shared liability for the wrong on the actor.”); Charles W. Adams, Indirect Infringement from a Tort Law Perspective, 42 U. RICHMOND L.R. 635, 685 (2008) (“[T]he law of indirect infringement conforms to general tort law for the most part.”).

10 See 35 U.S.C. § 271(b) (2012) (“Whoever actively induces infringement of a patent shall be liable as an infringer.”); id. § 271(c) (establishing the basis for liability as “a contributory infringer”). The focus of this paper is on Section 271(b). It is worth noting that, according to the Restatement (Second) of Torts, there is a difference between and “aiding and abetting” and “inducement.” See Adams, supra note 9, 639-43 (explaining that Section 876(b) of the Restatement provides the basis for “aiding and abetting” liability for “substantial assistance” to the primary tortfeaso while Section 877(a) imposes “inducement” liability on one who “orders or induces” tortuous conduct). For what it is worth, however, the courts generally use the terms “induce” and “aid and abet” interchangeably to refer to indirect patent infringement liability under Section 271(b). See, e.g., Tegal Corp. v. Tokyo Electron Corp. 248 F.3d 1376, 1379 (Fed. Cir. 2001) (“[T]he term [inducement] is as broad as the range of actions by which one in fact causes, or urges, or encourages, or aids another to infringe a patent.”) (quoting Fromberg, Inc. v. Thornhill, 315 F.2d 407, 411 (5th Cir. 1963)); Rodime PLC v. Seagate Tech., Inc., 174 F 3d. 1294, 1306 (Fed. Cir. 1999) (“Inducement requires proof that the accused infringer knowingly aided and abetted another’s direct infringement of the patent.”).


The patent law’s recognized tort pedigree notwithstanding, the factual scenarios one encounters in indirect patent infringement cases can differ quite dramatically from secondary liability cases in general tort law. Cases on aiding-and-abetting and inducement in tort law often involve encouragement or assistance to a specific individual who then goes on to commit an intentional tort. In contrast, a typical scenario in an inducement of patent infringement case involves a corporation selling a product which it knows includes patented technology, along with instructions or other tools that enable a large number of customers to use the product in such a way as to infringe the patent directly (think of familiar items like Microsoft Word, Microsoft Outlook, and Rubik’s Cube). The customers generally have no idea that a patent on the technology exists, let alone that they are infringing it, and are almost never themselves sued by the patent owner.

1464, 1469 (Fed. Cir. 1990) (explaining “joint tortfeasance” theory of inducement of infringement); Thomson-Houston, 80 F. at 721; see also Timothy W. Holbrook, The Intent Element of Induced Infringement, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 399, 400 (2006) (“Liability for active inducement of infringement and contributory infringement are variations of third-party liability, where one party is held liable for the directly infringing acts of others. The justifications for these rules are the same as those used to rationalize joint and several liability elsewhere in tort law.”).

13 See supra note 8 and accompanying text.

14 See, e.g., Halberstam v. Welch, 705 F.2d 472 (D.C. Cir. 1982) (defendant is liable for wrongful death for aiding and abetting a murderer). Of course, there are many examples of indirect liability where the primary act is not violent. See generally Eugene C. Schiltz, Civil Liability for Aiding and Abetting: Should Lawyers Be “Privileged” To Assist Their Clients’ Wrongdoing?, 29 PACE L. REV. 75, 76 (2008) (documenting expansion of secondary liability for assisting fraud, breach of fiduciary duty, and the like); see also Bigio v. Coca-Cola Co., 675 F.3d 163, 171-72 (2d Cir. 2012) (discussing basis for civil liability for aiding and abetting trespass).

15 See, e.g., i4i Ltd. P’ship v. Microsoft Corp., 598 F.3d 831, 850-52 (Fed. Cir. 2010), aff’d, 131 S. Ct. 2238 (2011) (liability for inducement of infringement where online materials provided detailed instructions for using the software feature in infringing manner and defendant’s internal emails suggesting it had knew of the patent and of infringing nature of the software); Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1326-27 (Fed. Cir. 2009) (similar); Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261 (Fed. Cir. 1986) (“circumstantial evidence of extensive puzzle sales, dissemination of an instruction sheet teaching the [claimed] method of restoring the preselected pattern with each puzzle, and the availability of a solution booklet” sufficient for inducement liability for manufacturer of Rubik’s cube where end users directly infringe claimed method by solving the puzzle); see also Global-Tech Appliances, Inc. v. SEB S.A., 131 S. Ct. 2060, 2068-71 (2011) (clarifying requisite level of knowledge of patent for inducement liability to attach).

16 This is because direct infringement under 35 U.S.C. § 271(a) is a strict liability tort. See, e.g., Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1307 (Fed. Cir. 2012) (en banc) (“[D]irect infringement is a strict liability tort. . . .”). See generally Roger D. Blair & Thomas F. Cotter, Strict Liability and its Alternatives in Patent Law, 17 BERKELEY TECH. L.J. 799 (2002) (exploring in what sense is patent infringement a strict liability tort). There is a small nuance in the strict liability standard: If the patent owner or licensee is manufacturing a product covered by a patent, then 35 U.S.C. § 287(a) essentially requires notice to potential infringers by prohibiting recovery of damages during the period where defendant had no notice of infringement, either by actual notice or by the “marking” of the patented product with word “pat.” or “patent” and the patent number. But this requirement obviously does not apply when the patent owner is not manufacturing a product. See Wine Ry. Appliance Co. v. Enter. Ry. Equip. Co., 297 U.S. 387, 398 (1936). Moreover,
owner. In *Lucent Technologies v. Gateway,* an important recent case that I will discuss extensively in this Article, computer users were found to directly infringe the plaintiff’s asserted patent, therefore opening the door for the defendants’ inducement liability. The infringing acts consisted of picking appointment dates and times by clicking on Microsoft Outlook’s calendar display. Most readers who have used this so-called “date-picker” feature of the Outlook calendar would be very surprised if they were served with an infringement complaint.

There are other differences between general secondary civil liability and indirect patent infringement. For one thing, claims of indirect infringement in patent law, and in intellectual property law in general, appear to be asserted much more frequently and to command a significantly greater degree of attention than analogous claims in other areas of tort law. In the well-known case of *Halberstam v. Welch,* Judge Patricia Wald described secondary civil liability tongue-in-cheek as an area of law where “[p]recedent, except in the securities area, is largely confined to isolated acts of adolescents in rural society.” Although secondary civil liability has surely grown in stature since the time that *Halberstam* was decided, there is no doubt that in intellectual property law, including patent law, secondary liability is of relatively greater significance than in general tort law. Some of

Section 287(a) does not apply at all so-called method or process claims. See *Crown Packaging Tech. Inc. v. Rexam Beverage Can Co.,* 559 F.3d 1308, 1316 (Fed. Cir. 2009); see also infra note 53 and accompanying text (explaining method claims). Since method claims are typically at issue in inducement of infringement cases, see infra notes 53-57 and accompanying text, the infringing end user (e.g., a user of software or a Rubik’s cube) will have no notice that he or she is infringing such claims by utilizing the product. Exceptions exist, however. See, e.g., ARSTECHNICA, *Patent Trolls Want $1,000—For Using Scanners,* http://arstechnica.com/tech-policy/2013/01/patent-trolls-want-1000-for-using-scanners (Jan. 2, 2013).

1580 F.3d 1301 (Fed. Cir. 2009).
19 Id. at 1317-20.
20 Id. at 1323. See infra Subpart II.1 for a discussion of the direct infringement element of indirect infringement liability.
22 *Lucent,* 580 F.3d at 1317.
24 See Mark Bartholomew & John Tehranian, *The Divergent Evolution of Secondary Liability in Trademark and Copyright Law,* 21 BERKELEY TECH. L.J. 1363, 1364 (2006) (“As intellectual property owners have increasingly turned to secondary liability theories, the courts have responded by enunciating substantial reinterpretations of extant principles, thereby precipitating a veritable secondary liability revolution.”). Of course, this phenomenon could be new in part due to the challenges in applying tort law principles to new technologies.
25 705 F.2d 472, 489 (D.C. Cir. 1982).
26 See Schiltz, supra note 14, at 76-85 (discussing the “flood of civil aiding and abetting cases in the last quarter century”).
the most important patent, copyright, and trademark cases of recent years have been predicated on theories of indirect infringement. In the area of patents, commentators and courts agree on the important role of indirect infringement causes of action: “[t]he goal of secondary liability is to give patent owners effective protection in circumstances in which the actual infringer either is not the truly responsible party or is impractical to sue.”

Given the heightened importance of secondary liability in intellectual property law, as opposed to general tort law, for vindicating the entity whose rights have been invaded, scenarios found in general tort law might not provide facile analogies to the “aiding-and-abetting” of intellectual property torts such as patent infringement. Perhaps, then, courts should pause before relying too heavily on the formalisms of tort law, such as the principle that the acts of the primary tortfeasor are imputed to the secondarily liable party, in indirect patent infringement cases. The sense that the inducer who provides the enabling technology is the real tortfeasor, while the primary actor is something of a passive instrumentality, may explain some seemingly anomalous results in the arena of secondary liability.

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27 Global-Tech Appliances, Inc. v. SEB S.A., 131 S. Ct. 2060 (2011) (inducement liability for patent infringement); MGM Studios, Inc. v. Grokster, Ltd., 545 U.S. 913 (2005) (inducement liability for copyright infringement); Tiffany (NJ) Inc. v. eBay Inc., 600 F.3d 93 (2d Cir. 2010) (contributory trademark infringement); see also McKenna, supra note 2 (discussing indirect trademark infringement); Alfred C. Yen, Torts and the Construction of Inducement and Contributory Liability in Amazon and Visa, 32 COLUM. J.L. & ARTS 513 (2009) (discussing indirect copyright infringement cases following Grokster).

28 Mark A. Lemley, Inducing Patent Infringement, 39 UC DAVIS L. REV. 225, 228 (2005) (emphasis added). See Holbrook, supra note 12, at 400-01 (“[T]he indirect infringer may be more morally culpable than the direct infringers. Indeed, the inducers may be considerably more culpable in the patent infringement context because direct infringement is a strict liability offense.”); see also Dawson Chem. v. Rohm & Haas Co., 446 U.S. 176, 221 (1980) (“[T]he policy of stimulating invention that underlies the entire patent system runs . . . deep. And the doctrine of contributory infringement, which has been called ‘an expression both of law and morals,’ can be of crucial importance in ensuring that the endeavors and investments of the inventor do not go unrewarded.” (citing Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661, 677 (1944) (Frankfurter, J., dissenting))); Ricoh Co., Ltd. v. Quanta Computer Inc., 550 F.3d 1325, 1338 (Fed. Cir. 2008) (noting that “it may be impossible to enforce rights in the protected work effectively against all direct infringers, the only practical alternative [is] to go against the distributor of the copying device for secondary liability.” (quoting Grokster, 545 U.S. at 929-30) (alteration in original)); Jacob S. Sherkow, Patent Infringement As Criminal Conduct, 19 MICH. TELECOMM. TECH. L. REV. 1, 26 (2012) (“Without inducement, the patent holder is left with the potentially enormous burden of proceeding against the numerous direct infringers who purchased the copied product.” (citation and quotation marks omitted)).

29 See Bartholomew & Tehranian, supra note 24, at 1364.

30 See supra note 5 and accompanying text; see also BLACK’S LAW DICTIONARY 933 (8th ed. 2004) (defining secondary liability as “[l]iability that does not arise unless the primarily liable party fails to honor its obligation.”).

31 Of course, the steps taken to infringe the claims, like solving Rubik’s Cube, are acts driven by independent human will. The point is that, in sharp contrast to “primary” tortfeasors in other civil aiding-and-abetting cases, direct patent infringers generally have no idea that they are engaged in tortious conduct, and are unlikely to get sued.
for intellectual property torts.\textsuperscript{32} For example, in \textit{Akamai Technologies v. Limelight Networks}, the en banc Court of Appeals for the Federal Circuit (the Federal Circuit) rejected direct “joint-tortfeasor” liability when multiple entities together carry out all the steps of patent claim.\textsuperscript{33} The Federal Circuit held that “extending liability in this manner would ensnare actors who did not themselves commit all the acts necessary to constitute infringement and who had no way of knowing that other acted in a way that rendered their collective conduct infringing.”\textsuperscript{34} But the court also, surprisingly, held that inducement of infringement could lie under these circumstances, even without any underlying direct liability.\textsuperscript{35}

Although number of scholars have examined how tort law principles inform secondary liability in intellectual property law,\textsuperscript{36} the issue of damages for such liability remains undertheorized.\textsuperscript{37} Specifically, the principle of formally imputing the acts of the primary tortfeasor to the indirect infringer\textsuperscript{38} has confounded the courts’ management of patent damages.\textsuperscript{39} According to that principle, the plaintiff should recover from the indirect infringer the sum total of the damages that it would have recovered from all direct infringers, had they all been sued instead of the indirect infringer.\textsuperscript{40} Taken to a logical extreme, the imputation formalism might require calculating damages that each direct infringer who has been induced by the secondary infringer (for example, each customer who actually used the date-picker feature of Outlook) would owe the patent owner, and then adding them up to calculate the liability of the indirect infringer. In general

\textsuperscript{32} \textit{Cf.} McKenna, \textit{supra} note 2 (analyzing indirect trademark infringement in terms of terms of traditional tort principles but lamenting that courts frequently depart from these principles).

\textsuperscript{33} Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1307 (Fed. Cir. 2012) (en banc). \textit{See supra} note 52 for an explanation of method claims.

\textsuperscript{34} \textit{Id.}

\textsuperscript{35} \textit{Id.} at 1309.

\textsuperscript{36} \textit{See, e.g.}, Adams, \textit{supra} note 9; Mark Bartholomew & Patrick F. McArdle, \textit{Causing Infringement}, 64 Vand. L. Rev. 675 (2011); Holbrook, \textit{supra} note 12; McKenna, \textit{supra} note 2; Yen, \textit{supra} note 27.

\textsuperscript{37} The problems associated with proving reasonable royalty damages for inducement of infringement are flagged in a recent article by Andrew Ward, \textit{Inducing Infringement: Specific Intent and Damages Calculation}, 94 J. Pat. & Trademark Off. Soc’y 1, 26-29 (2012). Even though the article discusses \textit{Lucent}, it does not address the inducement damages holding in \textit{Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.}, 576 F.3d 1348, 1359 (Fed. Cir. 2009), which is in significant tension with \textit{Lucent} and adopts an approach that I generally criticize in this Article. \textit{See infra} Subpart IV.2.B.c.

\textsuperscript{38} \textit{See supra} notes 5-12 and accompanying text.

\textsuperscript{39} If recent cases are any indication, judicial management of patent damages can make a difference to the tune of tens and potentially hundreds of millions of dollars. \textit{See, e.g.}, Lucent Techs., Inc. v. Gateway, Inc., 837 F. Supp. 2d 1107, 1126-27 (S.D. Cal. 2011), \textit{on remand} from 580 F.3d 1301 (Fed. Cir. 2009) (initial damages award in indirect infringement case reduced from $357,693,056.18 to $70,000,000 after new trial, and further reduced to $26,300,000 plus $14,401,653.81 pre-judgment interest in after judgment as a matter of law).

\textsuperscript{40} \textit{See, e.g.}, Glenayre Elecs., Inc. v. Jackson, 443 F.3d 851, 858-59 (Fed. Cir. 2006) (“[D]amages assessed for indirect infringement normally will be the same as damages that would be assessed had the patentee sued and obtained a judgment against the customers . . . . Indeed, in most cases damages assessed for indirect infringement will be equal to damages assessed for the underlying direct infringement.” (citations omitted)).
tort law, this approach makes intuitive sense: if an inducer trained one thief
to steal a plaintiff’s wallet and another thief to steal that plaintiff’s watch,
the plaintiff suing the inducer on the theory of secondary civil liability for
conversion would seek damages for precisely the sum total of two items
stolen by the two different primary actors, calculating and then adding up the
damages occasioned by each thief. 41 Something seems odd about the
individualized approach in patent cases, however. The relatively large
numbers of direct infringers involved in the Outlook case and many other
indirect patent infringement actions 42 make particularized damages
determinations for each user unmanageable, and maybe even unimaginable.
Indeed, a large, undifferentiated mass of direct infringers is a distinctive
feature of cases involving secondary liability for intellectual property torts. 43
Still, as I will aim to show in this Article, more is at stake than mere
numbers, and one of the goals of this paper is to add to the understanding of
what’s so special about damages for indirect patent infringement.

To be sure, I have not seen a patent infringement case where the
principle of imputation was taken to the formalistic extreme of calculating
indirect infringement damages by adding up the damages occasioned by
each individual end user. Some courts, however, take a step in that direction
and do something similar. In an approach I call the atomistic approach,
which is completely justified by tort law principles but is a bad fit for patent
law, courts have limited damages that can be collected for indirect
infringement to proven acts of direct infringement. 44 A contrasting approach,
which I call the evidentiary approach, simply uses the extent of directly
infringing use as one of the factors in the calculation of damages for indirect
infringement. 45 Let me make clear that I have nothing against judicial
management of patent damages in general. Indeed, motions to limit damages
as a matter of law, or to restrict methods of calculating damages available to
the plaintiff 46—even before the determination of liability—are often proper,
and properly granted.\textsuperscript{47} For reasons I will explain in the paper, however, grants of motions to limit damages for indirect infringement to proven instances of direct infringement are highly problematic. Patent law approaches damages calculations in ways that are quite different from general tort law, and a lot can go wrong if courts hew too closely to general tort principles and tie indirect infringement damages to directly infringing conduct in a formal manner. Indeed, basing such damages on proven acts of direct infringement, all while holding fast to traditional principles for calculating “reasonable royalty”\textsuperscript{48} damages for patent infringement, may be logically incoherent. Something has to give, and I hope to show that, given the choice between rigid adherence to tort law principles and continued reliance of generally accepted approaches specifically developed for calculating patent damages, the latter is preferable.

The rest of this Article proceeds as follows. In Part II, I briefly discuss the requirements for establishing indirect patent infringement liability. In Part III, I review the methods for calculating patent damages that are common to both indirect and direct infringement cases, with an eye toward principles that can aid in understanding the similarities and differences between the evidentiary and atomistic approaches to indirect infringement damages. In Part IV, I describe and critique the two approaches and their variations by explaining two key cases, \textit{Lucent Technologies v. Gateway}\textsuperscript{49} and \textit{Cardiac Pacemakers v. St. Jude Medical}\textsuperscript{50}, which clearly illustrate the contrast between the evidentiary and atomistic approaches, respectively.

In Part V, I explain why the evidentiary approach is better suited to figuring indirect patent infringement damages than the atomistic approach. I argue that the atomistic approach is ultimately likely to create confusion and lead to error, possibly resulting in the systematic underestimation of damages in inducement of infringement cases. I then show that this undesirable result may come about because the atomistic approach is generally at odds with established rules for calculating patent infringement damages, and also discusses the difficulty of meeting the standard for granting summary judgment or judgment as a matter of law under this approach. Moreover, I demonstrate that the evidentiary approach is consistent with the intuition that the invasion of the legal right to exclude is fundamentally caused by the activities of the indirect infringer rather than by the end users. I also explain why the evidentiary approach does not impermissibly extend the cause of action for patent infringement to unpatented items, and examine fact situations where the atomistic approach

\textsuperscript{47} But see Hoffman-La Roche Inc. v. Promega Corp., 33 U.S.P.Q. 2d 1641, 1649 (N.D. Cal. 1994) (denying as premature a motion for summary adjudication of patent damages, which was brought prior to determination of liability).

\textsuperscript{48} See 35 U.S.C. § 284 (2012) ("Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.” (emphasis added)).

\textsuperscript{49} 580 F.3d 1301 (Fed. Cir. 2009).

\textsuperscript{50} 576 F.3d 1348 (Fed. Cir. 2009).
may be appropriate after all. In the Conclusion, I summarize why I believe the atomistic approach is undesirable as a policy matter.

II. PRINCIPLES OF INDIRECT PATENT INFRINGEMENT

The Patent Act provides for two types of indirect infringement liability—inducement of infringement under Section 271(b) and contributory infringement under Section 271(c). The former section says that, “[w]hoever induces infringement of a patent shall be liable as an infringer.”\(^{35}\) Often, plaintiffs must rely on indirect infringement liability theories when they seek to enforce so-called method claims\(^{52}\) and are unable to show that the defendant has itself actually carried out all the steps of the claimed method.\(^{53}\) Indeed, an archetypal factual scenario in inducement cases entails sales of devices\(^{54}\) capable of performing a claimed method, accompanied by instructions to use the device in a manner that, if followed, would result in


\(^{52}\) Briefly, method or process claims have the form “a method for . . .”, followed by a recitation of steps that would have to be carried out to infringe the claim process. In contrast, apparatus or machine claims have the form “an apparatus for . . .”, “a device comprising . . .”, and so on, followed by a recitation of the structural elements of the claimed apparatus, machine, or device. See also Dmitry Karshtedt, Limits on Hard-To-Reproduce Inventions: Process Elements and Biotechnology’s Compliance with the Enablement Requirement, 3 HASTINGS SCI. & TECH. L.J. 109, 118 (2011) (illustrating method and apparatus claims). For example, in Moleculon, the Rubik’s cube case cited supra at note 15, one of the asserted method claims reads:

“3. A method for restoring a preselected pattern from sets of pieces which pieces have constantly exposed and constantly nonexposed surfaces, the exposed surfaces adapted to be combined to form the preselected pattern, which sets when in random engagement fail to display said preselected pattern which comprises:

a. engaging eight cube pieces as a composite cube;

b. rotating a first set of cube pieces comprising four cubes about a first axis;

c. rotating a second set of four cubes about a second axis; and

d. repeating steps (b) and (c) until the preselected pattern is achieved.”

Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1263 (Fed. Cir. 1986). If the plaintiff cannot show that the defendant, who manufactures Rubik’s Cube, actually carried out steps (a)-(d), it cannot establish direct infringement liability against the defendant under 35 U.S.C. § 271(a), and only indirect infringement theories (e.g., inducement under Section 271(b)) remain.

\(^{53}\) No such difficulty usually exists with apparatus claims, see infra note 52, because the sale of the apparatus embodied in the claims constitutes an act of infringement under Section 271(a), for which the manufacturer could be held directly liable. See, e.g., Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1305-06 (Fed. Cir. 2012) (en banc) (“When claims are directed to a product or apparatus, direct infringement is always present, because the entity that installs the final part and thereby completes the claimed invention is a direct infringer. But in the case of method claims, parties that jointly practice a patented invention can often arrange to share performance of the claimed steps between them.”) (emphasis added)). While Akamai addressed the special problem of “divided infringement”—i.e., splitting of steps of a method claim between different entities—in a run-of-the-mill inducement case against a manufacturer, some directly infringing end user carries out all the steps of the claimed method.

\(^{54}\) Of course, “device” is not limited to tangible devices like Rubik’s Cube. As we have already seen, the “device” in question can be software capable of performing the claimed method. See supra note 42 and accompanying text.
infringement. For example, in the Outlook date-picker case, the plaintiff did not demonstrate that Microsoft used its own software to infringe the claims of Lucent’s patent, but provided enough evidence to show that the users of Outlook did so and proved other elements of inducement so as to hold Microsoft liable as an indirect infringer.

Section 271(c), a more complex provision, holds liable those who sell or offer for sale in the United States (or import into the United States) components of patented inventions that “constitut[e] a material part of the invention” with the knowledge that such components are “especially made or especially adapted for use in an infringement.” Further, for contributory infringement liability to lie, the accused component must not be “a staple article or commodity of commerce suitable for substantial noninfringing use.” By its terms, this provision is not limited to sales of components of mechanical inventions; for example, one case where contributory infringement was pled successfully involved the defendant’s sale of a chemical compound that had no application but in the infringement of the method patented by the plaintiff. This description points up a key distinction between contributory infringement and inducement: sale of a component capable of substantial noninfringing uses cannot give rise to Section 271(c) liability, but Section 271(b) liability would still be possible if the accused indirect infringer’s conduct and state of mind have risen to the level of inducement. The focus of this paper is on inducement of infringement. Inducement scenarios provide the interesting situation where a liability lies when a product can be, and often is, used in a noninfringing matter. This situation tests, and sometimes strains, the connection between direct and indirect infringement in the analysis of damages.

Generally speaking, the elements required to establish secondary liability are “(1) the existence of an underlying tort; (2) the defendant’s knowledge of the underlying tort; and (3) that the defendant provided

55 See supra note 15 and accompanying text.
56 See supra note 21 and accompanying text.
57 Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1317-19 (Fed. Cir. 2009); see also infra Subpart III.1 (discussing the direct infringement element of indirect infringement).
58 Lucent, 580 F.3d at 1321-23. Microsoft was also held liable on the alternative theory of contributory infringement. Id. at 1320-21; see also infra notes 59-62 and accompanying text.
60 Id.
62 See infra Subparts II.2 and II.3 (discussing the intent element and act element of inducement of infringement, respectively).
63 One of the best-known cases having facts that gave rise to inducement liability but not contributory infringement liability is a actually copyright case, which incidentally affirmed that indirect infringement claims in copyright law can be pursued on bases similar to those provided in Sections 271(b) and 271(c) of the Patent Act. See MGM Studios, Inc. v. Grokster, Ltd., 545 U.S. 913, 937 (2005) (holding that even substantial noninfringing uses exist for peer-to-peer file sharing service, defendant is indirectly liable for copyright infringement under the “inducement rule,” which “premises liability on purposeful, culpable expression and conduct’’); see also id. at 940 n.13 (“[T]he culpable act is not merely the encouragement of infringement but also the distribution of the tool intended for infringing use.”).
substantial assistance to advance the underlying tort’s commission.” So it is in patent law, which has normally required proof of underlying direct infringement, knowledge of the direct infringement (or, for inducement, knowledge of, or at least willful blindness to, the fact that the directly infringing conduct constitutes patent infringement), and acts taken in furtherance of inducing or aiding infringement. The recently decided Akamai case alluded to in the Introduction has eliminated or at least modified the “underlying direct infringement” element in the scenario of “divided infringement” of method claims. The Federal Circuit held that, even though no direct infringement liability can lie when two or more unrelated entities carry out the steps of a claimed method, inducement liability is still possible when the defendant has either (a) carried out some of the steps of the claimed method itself and induced another entity to perform the remaining steps of the claim or (b) induced two or more entities to carry out, between them, all the steps of the claimed method. Focusing on inducement of infringement, I will next consider each element of indirect patent infringement in turn, starting with the direct infringement element and further examining the impact of the controversial Akamai decision on this element.

1. The direct infringement element

I think that some of the confusion over indirect infringement damages stems from the role that proven acts of direct infringement play in determining liability in indirect infringement cases. As sketched out above, consonant with other areas of law governing secondary liability, a generally required element for finding indirect patent infringement is the presence of primary liability; in patent law, that is direct or primary infringement. Courts agree that, in order to prove indirect infringement, the showing of

64 Bigio v. Coca-Cola Co., 675 F.3d 163, 172 (2d Cir. 2012) (alterations and citations omitted) (stating the elements of civil aiding and abetting liability under New York common law).
65 See 35 U.S.C. § 271(c) (mandating proof of the element of “knowing” that a component is “especially made or especially adapted for use in an infringement of . . . patent” in proof of contributory infringement).
67 The following formulation, provided in a jury instruction approved in DSU Med Corp. v. JMS Co., Ltd., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (en banc in relevant part), is typical: “In order to induce infringement, there must first be an act of direct infringement and proof that the defendant knowingly induced infringement with the intent to encourage the infringement. The defendant must have intended to cause the acts that constitute the direct infringement and must have known or should have known than [sic] its action would cause the direct infringement. Unlike direct infringement, which must take place within the United States, induced infringement does not require any activity by the indirect infringer in this country, as long as the direct infringement occurs here.”
68 See supra note 53 and accompanying text; see also Mark A. Lemley et al., Divided Infringement Claims, 33 AIPLA Q.J. 255, 283 (2005) (explaining the problem of divided infringement).
69 See Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1308-10 (Fed. Cir. 2012) (en banc). In such a scenario, direct infringement liability is possible only when there is an agency relationship between the two entities, or one entity has an obligation (such as a contractual duty) to control the other. Id. at 1307.
70 Id. at 1308-10.
71 See supra notes 64-67 and accompanying text.
primary infringement need only be de minimis.\textsuperscript{72} One Federal Circuit opinion stated, simply, that “inducement [of infringement] requires a \textit{threshold finding} of direct infringement,”\textsuperscript{73} and a leading patent trial judge characterized “evidence of direct infringement” as a “\textit{technical hurdle} to establishing indirect infringement.”\textsuperscript{74} As discussed above, the \textit{Akamai} case eliminated even this minimal requirement in divided infringement cases.\textsuperscript{75} To be sure, \textit{Akamai} did not completely divorce inducement infringement from direct infringement—defendants’ mere acts of encouragement of infringing steps are not enough to establish liability, as the plaintiff must still show that all the steps of the claimed method have actually been carried out by a combination of entities.\textsuperscript{76} Still, \textit{Akamai} makes clear that inducement of infringement does not always hinge on the presence of direct infringement as defined in Section 271(a).\textsuperscript{77}

The relationship between proven acts of direct infringement and damages for indirect infringement is far more complex, and damages analyses in some cases have complicated the normally straightforward treatment of direct infringement as a threshold requirement for indirect liability. As will be seen below, some opinions blur the distinction between liability and damages; before reaching the question of damages, these cases appear to treat indirect liability as something like a series of discrete instances of indirect infringement that map onto specific directly infringing acts.\textsuperscript{78} I will explain that, even pre-\textit{Akamai}, this approach was bad policy;\textsuperscript{79} perhaps, however, some courts thought that this position was compelled by the formal application of the imputation principle.\textsuperscript{80} Now that, post-\textit{Akamai}, inducement of infringement has become somewhat unhinged from direct infringement—how can one even calculate damages for directly infringing conduct when direct infringement liability is not possible?\textsuperscript{81}—there is even less of a reason to rigorously tie indirect infringement damages to the conduct of direct infringers.

\textsuperscript{72} To be sure, in some cases, litigants failed to make even the required \textit{de minimis} showing, so the requirement is far from being an empty one. See, e.g., \textit{Mirror Worlds LLC v. Apple, Inc.}, 692 F.3d 1351, 1359 (Fed. Cir. 2012); \textit{ACCO Brands, Inc. v. ABA Locks Mfr. Co., Ltd.}, 501 F.3d 1307, 1313 (Fed. Cir. 2007); \textit{Dynacore Holdings Corp. v. U.S. Phillips Corp.}, 363 F.3d 1263 (Fed. Cir. 2004).

\textsuperscript{73} \textit{Exergen Corp. v. Wal-Mart Stores, Inc.}, 575 F.3d 1312, 1321 (Fed. Cir. 2009) (emphasis added).

\textsuperscript{74} \textit{Rambus Inc. v. Hynix Semiconductor Inc.}, 642 F. Supp. 2d 970, 989 (N.D. Cal. 2008) (Whyte, J.) (emphasis added).

\textsuperscript{75} See supra notes 68-70 and accompanying text. Interestingly, a case decided shortly after \textit{Akamai} still recited the requirement that underlying direct infringement is a prerequisite for finding indirect infringement. \textit{Mirror Worlds}, 692 F.3d at 1360.

\textsuperscript{76} \textit{Akamai Techs., Inc. v. Limelight Networks, Inc.}, 692 F.3d 1301, 1308-10 (Fed. Cir. 2012) (en banc).

\textsuperscript{77} Id. at 1314.

\textsuperscript{78} See supra notes 38-44 and accompanying text (calling this the “atomistic” approach). See infra Subpart IV.2 (further explaining the atomistic approach).

\textsuperscript{79} See infra Part V.

\textsuperscript{80} See supra notes 5-7, 38-40 and accompanying text.

\textsuperscript{81} In her dissent in \textit{Akamai}, Judge Newman points out the conundrum, sanctioned by the majority, of having to figure out remedies against an indirect infringer that are unhinged from direct liability. \textit{Akamai}, 692 F.3d at 1330-32 (Newman, J., dissenting). As I note infra at notes 343-345, however, existing remedial approaches against indirect infringers already, in some way, contemplate bypassing the direct infringer and focusing primarily on the conduct of the indirect infringer.
2. The intent element

The principal difference between proving direct rather than indirect infringement is that the former is a strict liability offense, while both secondary infringement theories require a culpable state of mind. The level of mens rea required for inducement liability had been a subject of ongoing debate among courts and commentators, and the Global-Tech v. SEB case settled this debate by holding that the indirect infringer’s knowledge of, or willful blindness to, the fact that the direct infringer is actually infringing the plaintiff’s patent is required for liability—a high hurdle indeed. In addition, “defendant must have intended to cause the acts that constitute the direct infringement.” Rightly or wrongly, this formulation appears to be consistent with common law requirements of secondary liability in general tort law. At least in some jurisdictions, elements of secondary liability at common law include “knowledge that the primary wrongdoer owed the plaintiff a duty” and a showing that “the defendant acted to procure a breach of the primary wrongdoer’s duty to the plaintiff.”

82 See supra note 16 and accompanying text.
83 See supra notes 63-66 and accompanying text.
84 The two principal Federal Circuit cases that seemed to require different elements of proving the mental state element of inducement, Manville Sales Corp. v. Paramount Sys., Inc., 917 F.2d 544 (Fed. Cir. 1990), and Hewlett-Packard Co. v. Bausch & Lomb, Inc., 909 F.2d 1464 (Fed. Cir. 1990), have been cited in 171 and 103 law review articles, respectively, as of the time of this writing. (These numbers are according to a Westlaw keycite search, with the caveat that Manville was also significant in the law of the Section 102(b) on-sale bar.) In 2006, the issue was addressed by the en banc Federal Circuit in DSU Med Corp. v. JMS Co., Ltd., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (en banc in relevant part), and the Supreme Court finally made a definitive pronouncement on the requisite level of knowledge for a finding of inducement in the Global-Tech case in 2011. See infra note 85.
86 For a sampling of recent articles criticizing the standard ultimately adopted, see Soobok Lee, Note, Induced Infringement As a Strict Liability Claim: Abolishment of the Specific Intent Requirement, 4 HASTINGS SCI. & TECH. L.J. 381 (2012) (arguing that inducement claims should be strict liability); Jason A. Rantanen, An Objective View of Fault in Patent Infringement, 60 AM. U.L. REV. 1575 (2011) (criticizing subjective mental state requirements for inducement imported from tort law and calling for an objective standard); Sherkow, supra note 28 (criticizing the SEB “willful blindness” standard imported from criminal law); Ted Sichelman, Minding Patent Infringement, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1734380 (arguing that that intent to induce the infringing acts is sufficient for inducement, and knowledge that the acts constitute infringement is not required).
87 DSU, 471 F.3d at 1305.
88 Others, for example Rantanen, have criticized the importation of general tort law mental state requirements for secondary liability standards into patent law. See supra note 86. While I do not deal extensively with the issue of mental state, which has been extensively and ably covered by others, I do discuss the application of general tort law’s causation principles infra at Subpart V.4.
3. The act element

In general, the plaintiff must prove some affirmative conduct on the part of the accused infringer to meet the “actus reus” element of indirect infringement. For infringement under Section 271(c), the statute contemplates the acts of an “offer to sell,” “sale,” and “import.” For Section 271(b), courts have made it clear that the “actively induces” language of the statute requires affirmative acts on the part of indirect infringer, such as providing instructions “which, if followed, would result in infringement.” There is no such thing as “passive” inducement.

In an article on indirect liability for intellectual property infringements, Mark Bartholomew likens inducement of infringement to accomplice liability in criminal law, which is concerned largely with the mens rea of the defendant and requires very little in the way of an outward act to satisfy the actus reus element of the crime. Focusing on the Grokster case, in which a provider of a peer-to-peer file sharing service was held secondarily liable for copyright infringement, Bartholomew points out that the actus reus requirement is similarly de-emphasized for inducement of intellectual property infringement. This is the case because, like accomplice liability, “inducement infringement punishes people for their outward expressions of commitment to unwrap values.” Calling this a “causation-free” form of liability, Bartholomew notes that inducement liability will lie in “a scenario where the defendant tries to encourage the direct infringer’s illegal activity, but the direct infringer misses the defendant’s cues or already has its mind made up and does not need any additional egging on to commit the act of infringement.”

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90 See, e.g., Warner-Lambert Co. v. Apotex Corp., 316 F.3d 1348, 1364 (Fed. Cir. 2003) (“Specific intent and action to induce infringement must be proven.” (citing Manville, 917 F.2d at 554) (emphasis added)); Fromberg, Inc. v. Thornhill, 315 F.2d 407, 411 (5th Cir. 1963) (“Inducement has connotations of active steps knowingly taken—knowingly at least in the sense of purposeful, intentional, as distinguished from accidental or inadvertent.”).
92 Trevor J. Smedley & Ross A. Dannenberg, Enforceability of Machine Patents in Virtual Worlds, 13 J. INTERNET LAW 1, 7 (2010); see, e.g., Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261 (Fed. Cir. 1986). Other examples of acts sufficient to support a finding of inducement include “[a]vertising or promoting the use of a product in an infringing manner; . . . [p]roviding indemnification against infringement damages; and . . . [s]upplying or selling a product, knowing it will be used in an infringing manner.” Smedley & Dannenberg, supra, at 7 (collecting cases).
93 See Lemley, supra note 28, at 232 n. 34.
94 See Mark Bartholomew, Cops, Robbers, and Search Engines: The Questionable Role of Criminal Law in Contributory Infringement Doctrine, 2009 BYU L. REV. 783, 806 (“The actus reus requirement is of secondary importance as compared to the mens rea standard [in criminal law]. As one court of appeals remarked, it ‘does not take much to satisfy’ the actus reus standard in an accomplice liability case. ‘The most trivial assistance is sufficient basis to render the secondary actor accountable for the actions of the primary actor.’ ‘Proof of any form of participation’ is enough to support a conviction for accomplice liability, provided the requisite mental state has been established.” (citations omitted)).
95 Id. at 842.
96 Id. at 841.
97 Id. at 840.
Although Bartholomew may be right in that the legally required level of activity for meeting the actus reus element of inducement is minimal, we have already seen that, in many Section 271(b) cases, the inducing acts in fact turn out to be quite significant. These acts include providing instructions, training, advertising, and the like, that encourage the use of product (of course, also supplied by the inducer) to be used in an infringing manner.\textsuperscript{98} Thus, in contrast to the “causation-free” scenarios discussed by Bartholomew, the facts of many inducement of patent infringement cases reveal a tight causal link between the acts of the inducer and damage to the plaintiff. I argue below that the nature of inducing acts and the manner in which they cause infringement to occur should inform approaches to inducement of infringement damages.\textsuperscript{99}

4. Putting it all together

For now, the overall story seems relatively simple. Some idiosyncratic tweaks aside, liability for indirect patent infringement appears to look a lot like general civil secondary liability. Secondary patent infringement liability parallels secondary liability in tort law in their requirements of the underlying primary tortuous act, the knowing state of mind of the inducer, and an overt act of inducement of or substantial assistance to the primary tortfeasor. The general tort-patent analogy, however, breaks down when it comes to their respective approaches to figuring damages. In many patent infringement cases, the fact-finder is asked to construct a commercial transaction between the litigants and come up with the so-called “reasonable royalty”\textsuperscript{100} measure of damages for a defendant’s “use” of the patented invention. While tort law parallels to this sort of analysis do exist—the calculation of the market rental value of the imposed-upon land in trespass cases comes to mind\textsuperscript{101}—the approach to figuring damages in patent law has a life all its own, relying on specialized principles not commonly encountered in the law of tort damages.\textsuperscript{102}

\textsuperscript{98} See supra notes 15 and 92 and accompanying text.

\textsuperscript{99} See infra Subpart V.4.

\textsuperscript{100} See 35 U.S.C. § 271(c).

\textsuperscript{101} See generally Gideon Parchomovsky & Alex Stein, Reconceptualizing Trespass, 103 NW. U.L. REV. 1823 (2009); see also Sirko Harder, Measuring Damages in the Law of Obligations 191-94 (2010). The concept of market value, to be sure, is a bit difficult to apply in the patent context because each patent represents a unique (i.e., novel and non-obvious) invention. As expressed by Justice Cardozo in Sinclair Ref. Co. v. Jenkins Petroleum Process Co., “[t]his is not a case where the recovery can be measured by the current prices of a market. A patent is a thing unique. There can be no contemporaneous sales to express the market value of an invention that derives from its novelty its patentable quality.” 289 U.S. 689, 697 (1933) (citations omitted).

\textsuperscript{102} Of course, there are many other significant differences between patent law and general tort law. For one thing, “[i]n patent law, unlike in other areas of tort law—where the victim has no ability to define the injurious conduct upfront—the patentee specifically defines the boundaries of his or her exclusive rights in the claims appended to the patent and provides notice thereby to the public to permit avoidance of infringement.” Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1350 (Fed. Cir. 2012) (Linn, J., dissenting). How well claims define patent rights remains a highly controversial question. See, e.g., Tun-Jen Chiang, Fixing Patent Boundaries, 108 Mich. L. Rev. 523, 525 (2010) (discussing problems with the notice function of claims); Dan L. Burk & Mark A. Lemley, Fence Posts or Sign
When determining money damages in patent infringement actions, fact-finders must imagine that parties could have, at least theoretically, negotiated over the value of the invaded right and query what the outcome of the negotiation would have been.\(^{103}\) While a similar assumption may underlie “hypothetical-fee”\(^{104}\) damages for trespass to land,\(^{105}\) cases involving property tort damages are hardly an appropriate model for, say, the Outlook date-picker case.\(^{106}\) Indeed, the factual scenario of “inducement of trespass” to land,\(^{107}\) and particularly of one party’s inducement of a multitude of trespasses, is extremely rare.\(^{108}\) And so we are left with the questions of how to apply specialized patent damages doctrines to indirect infringement cases, and whether general tort law helps with this endeavor. It is to the issue of patent damages and its language of “reasonable royalty,” “hypothetical negotiation,” and “the book of wisdom” that we now turn.

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\(^{103}\) \textit{See generally infra} Part III.2. It is much more difficult to imagine this kind of a negotiation when figuring damages for accidents. \textit{See generally} Randall R. Bovbjerg, Frank A. Sloan & James F. Blumstein, \textit{Valuing Life and Limb in Tort: Scheduling “Pain and Suffering,”} 83 N.W. U.L. REV. 908 (1989). \textit{But see} Daryl Biggar, 15 INT. REV. L. ECON. 1, 3-4 (1995) (“According to theory, the correct measure of the harm to the victim is the amount that the victim would have accepted ex ante to be induced to voluntarily undergo the injury. Just as some individuals value certain goods more highly than others, some individuals will be willing to pay more to avoid a certain injury than others. One individual might not willingly submit to a particular injury for anything less than $30,000 while another might refuse the injury unless offered $300,000.” (citations omitted))


\(^{105}\) Parchomovsky and Stein, in fact, believe that “market value” compensation for trespass to land does not adequately account for the invasion of the property right, though they focus on deliberate trespasses where a “negotiation” is more than merely a theoretical possibility. \textit{See} Parchomovsky & Stein, \textit{supra} note 101, at 1832-35. These authors note: “[T]he trespasser [in some scenarios] can almost always negotiate a transaction with the owner before trespassing. The owner’s harm from a continuous trespass is different in kind from ordinary tort damages. This harm includes more than just a temporary occupation of the owner’s property, damage to her land and fixtures, the cost of removing the trespass, and the psychological harm suffered from all of the above. It also includes the violation of the owner’s right to exclude others.” \textit{Id.} at 1834.

\(^{106}\) \textit{See supra} notes 18-22 and accompanying text.

\(^{107}\) \textit{See} Bigio v. Coca-Cola Co., 675 F.3d 163, 171-72 (2d Cir. 2012) (collecting cases, some of which, however, use “trespass” in the general sense of “trespass on the case” rather than trespass to land).

III. PRINCIPLES OF PATENT DAMAGES

1. The Patent Act, reasonable royalty, and lost profits

The remedies sections of the Patent Act do not distinguish between direct and indirect infringement; there are no separate rules for issuing injunctions or calculating damages for inducement of infringement or contributory infringement to be found in 35 U.S.C. § 283 or § 284. Section 284 states simply that “the court shall award the claimant damages adequate to compensate for the infringement but in no event less than a reasonable royalty for the use made of the invention by the infringer,”\(^\text{109}\) indirect or direct. This statutory reasonable royalty provision, which places a floor on the amount of monetary damages to be collected in patent infringement cases,\(^\text{110}\) has been interpreted by many courts to call on the fact-finder to simulate a hypothetical licensing negotiation between the litigants.\(^\text{111}\) This approach triggers a highly fact-intensive inquiry,\(^\text{112}\) where the fact-finder must reconstruct what the parties’ positions would have been when infringement began\(^\text{113}\) and figure out the royalty terms of a patent license they would have entered into had there been a negotiation over the patented technology.\(^\text{114}\)

The lost profits method, a different approach to measuring patent infringement damages, requires “determin[ing] the sales and profits lost to the patentee because of the infringement.”\(^\text{115}\) This approach is used less commonly than the reasonable royalty method because it essentially requires the plaintiff to be a commercially active entity\(^\text{116}\) and presents some

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\textsuperscript{110} See Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc., 750 F.2d 1552 (Fed. Cir. 1984) (“A reasonable royalty thus is not necessarily the measure of damages, but ‘is merely the floor below which damages shall not fall.’” (citing Bandag, Inc. v. Gerrard Tire Co., Inc., 704 F.2d 1578, 1583 (Fed. Cir. 1983))).

\textsuperscript{111} See Eric E. Bensen & Danielle M. White, Using Apportionment to Rein in the Georgia-Pacific Factors, 9 Colum. Sci. & Tech. L. Rev. 1, 27 (2008) (“The most common approach taken by courts in determining a reasonable royalty is a ‘hypothetical negotiation[] between willing licensor and willing licensee.’” (citing Wang Labs., Inc. v. Toshiba Corp., 993 F.2d 858, 870 (Fed. Cir. 1993))).


\textsuperscript{113} See, e.g., Hanson v. Alpine Valley Ski Area, Inc., 718 F.2d 1075, 1079 (Fed. Cir. 1983) (citing Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1158 (6th Cir. 1978)).

\textsuperscript{114} Formally, the trier of fact is asked to determine both the royalty rate and the royalty base as subsidiary findings in the reasonable royalty analysis. In some cases, however, the trier of fact can also award a lump-sum royalty. See infra notes 127-128 and accompanying text.

\textsuperscript{115} Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1545 (Fed. Cir. 1995) (en banc) (citing Del Mar Avionics, Inc. v. Quinton Instrument Co., 836 F.2d 1320, 1326 (Fed. Cir. 1987)).

difficulties of proof, though it typically results in a higher recovery than the reasonable royalty measure. These two methods, and their combination, are generally available to plaintiffs in both direct and indirect patent infringement cases. Because the reasonable royalty method is the dominant approach to calculating patent damages, and is indeed the only one which, by statute, is available in all cases, this Article will focus on reasonable royalty.

2. Reasonable royalty: hypothetical negotiation, book of wisdom, royalty rate, and royalty base

A. The basic principles

The purpose of the reasonable royalty provision is to measure the harm done to the patentee’s “right to exclude” by the acts of patent infringement, such as by the making, using, or selling of items—sometimes called “accused products”—that embody one or more claims of the patent in suit. As discussed above, the hypothetical negotiation approach is the

(“The fundamental question for determining whether a patentee can obtain lost profits is whether the patentee can demonstrate with reasonable probability that, but for the infringement, the patentee would have made the sales that were made by the infringer.” (emphasis added) (citing Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152 (6th Cir. 1978))).

See CRAIG ALLEN NARD & R. POLK WAGNER, PATENT LAW 210 (2007) (“[P]roving lost profits is a difficult business, and in some cases patentees will simply be unable to prove what ‘would have happened’ absent infringement; in these cases a reasonable royalty award is the only possibility.”).

Dennis S. Corgill, Competitive Injury and Non-Exclusive Patent Licenses, 71 U. PITT. L. REV. 641, 652 (2010) (“The general wisdom . . . is that lost profits damages will be greater [than reasonable royalty damages].” (citing F. SCOTT KIEFF, PAULINE NEWMAN, HERBERT F. SCHWARTZ & HENRY E. SMITH, PRINCIPLES OF PATENT LAW 1324 (4th ed. 2008))); Mark A. Lemley, Distinguishing Lost Profits from Reasonable Royalty, 51 WM. & MARY L. REV. 655, 661 n.32 (2009) (providing an economic explanation for the difference in plaintiffs’ recovery between the two methods)). But see Monsanto Co. v. McFarling, 488 F.3d 973, 978-80 (Fed. Cir. 2007) (reasonable royalty damages awarded are more than six times plaintiff lost profits once “benefit conferred” on defendant is considered); see also Powell v. Home Depot U.S.A., Inc., 663 F.3d 1221, 1238-39 (Fed. Cir. 2011) (“While either the infringer’s or the patentee’s profit expectation may be considered in the overall reasonable royalty analysis, neither is an absolute limit to the amount of the reasonable royalty that may be awarded upon a reasoned hypothetical negotiation analysis.”).

See State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1577 (Fed. Cir. 1989) (“[T]he award may be split between lost profits as actual damages to the extent they are proven and a reasonable royalty for the remainder.”); Lawrence M. Sung, Patent Infringement Remedies, in INTELLECTUAL PROPERTY AND INFORMATION WEALTH: ISSUES AND PRACTICES FOR THE DIGITAL AGE 171 (Peter K. Yu ed., 2007) (“[P]atent law permits damages awards to encompass both lost profits and a reasonable royalty on that portion of an infringer’s sales not included in the lost profits calculation.”).

I do believe that the atomistic approach is incorrect when lost profits is a measure of damages, although for different reasons than the reasonable royalty. See infra note 359 and accompanying text.

35 U.S.C. § 154 (2012) (A patent grant provides “the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States.”).

See supra notes 111-125 and accompanying text.
most common way to determine the reasonable royalty within the meaning of Section 284. The Federal Circuit explained that “[a] reasonable royalty calculation envisions and ascertains the results of a hypothetical negotiation between the patentee and the infringer at a time before the infringing activity began. Thus, the reasonable royalty calculus assesses the relevant market as it would have developed before and absent the infringing activity.”\(^\text{123}\) In an important recent case, \textit{Uniloc USA v. Microsoft Corp.},\(^\text{124}\) the Federal Circuit reaffirmed the principle that the hypothetical negotiation analysis aims to guide the fact-finder toward arriving at commercially reasonable license terms that would serve as the basis for statutory reasonable royalty damages.\(^\text{125}\)

In determining the reasonable royalty, the trier of fact is invited to consider a non-exclusive list of 15 so-called \textit{Georgia-Pacific} factors, which presumably reflect considerations that the parties negotiating a patent license would take into account.\(^\text{126}\) These factors\(^\text{127}\) are intended to help the trier of fact come up with a royalty rate, which can then be multiplied by the number of infringing sales of the accused product (i.e., the royalty base) to achieve the final damages figure.\(^\text{128}\) The overall approach is counterfactual—after


\(^{\text{124}}\) 632 F.3d 1292 (Fed. Cir. 2011).

\(^{\text{125}}\) \textit{Uniloc} held that the so-called “25% rule of thumb,” under which the reasonable royalty damages are typically calculated as “25 per cent of [the infringer’s] expected profits for the product that incorporates the IP at issue,” \textit{id}. at 1312 (quoting John Jarosz & Carla Mulhern, \textit{Use Of The 25 Per Cent Rule in Valuing IP}, 37 \textit{les Nouvelles} 123, 123 (Dec. 2002)), should be discarded because the rule is inconsistent with the hypothetical negotiation approach. After stating that “a reasonable royalty is often determined on the basis of a hypothetical negotiation, occurring between the parties at the time that infringement began,” \textit{id}. at 1312 (citing Wang Labs. Inc. v. Toshiba Corp., 993 F.2d 858, 869-70 (Fed. Cir. 1993)), the court held that “the rule is essentially arbitrary and does not fit within the model of the hypothetical negotiation within which it is based.” \textit{Id}. at 1313. To be sure, there are assumptions within the hypothetical negotiation framework that are not completely commercially reasonable, reflecting the fact that the “license terms” are arrived at in litigation and not in the course of an arms-length negotiation. See infra notes 135-140 and accompanying text.


\(^{\text{127}}\) The \textit{Georgia-Pacific} factors include “the rates paid by defendant “for the use of other similar patents”; commercial relationship between plaintiff and defendant, “such as whether they are competitors in the same territory in the same line of business”; “[t]he established profitability of the product made under the patent; its commercial success; and its current popularity”; “[t]he utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results”; “the nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention”; “[t]he extent to which the infringer has made use of the invention; and any evidence probative of the value of that use”; and “[t]he portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.” \textit{Id}.

\(^{\text{128}}\) Sometimes, however, the \textit{Georgia-Pacific} hypothetical negotiation approach produces a lump-sum royalty figure rather than a combination of a royalty rate and a royalty base. See, \textit{e.g.}, Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1325-28
all, the parties would not have been in litigation had they entered into a license—and one court colorfully described the hypothetical negotiation analysis as requiring the “talents of conjurer rather than a judge.” 129 Indeed, while the approach simulates the terms that a willing licensor would have agreed upon with a willing licensee, obviously no actual license was in place and it is possible that the patent owner would not have been unwilling to license the patent at all.130

Another challenge of the hypothetical negotiation approach is its temporal aspect. In addition to having to figure out how the parties in litigation would have approached the negotiation had there been no infringement, the fact-finder must imagine the negotiation at the time the infringement began,131 not at the time of litigation. To be sure, the fact-finder is not required to completely ignore events that occur after the initial instance of infringement.132 This “post-negotiation” information, such as the extent of the adoption of the accused product, may constitute a valuable “book of wisdom”133 informing the trier of fact about how the parties would have valued the patented invention at the time of the hypothetical negotiation. Nevertheless, the Federal Circuit has found in several cases that the trier of fact overvalued the patented invention by looking only at the extent of infringing use and failing to “go back in time” and consider how the parties would have approached the licensing negotiation at the time of the first infringement.134

(Fed. Cir. 2009); see also CHISUM ON PATENTS § 20.07[2][jj][v] (2012) (summarizing and critiquing Lucent’s discussion of damages awards derived through the lump-sum rather than the ongoing-royalty approach and explaining what evidence plaintiffs would need to support a jury award of damages under either approach).

130 Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1554 n.13 (Fed. Cir. 1995) (en banc) (“The hypothetical negotiation is often referred to as a ‘willing licensor/willing licensee’ negotiation. However, this is an inaccurate, and even absurd, characterization when, as here, the patentee does not wish to grant a license.”).
132 See Sinclair Ref. Co. v. Jenkins Petroleum Process Co., 289 U.S. 689, 697 (1933) (“The use that has been made of the patented device is a legitimate aid to the appraisal of the value of the patent at the time of the breach.”); accord Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970) (posing that “[t]he extent to which the infringer has made use of the invention; and any evidence probative of the value of that use” is one of the factors in figuring the reasonable royalty).
133 Sinclair, 289 U.S. at 698. Justice Cardozo explained why the book of wisdom is helpful in patent cases: “A patent is a thing unique. There can be no contemporaneous sales to express the market value of an invention that derives from its novelty its patentable quality. But the absence of market value does not mean that the offender shall go quit of liability altogether. The law will make the best appraisal that it can, summoning to its service whatever aids it can command.” Id. at 697. (emphasis added) (citations omitted).
134 See Riles, 298 F.2d at 1313 (“[T]he expert’s] models did not reflect what royalty rate a hypothetical negotiation between Shell and Riles would have yielded at the time the infringement began. Instead, the models reflected [expert’s] assessment of
There are other tricky and commercially unrealistic elements in the hypothetical negotiation approach. Because, in a litigated case, patent damages will only be assessed in cases where a patent was found to be valid and infringed, the trier of fact is asked to calculate the royalty based on the assumption that the parties would have agreed upon the validity and infringement of the patent at the time of the negotiation. In real life, of course, parties discount the royalty rate by the probability that the patent is not valid or not infringed. Moreover, especially in cases where injunctions are not granted, courts worry that the damages award will approximate something like a compulsory license. If money damages awarded in litigation are too close to the amount of royalties that the defendant would have had to pay anyway as a result of an arms-length negotiation, there would be no incentive to negotiate—why not take one’s chances in litigation where you might win and not have to pay anything at all? Although courts have not explicitly mandated adding a specific “kicker” to the hypothetically negotiated royalty rate to make patent damages awards seem less like

the worth of Shell’s oil rig at the time of the trial. Riles did not provide any evidence or testimony to show that [expert’s] models reflected what the parties might have agreed to, at any time, particularly at the time the infringement began.); Integra Lifesciences I, Ltd. v. Merck KGaA, 331 F.3d 860, 871 (Fed. Cir. 2003), rev’d on other grounds, 545 U.S. 193 (2005) (“The parties’ inability to project success at the pre-clinical research stage of the [project covered by a patent under a hypothetical license] weighs heavily in determining a reasonable royalty.”); see also infra notes 293-297.


136 See e.g., Daralyn J. Durie & Mark A. Lemley, A Structured Approach to Calculating Reasonable Royalties, 14 LEWIS & CLARK L. REV. 627, 642 (2010) (“Nearly half of all litigated patents are held invalid, and many of the rest are not infringed. Patentees win only just under a quarter of the cases they bring. Companies negotiating a license know this, and licenses incorporate that uncertainty in the royalty rate.”).

137 See Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1158 (6th Cir. 1978) (“The setting of a reasonable royalty after infringement cannot be treated . . . as the equivalent of ordinary royalty negotiations among truly ‘willing’ patent owners and licensees. That view would constitute a pretense that the infringement never happened. It would also make an election to infringe a handy means for competitors to impose a ‘compulsory license’ policy upon every patent owner.”). Cf. Parchomovsky & Stein, supra note 101 (analyzing analogous problem in real property law). Of course, when the patent owner receives injunctive relief in addition to past money damages, the remedy cannot be properly viewed as any kind of a “compulsory license.”

138 See Durie & Lemley, supra note 136, at 642 (“[A] damage award that just reflected what parties to actual licenses agreed upon would systematically undercompensate patent owners. It might even encourage potential licensees to take their chances in court, figuring that if they lost they would just have to pay a normal license fee, though anyone who did in fact make that decision is probably a willful infringer subject to enhanced damages.”). But see Brian J. Love, The Misuse of Reasonable Royalty Damages as a Patent Infringement Deterrent, 74 MO. L. REV. 909, 925-34 (2009) (explaining why other considerations, including litigation costs and enhanced damages for willful infringement, can deter this kind of “rational infringement” behavior).
compulsory licenses, royalty rates calculated in patent infringement cases are often much greater than the rates accepted in the industry. This result may reflect the “valid-and-infringed” assumption as well as an implicit royalty kicker.

Various other aspects of the hypothetical negotiation approach remain controversial. By way of just a few examples, commentators have criticized Georgia-Pacific factors as unwieldy and unhelpful, argued that “valid-and-infringed” assumption combined with a possible kicker has been misused and tends to overvalue patents, and pointed out that the established framework that all but ignores noninfringing alternatives is inappropriate for modern, complex multi-component inventions. Meanwhile, courts have called the willing licensor/willing licensee framework “absurd” in certain cases and even noted that “the use of a willing licensee-willing licensor model for determining damages ‘risks creation of the perception that blatant, blind appropriation of inventions patented by individual, nonmanufacturing inventors is the profitable, can’t-lose course,’” necessitating upward adjustments in the royalty. Nevertheless, though certainly flawed in many respects, the Georgia-Pacific hypothetical negotiation approach remains a widespread solution to the difficult problem of measuring harm to the legal right to exclude by the statutory reasonable royalty measure, and courts today continue to use it routinely to determine money damages in spite of the scholarly (and judicial) critiques.

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139 See Mueller, Patent Law supra note 111, at 508 (“[T]he Federal Circuit characterizes the hypothetical negotiation approach as an attempt to ‘do justice’ to the patentee, and in some cases has affirmed the award of royalty rates significantly above industry norms.” (citations and footnotes omitted)).
141 See generally Durie & Lemley, supra note 136 (criticizing the Georgia-Pacific factors and arguing for a simplified approach).
142 Love, supra note 138, at 920 (identifying “an ongoing trend in patent law nudging the reasonable royalty formulation further and further away from the traditional willing licensor-willing licensee negotiation and, therefore, from representing the market value of the patented invention,” such that “in setting reasonable royalties, finders of fact are not bound by the economic realities of the marketplace”); see also id. at 928-30 (discussing the “valid and infringed” assumption).
144 See supra note 130 and accompanying text.
146 Id.
B. Summary and implications

The hypothetical negotiation attempts to simulate a contract (i.e., a patent license) and approximate commercial realities of the marketplace in order to aid the fact-finder in the determination of patent infringement damages. Several guiding principles, already alluded to earlier, become apparent from distilling case law on the hypothetical negotiation approach: (1) the trier of fact must attempt to simulate bargaining by the willing licensor and licensee at the time infringement began, \(^{148}\) (2) the court must resist parties’ attempts to advocate for arbitrary and inflexible rules to cabin what should be a highly fact-specific determination \(^{149}\) and (3) damages determinations must be guided, to the extent possible, by the fact-finder’s best guess of what the parties might have done had they participated in a real-world negotiation. \(^{150}\) In both direct and indirect infringement cases, courts repeatedly emphasize the need to “go back in time” and approach the problem from the perspective of the parties in a manner that is as economically realistic as possible. \(^{151}\)

It’s against the backdrop of these considerations that the next two Parts should be understood. On the one hand, the tort law principle of imputing acts of the primary tortfeasor to the secondarily liable party, \(^{152}\) with the corollary that indirect infringers compensate the plaintiff for the harm occasioned by direct infringers, pulls in the direction of tying indirect infringement damages to acts of direct infringement. Formally, then, the trier of fact must figure out the extent to which the direct infringers have collectively harmed the patent owner’s right to exclude and “charge” this amount to the inducer. \(^{153}\) Nevertheless, one quickly realizes that a hypothetical negotiation between the plaintiff and multiple direct infringers, such as customers, makes little sense. Consistent with this intuition, courts in indirect infringement cases typically assume, without even giving the question a second thought, that the relevant negotiation would have taken place between the plaintiff and the indirect infringer, not the plaintiff and the multitude of individual direct infringers. \(^{154}\) All this suggests that the

\(^{148}\) See supra notes 131-134 and accompanying text; see also THE FED. CIRCUIT BAR ASS’N, MODEL PATENT JURY INSTRUCTIONS 89 (Feb. 18, 2010 ed.), available at http://memberconnections.com/olc/filelib/LVFC/cpages/9008/Library/FCBAModelJury%20Instructions%20February%202010.pdf (last visited Sept. 15, 2012). (“[Y]ou should focus on what the expectations of the patent holder and the infringer would have been had they entered into an agreement at that time . . . . Although evidence of the actual profits an alleged infringer made may aid you in determining the anticipated profits at the time of the hypothetical negotiation, you may not limit or increase the royalty based on the actual profits an alleged infringer made.” (emphases added)).

\(^{149}\) See supra notes 124-125 and accompanying text.

\(^{150}\) See supra notes 126-128 and accompanying text.


\(^{152}\) See supra notes 5-12 and accompanying text.

\(^{153}\) See supra note 40 and accompanying text.

\(^{154}\) See, e.g., Laserdynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 60 (Fed. Cir. 2012); Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1324-26 (Fed. Cir. 2009); see also infra Subparts V.1 and V.2.
imputation principle may not be very helpful in the analysis of reasonable royalty damages.

The question is, then, whether the imputation principle and the hypothetical negotiation approach can be made consistent. The larger issue is what, if anything, the judges should do about this tension—whether in their roles as jury instructors, triers of fact, or managers of patent damages in the procedural postures of summary judgment or judgment as a matter of law. Complicating the issue further is the realization that, in patent infringement cases, the inducer, and not the direct infringer is often the “truly responsible party.” The next Part considers how the courts have grappled with these issues.

IV. EVIDENTIARY AND ATOMISTIC APPROACHES TO INDIRECT INFRINGEMENT DAMAGES

1. Lucent’s evidentiary approach: the probative value of proven acts of direct infringement for indirect infringement damages

   A. Factual background of Lucent and the Federal Circuit’s affirmance of infringement liability

   With the background principles of indirect infringement and patent damages now laid out, I now consider in detail Lucent Technologies v. Gateway, the Microsoft Outlook date-picker case. This case exemplifies the approach to indirect infringement damages I have called the evidentiary approach; that is, an approach that uses the proven acts of direct infringement as bearing on, but not determinative of, the amount of damages.

   The patent in suit in Lucent is directed to a “method of entering information into fields on a computer screen without using a keyboard,” and products like Microsoft Outlook can be used in such a way as to infringe the method claims 19 and 21 of the patent. Specifically, the plaintiff argued that the date-picker feature of Outlook, which allows a user to schedule appointments using a graphical calendar layout with the help of mouse, was covered by the asserted claims. The plaintiff apparently could not, or did not try, to show that any employees of Dell, Gateway, and Microsoft, the defendants in the case, actually carried out the patented method, and had to rely on indirect infringement theories, seeking to hold the computer and software makers liable for the infringing acts of their customers. After a long trial, the jury determined that Outlook users directly infringed the asserted claims when they scheduled appointments by clicking on the desired dates and times of the Outlook calendar. Furthermore, the jury found against the defendants on both contributory infringement and inducement theories and the Federal Circuit upheld both findings by

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155 See supra notes 27-28 and accompanying text.
156 580 F.3d 1301.
157 See supra note 45 and accompanying text.
158 Lucent, 580 F.3d at 1308.
159 Id. at 1317.
160 Id. at 1317-19.
161 Id. at 1317.
affirming the district court’s denial of Microsoft’s motions for judgment as a matter of law of noninfringement.\textsuperscript{162}

The district court held, and the Federal Circuit affirmed, that there was enough evidence for a reasonable jury to find the requisite elements of both contributory infringement and inducement, including the element of direct infringement typically required for secondary liability to attach:\textsuperscript{163} “circumstantial documentary evidence . . . was just barely sufficient to permit the jury to find direct infringement by a preponderance of the evidence.”\textsuperscript{164} Emphasizing that the number of proven directly infringing acts need only be de minimis to support a finding of indirect infringement, the Federal Circuit added that “[t]he jury . . . could have reasonably concluded that, sometime during the relevant period from 2003 to 2006, more likely than not one person somewhere in the United States had performed the claimed method using the Microsoft products.”\textsuperscript{165} Most of the court’s remaining infringement analysis focused on the sufficiency of proof of the other elements of indirect liability, particularly the intent element, and it concluded that there was enough evidence to uphold the infringement verdict on both contributory infringement and inducement grounds.\textsuperscript{166}

\textbf{B. Appellate review of reasonable royalty damages in Lucent}

After disposing of the liability issues, the \textit{Lucent} court reviewed the jury award of damages, which was determined using the reasonable royalty method.\textsuperscript{167} At the damages phase in the district court, Lucent argued that the appropriate compensation would have been an 8\% royalty on the “110 million units of the three software products capable of practicing the methods of the asserted claims,”\textsuperscript{168} leading to a payout of $561.9 million. In contrast, Microsoft contended that a lump-sum payment of $6.5 million would have been adequate for licensing the claims that its customers directly infringed.\textsuperscript{169} The jury chose neither party’s number and determined instead that the right award was a lump sum of $357,693,056.18, to the penny.\textsuperscript{170} On appeal, the defendants (led by Microsoft, the maker of Outlook) challenged the damages award on several grounds, of which the challenge based on the case of \textit{Dynacore Holdings v. U.S. Philips} \textsuperscript{171} is most salient to the topic of this Article. Microsoft argued that, for method claims, “damages [must] be limited to the proven number of instances of actual infringing use.”\textsuperscript{172} In other words, Microsoft wanted the court to allow the jury to assess royalties only on those sales of Outlook for which the plaintiff could prove that the

\begin{footnotesize}
\begin{itemize}
\item[162] \textit{Id.} at 1320-23. The Federal Circuit also upheld the district court’s denial of Microsoft’s motion for a judgment as a matter of law that the asserted claims were invalid under 35 U.S.C. § 103. \textit{Id.} at 1310-16.
\item[163] \textit{See supra} Subpart II.1.
\item[164] \textit{Lucent}, 580 F.3d at 1318.
\item[165] \textit{Id.} (emphasis added).
\item[166] \textit{Id.} at 1320-23.
\item[167] \textit{See supra} Subpart III.2.
\item[168] \textit{Lucent}, 580 F.3d at 1323.
\item[169] \textit{Id.}
\item[170] \textit{Id.} at 1324.
\item[171] 363 F.3d 1263 (Fed. Cir. 2004). I consider the \textit{Dynacore} in Subpart V.6. \textit{See infra} notes 392-403 and accompanying text.
\item[172] \textit{Lucent}, 580 F.3d at 1323 (citing Dynacore Holdings Corp. v. U.S. Philips Corp., 363 F.3d 1263 (Fed. Cir. 2004)).
\end{itemize}
\end{footnotesize}
end user actually utilized the software in infringing manner. Ultimately, the
court rejected this challenge but vacated the award nonetheless for lack of
substantial evidence,\textsuperscript{173} ruling that the jury award was “based mainly on
speculation or guesswork.”\textsuperscript{174}

In refusing to adopt Microsoft’s approach to limiting its damages,
the \textit{Lucent} court recognized that, in real-world licenses, royalties between a
patentee and a manufacturer of a consumer product are not always tied to the
extent of utilization of the claimed invention by end users. In so doing, the
court articulated what it viewed as the proper role of proven directly
infringing conduct in the damages analysis:

Considerations of evidence of usage after infringement started
\textit{can . . . be helpful} to the jury and the court in assessing whether a
royalty is reasonable. Usage (or similar) data may provide
\textit{information that the parties would frequently have estimated}
during the negotiation. . . .

On the other hand, we have never laid down any rigid
requirement that damages in all circumstances be limited to
specific instances of infringement proven with \textit{direct evidence}.
\textit{Such a strict requirement could create a hypothetical negotiation}
far removed from what parties regularly do during real world
licensing negotiations. As shown by the evidence in this case,
companies in the high-tech computer industry often strike
licensing deals in which the amount paid for a particular
technology is not necessarily limited to the number of times a
patented feature is used by a consumer. A company licensing a
patented method often has strong reasons not to tie the royalty
amount strictly to usage. . . . [P]otential licensors and licensees
routinely agree to royalty payments \textit{regardless of whether the}
invention is used frequently or infrequently by the consumer. . . .

The damages award ought to be correlated, in some
respect, to the extent the infringing method is used by consumers.
This is so because this is what the parties to the hypothetical
negotiation would have considered.\textsuperscript{175}

This passage is admittedly ambiguous. On the one hand, when the
court says that a damages award for indirect patent infringement need not be
tied to discrete and specifically identified instances of direct infringement
with “direct evidence,” it seems to be talking about the method of proving
damages. But this is nothing but a truism—circumstantial evidence, so long
as it meets evidence admissibility rules of a particular jurisdiction, is
perfectly fine to support a jury verdict or a judge’s decision in any area of
law. It is up to the trier of fact to weigh the circumstantial evidence and infer
from it the existence of a fact that tends to prove liability. Indeed,
circumstantial evidence has been used to support everything from murder
convictions to verdicts in products liability cases, and is often thought to be
more probative than direct evidence.\textsuperscript{176} So it is in patent law. The courts

\textsuperscript{173} \textit{Id.} at 1324; see \textit{Fed. R. Civ. P.} 50(A).
\textsuperscript{174} \textit{Lucent}, 580 F.3d at 1335.
\textsuperscript{175} \textit{Id.} at 1334 (emphases added) (citations omitted).
\textsuperscript{176} See, e.g., Kevin Jon Heller, \textit{The Cognitive Psychology of Circumstantial}
jurors routinely undervalue circumstantial evidence (DNA, fingerprints, and the like)
and overvalue direct evidence (eyewitness identifications and confessions) when
making verdict choices, \textit{even though false-conviction statistics indicate that the}
have consistently held that circumstantial evidence can be used to support a liability determination in a patent case as in any other case— and it would have been absurd for any court to suggest otherwise.

What was it, then, that *Lucent* really said? Did the court imply with its “direct evidence” comment that, once the extent of directly infringing use was proven with direct or circumstantial evidence (say, a consumer survey showing adoption of the date-picker feature in only 60% users of Outlook), the damages could be based on only 60% of Outlook’s sales? I think that the answer is no. The rest of the quoted passage, with its language about “real world licensing negotiations” and “royalty amount[s]” that are “not tied strictly to usage” and paid out “regardless of whether the invention is used frequently or infrequently by the consumer,” plainly reveals that to the *Lucent* court, evidence of the extent of the direct infringement is simply a useful “book of wisdom” that could help the fact-finder understand the position of the parties to a hypothetical negotiation at the time infringement began. This view is consistent with Federal Circuit opinions that came before *Lucent*, including the well-known case of *Hanson v. Alpine Ski Valley Area* that was cited by *Lucent*. For now, suffice it to say that *Lucent* did not authorize a rigorous limit on damages based on the number of instances of direct infringement proven by direct or circumstantial evidence; moreover, there anything in *Lucent* to suggest that its approach is limited to lump sum awards only.

Indeed, the language in *Lucent* comports with the three principles of reasonable royalty analysis outlined above—the fact-finder should attempt to put itself into the shoes of the parties at the time of initial infringement, avoid inflexible rules, and attempt to take account of what licensees and licensors do in the real world. Taking the construct of the hypothetical license negotiation seriously, *Lucent* held that the prevalence of directly infringing acts is relevant, but not determinative, in the reasonable royalty calculation. Under *Lucent*’s evidentiary approach, the number of proven acts of direct infringement embodies one of the *Georgia-Pacific* factors—specifically, the eleventh factor, which is “the extent to which

former is normally more probative and more reliable than the latter.” (emphasis added)).

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177 *See*, e.g., Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1272 (Fed. Cir. 1986) (“If [the defendant] is arguing that proof of inducing infringement or direct infringement requires *direct*, as opposed to *circumstantial evidence*, we must disagree. It is hornbook law that direct evidence of a fact is not necessary. ‘Circumstantial evidence is not only sufficient, but may also be more certain, satisfying and persuasive than direct evidence.’ (quoting Michalic v. Cleveland Tankers, Inc., 364 U.S. 325 (1960)) (emphasis in original)); *see also* Water Techs. Corp. v. Calco, Ltd., 850 F.2d 660, 668-69 (Fed. Cir. 1988).

178 *Lucent*, 580 F.3d at 1334.


180 718 F.2d 1075 (Fed. Cir. 1983). I will discuss *Hanson* in greater detail *infra* at Subpart V.2.

181 *See infra* notes 187-188 and accompanying text.

182 *See supra* notes 148-151 and accompanying text.

183 *See supra* notes 148-151 and accompanying text.
the infringer has made use of the invention; and any evidence probative of the value of that use.\textsuperscript{184}

Although the indirect infringer does not literally “make use” of the invention but rather induces or contributes to its manufacture, use, or sale (or import),\textsuperscript{185} the \textit{Lucent} court was not deterred from applying the \textit{Georgia-Pacific} hypothetical negotiation construct to the indirect infringement defendants. The \textit{Lucent} court understood that, once infringement liability has been determined, the subsequent reasonable royalty damages inquiry is necessarily flexible, since goal is to intuit how the parties would have valued the asserted claims in a license agreement.\textsuperscript{186} Having adopted this approach in an indirect infringement case, \textit{Lucent} logically viewed the patent owner as the “pseudo-licensor” and the indirect infringer, the “pseudo-licensee.” Based on \textit{Georgia-Pacific} and its own sense of commercial reality, the court understood that these parties would have based the royalty, in part, on the predicted extent of the patented feature’s use by customers, who are ultimately the direct infringers.\textsuperscript{187} If it is well-known at the time of the negotiation, for example, that the product to be licensed is capable of noninfringing uses, or has many noninfringing features, parties would certainly take that into account in setting the royalty rate or in figuring the lump sum royalty.\textsuperscript{188}

In the end, the court vacated the jury award because “[n]o evidence describes how many Microsoft Outlook users had ever performed the patented method or how many times. Lucent had the burden to prove that the extent to which the infringing method has been used supports the lump-sum damages award.”\textsuperscript{189} Thus, instead of placing any cap on the damages related to enumerated instances of directly infringing use, the court relied on general sufficiency of evidence principles to vacate a damages award that appeared to come out of thin air.\textsuperscript{190} To sustain the award, Lucent should have at least

\textsuperscript{184} Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1333 (Fed. Cir. 2009) (citing Georgia-Pac. Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970). To be sure, in cases where the reasonable royalty is figured as a product or royalty rate and base rather than a lump sum, \textit{Georgia-Pacific} (GP) factors are typically thought to aid in determining the rate only. \textit{See Chisum on Patents}, supra note 128, § 20.07[2], at 20-1218-19 (explaining that \textit{Georgia-Pacific} factors are used to set a reasonable royalty rate). The rate is then multiplied by the royalty base, which is presumably determined by some separate inquiry. \textit{See infra} note 275 and accompanying text. Nonetheless, this rate/base distinction not a hard-and-fast rule that courts adhere to rigorously in every case—the GP factors are simply a guide for determining the royalty, however the fact-finder is to do it. \textit{See, e.g., Powell v. Home Depot U.S.A., Inc.}, 663 F.3d 1221, 1240 (Fed. Cir. 2011) (referring to “\textit{amount of the reasonable royalty that may be awarded upon a reasoned hypothetical negotiation analysis under the \textit{Georgia-Pacific} factors}” and stating that “\textit{Georgia-Pacific} factors that are relevant to determining the reasonable royalty rate that [defendant] would have paid to use his invention for the life of his patent” (emphasis added)). However one gets there, it stands to reason that both the royalty rate and the royalty base must reflect what parties would have considered. \textit{See supra} notes 148-151 and accompanying text.

\textsuperscript{185} Cf. 35 U.S.C. § 271(a) (2012); see also supra note 125 and accompanying text.

\textsuperscript{186} \textit{Lucent}, 580 F.3d at 1324-25.

\textsuperscript{187} \textit{Id.} at 1334.

\textsuperscript{188} \textit{Id.} at 1326-27, 1334.

\textsuperscript{189} \textit{Id.} at 1334-35.

\textsuperscript{190} \textit{Id.} at 1324 (“[The damages] award is not supported by substantial evidence and is against the clear weight of the evidence”).
attempted to estimate what percentage of Outlook users performed the claimed method and relate it to the hypothetical license negotiation, or perhaps tried to explain why the parties would not have closely tied the royalty to actual usage. If such use was rare, the fact-finder might, and in fact should, arrive at the conclusion the parties to a hypothetical license would not have valued it very highly, and award money damages in the form of an accordingly low lump sum royalty (or a very low royalty rate, in cases where the running royalty approach was used). The low damages amount would thus reflect the parties’ expectation of limited use of the patented feature in the licensed product.

But the court did not take up Microsoft’s apparent invitation to completely eliminate from the damages calculation those units of Outlook for which the plaintiff could not prove direct infringement. Here’s one simple explanation for why the court did not do so: had there been a license for Lucent’s patent, the parties would have likely based royalty payments on each sale of a box of Outlook software rather than on each execution of the patented method by computer users. Clearly, Lucent should have presented more evidence than it did at trial to support the award of damages, but it was not limited to reasonable royalties only from the sales of Outlook that ultimately led to infringing uses. The court said instead that the extent of actual use of the patented feature would have been useful evidence of the parties’ valuation of the patented invention at the time of the hypothetical negotiation.

2. The atomistic approach of Cardiac Pacemakers

A. Background and procedural history of Cardiac Pacemakers

Lucent was decided on September 11, 2009. Less than a month earlier, on August 19, the Federal Circuit decided Cardiac Pacemakers v. St. Jude Medical, a case that said something quite different about the relationship between indirect infringement damages and proven directly infringing acts. Cardiac Pacemakers is emblematic of what I have called the atomistic approach to indirect infringement damages. In this procedurally complex case, the plaintiff, Cardiac, accused St. Jude of infringing its patents by selling implantable cardiac devices (ICDs). As summarized by the Federal Circuit, “ICDs are small devices that detect and correct abnormal heart rhythms that can be fatal if left untreated. The ICDs work by

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191 Id. at 1334.
192 Id.
193 See infra Subpart V.1.
194 Lucent, 580 F.3d at 1323-24, 1334.
195 See infra note 251 and accompanying text.
196 576 F.3d 1348 (Fed. Cir. 2009) (“Cardiac II”).
197 See supra note 44 and accompanying text.
198 See Cardiac II, 576 F.3d at 1352-53 (recounting procedural history of case).
199 Id. at 1352. The acronym “ICD” can sometimes stand for “implantable cardioverter-defibrillator,” see National Heart Lung and Blood Institute, http://www.nhlbi.nih.gov/health/health-topics/topics/icd (last visited Sep. 20, 2012), and to make matters even more complicated, “ICD” can also stand for “implantable cardiac defibrillator,” see MedicineNet.com, http://www.medicinenet.com/implantable_cardiac_defibrillator/article.htm (last visited Sep. 20, 2012). As will soon become very clear, however, “implantable cardiac device” is probably the meaning of the acronym with the least potential for creating unfair prejudice in the litigation.
administering electrical shocks to the heart, those shocks being calibrated to restore normal heart functioning.\textsuperscript{200} Crucially for the issue of damages on appeal, ICDs “can be programmed to administer different types of electrical shocks”\textsuperscript{201} to the heart. The types of shock include a relatively familiar procedure called defibrillation\textsuperscript{202} and a less well-known procedure called cardioversion. Defibrillation entails applying high-energy shocks to the heart to treat acute, life-threatening disturbances in the heart’s rhythm; by comparison, cardioversion requires less energy and is used to treat disturbances that are less severe.\textsuperscript{203} The ICD is typically capable of both of these modes of operation,\textsuperscript{204} but one might imagine that, in some settings, an ICD unit might be used for defibrillation only.\textsuperscript{205}

At the outset of the litigation, in 1997, Cardiac asserted “numerous claims under four patents relating to implantable cardiac defibrillators.”\textsuperscript{206} By the time the case reached the Federal Circuit for the fourth time in 2009, however, only a single claim, claim 4 of U.S. Patent No. 4,407,288 (the ‘288 patent),\textsuperscript{207} remained at issue, as the plaintiff dropped some of the claims early in the litigation and decided not to appeal unfavorable judgments on some of the other initially asserted claims.\textsuperscript{208} This claim was drafted in dependent form\textsuperscript{209} as depending from claim 1 of the ‘288 patent, and read: “4. The method of claim 1, wherein said at least one mode of operation of said implantable heart stimulator includes cardioversion.”\textsuperscript{210} For this method claim,\textsuperscript{211} the plaintiff had to proceed on inducement and contributory

\textsuperscript{200} \textit{Cardiac II}, 576 F.3d at 1352.
\textsuperscript{201} \textit{Id.}
\textsuperscript{202} However, the defibrillators at issue are implantable and not the external defibrillators one finds at stadiums and concert venues.
\textsuperscript{203} \textit{See Cardiac II}, 576 F.3d at 1352 (noting that defibrillation delivers “relatively high power shocks”).
\textsuperscript{204} \textit{See supra} note 199 (noting that “ICD” can stand for “implantable cardioverter-defibrillator”).
\textsuperscript{205} \textit{Cf. Cardiac II}, 576 F.3d at 1352.
\textsuperscript{208} \textit{Cardiac I}, 418 F. Supp. 2d at 1026.
\textsuperscript{209} \textit{See} 35 U.S.C. § 112(d) (2012) (“[A] claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.”).
\textsuperscript{210} The ‘288 patent, col. 21, ll. 30-33. The “parent” claim, claim 1, reads:

“1. A method of heart stimulation using an implantable heart stimulator capable of detecting a plurality of arrhythmias and capable of being programmed to undergo a single or multi-mode operation to treat a detected arrhythmia, corresponding to said mode of operation the method comprising the steps of:

(a) determining a condition of the heart from among a plurality of conditions of the heart;

(b) selecting at least one mode of operation of the implantable heart stimulator which operation includes a unique sequence of events corresponding to said determined condition; and

(c) executing said at least one mode of operation of said implantable heart stimulator thereby to treat said determined heart condition.”
\textsuperscript{211} \textit{See supra} notes 52-53 for an explanation of the difference between method and apparatus claims. One of the claims “abandoned” by the plaintiff during the twists
infringement theories, arguing that directly infringing acts typically required for liability occurred when physicians who bought ICDs from St. Jude performed the patented method: “[plaintiff] emphasizes that all of St. Jude’s devices were capable of executing [infringing] cardioversion therapy, and ... contends that St. Jude even instructed physicians how to program its devices to execute this therapy.”

On appeal, the Federal Circuit reviewed several issues, including the district court’s grant of St. Jude’s “Motion for Summary Judgment Limiting [the Plaintiff’s] Damages” with regard to infringement of claim 4. The specific problem of limiting the indirect infringer’s damages by the number of proven acts of direct infringement received relatively little attention, as the Federal Circuit had bigger fish to fry in the en banc portion of the decision. Yet the panel portion of the opinion affirming the district court’s summary judgment order that limited damages, to which I now turn, raised some very interesting question.

B. Limitation of damages in Cardiac Pacemakers

a. The damages holding

The heart of the district court’s atomistic holding on the issue of damages, granting the defendant’s motion to limit damages, is captured by the following sentence: “As a matter of law, [plaintiff]’s damages for infringement of Claim 4 of the ’288 patent are limited to only those devices that can be shown to have executed the claimed method of cardioversion during the relevant infringement period.” In a brief discussion, the appellate opinion affirmed this portion of the district court’s decision: in calculating “royalties on its patented method[,] ... Cardiac can only receive infringement damages on those devices that actually performed the patented method.”

and turns of this litigation was claim 13, an apparatus claim. See Cardiac I, 418 F. Supp. 2d at 1039 (“[The plaintiff] abandoned the apparatus claim when it chose not to appeal any findings on the apparatus claim.”); see also the ’288 patent, col. 22, ll. 33-34. If the apparatus claim were asserted, St. Jude might become directly liable to Cardiac by making and selling ICD units capable of performing cardioversion, and an indirect infringement theory would have been unnecessary. See supra note 53 and accompanying text.

212 See supra Subpart II.1.
213 Cardiac I, 418 F. Supp. 2d at 1040; see also supra Subpart II.3 (providing instructions to end user to utilize the device in infringing manner can be sufficient actus reus for inducement liability).
214 Cardiac I, 418 F. Supp. 2d at 1035-42.
215 The proper interpretation of 35 U.S.C. § 271(f), which governs secondary liability for inducing or contributing to infringing acts performed overseas, was the most controversial issue on appeal. The court addressed that issue, which is beyond the scope of this Article, in the en banc part of the opinion, section C.2. The court discussed the issue of damages for inducing infringement within the United States in a separate section, C.1., which was not decided en banc. The Article focuses on section C.1 of the Cardiac Pacemakers opinion. For a brief discussion of the potential extraterritorial dimensions of the atomistic approach, see infra note 374 and accompanying text.
216 Cardiac II, 576 F.3d at 1358-59.
217 Cardiac I, 418 F. Supp. 2d at 1042.
218 Cardiac II, 576 F.3d at 1359.
It is important to understand that “devices that actually performed the patented method” of cardioversion are not qualitatively, intrinsically different from the devices that did not perform the patented method. ICDs sold by St. Jude were essentially units of the same type of a device, which were all in principle capable of being used to carry out the cardioversion procedure. The record showed, however, that the units had to be programmed by end users in order to do so. Indeed, many physicians used the ICDs for applications that were more common than cardioversion, such as defibrillation and another procedure called cardiac pacing, and either never programmed the devices for cardioversion or perhaps did so but never actually utilized them to stimulate the heart by that technique.

In opposing the motion, the plaintiff argued that the controlling case was *Stryker Corp. v. Intermedics Orthopedics*, [222] where the “Federal Circuit affirmed a damages award based on all of the defendant’s sales even though the components comprising the patented invention were used together only about 20 percent of the time.” The district court, however, distinguished *Stryker* because the claims asserted in that case were apparatus claims, so that “the apparatus patent was directly infringed [by the defendant] by each sale of the device, whether it was used or not.” In contrast, because the claim at issue in *Cardiac Pacemakers* was a method claim, which end users of ICDs infringed directly only when cardioversion was actually practiced, a sale of an ICD unit by the St. Judge could not, by itself, trigger liability. The Federal Circuit affirmed the district court’s reasoning on *Stryker* and added that it was further distinguishable because plaintiff there had asked for lost profits rather than reasonable royalty damages.

b. The district court’s approach

Because the Federal Circuit’s discussion of the damages issue is quite abbreviated, the district court’s approach, affirmed by the Federal Circuit, requires further explication. The district court cited several authorities for its decision to excise certain ICD units from the royalty base in the summary judgment posture. One was *Standard Havens Products v. Gencor Industries*, [227] which the district court characterized as holding that “method claims [were not] directly infringed by the mere sale of an apparatus capable of performing the claimed process.”

*Standard Havens*, however, was not quite on point. The accused devices at issue in this contributory infringement action were asphalt plants that were used by the defendant’s customers to infringe a patented “method...

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219 *Cardiac Pacemakers*, 418 F. Supp. 2d at 1039-42.
220 *Id.* at 1040. (“[Defendant] has presented evidence that a number of its devices implanted during the relevant infringement period were programmed by implanting physicians to ‘DEFIB ONLY’ mode, making them incapable of executing a separate ‘cardioversion’ therapy unless and until they were reprogrammed.”).
221 *Id.* at 1039. (“[Defendant] contends that the method claimed in Claim 4 was not practiced in a large number of its ICDs.”).
222 96 F.3d 1409 (Fed. Cir. 1996).
223 *Id.* at 1041.
224 *Id.*
225 *See supra* notes 211-212 and accompanying text.
226 *Cardiac II*, 576 F.3d at 1359.
227 953 F.2d 1360 (Fed. Cir. 1991).
228 *Cardiac I*, 418 F. Supp. 2d at 1040.
for continuously producing an asphaltic composition from asphalt and aggregates,” the so-called “counterflow” method.\textsuperscript{229} Three of the ten plants sold by the defendant, however, ran on another method, the “parallel flow” method, and a fourth apparently ran on the potentially infringing method but was sold to a customer abroad, so that the claimed method was never performed in the United States.\textsuperscript{230} As to the three parallel flow plants, it was clear to the court that they were completely different kinds of devices than the counterflow plants. Not only were the parallel flow plants never used in an infringing manner, they were actually not even capable, ever, of being configured to infringe because they ran on an alternative method.\textsuperscript{231} The theory of “limitation of damages” in\textit{ Standard Havens} is thus wholly unremarkable: If I sue someone for indirect infringement arising from the use of device A, it generally makes no sense for me to collect damages from the use of a completely unrelated device B, which cannot even be configured in such a way as to perform the claimed method.\textsuperscript{232} The Federal Circuit in\textit{ Standard Havens} thus correctly held that sales of those devices that were not at all capable of performing the claimed method should be subtracted from the award of damages.\textsuperscript{233}

Perhaps one way to extend\textit{ Standard Havens} to the facts of\textit{ Cardiac Pacemakers} is to argue that a device that was never programmed to execute cardioversion was a different kind of a device than one that was so programmed. It stands to reason that, if there exist two different types of accused devices and the threshold showing of direct infringement is made for only one of the two types, liability and therefore damages can be imposed only for the type for which the direct infringement element is satisfied.\textsuperscript{234} The district court did attempt to cast the issues in this light by explaining “the distinction between all devices sometimes practicing the patented method and the very different situation of some devices never practicing the patented method.”\textsuperscript{235} But since all the devices in question are just units of the same kind of an ICD,\textit{ Standard Havens} does not appear to support limiting damages as a matter of law to units that were actually used to perform the claimed method.

Moreover, the district court ignored another crucial fact: The disputed royalty base in\textit{ Standard Havens} consisted of ten units—they were asphalt plants!—and one might imagine that parties to a negotiation over the relevant patented technology might have logically based the royalty on actual use in this situation. In contrast, for the cardioversion claim at issue in\textit{ Cardiac Pacemakers}, it could well be that the royalties would have been based on sales of ICDs and not on usage, which would be costly to monitor given that St. Jude sells tens of thousands of them every year.\textsuperscript{236} But perhaps

\begin{itemize}
\item \textsuperscript{229} \textit{Standard Havens}, 953 F.2d at 1364-65, 1373.
\item \textsuperscript{230} \textit{Id.} at 1373-74; \textit{see also infra} note 374 and accompanying text for a discussion of the extraterritoriality aspect of the atomistic approach.
\item \textsuperscript{231} \textit{Id.}
\item \textsuperscript{232} Under some circumstances, however, damages for “convoyed” sales of unpatented items, along with the patented items, can be properly collected. \textit{See infra} Subpart V.5.
\item \textsuperscript{233} \textit{See Standard Havens}, 953 F.2d at 1374.
\item \textsuperscript{234} \textit{See supra} Subpart II.1.
\item \textsuperscript{235} \textit{Cardiac I}, 418 F. Supp. 2d at 1042.
\item \textsuperscript{236} A (very rough) back-of-the-envelope calculation suggests St. Jude sold about 40,000 defibrillators in 2011 alone, assuming a yearly revenue of about a billion
\end{itemize}
the litigants did not draw the Federal Circuit’s attention to these points, so the part of the Federal Circuit’s *Cardiac Pacemakers* opinion discussing indirect infringement damages said nothing about the district court’s questionable reliance on *Standard Havens*.

Finally, the district court cited its own 2002 opinion in the *Cardiac Pacemakers* case for the proposition that, “[t]o hold St. Jude liable for infringement on this method claim . . . [plaintiff] was required to come forward with some evidence of actual use of the infringing method by someone.”237 That ruling, however, was a judgment of no liability for lack of proof of underlying direct infringement, not a grant of a motion to limit damages.238 The damages-liability confusion becomes apparent when one examines *Joy Technologies v. Flakt*,239 the Federal Circuit case cited by the district court to support the “some evidence of actual use” proposition.240 *Joy Technologies* held that sales of a device capable of performing an infringing method do not result in liability, direct or indirect, unless the method is actually performed by someone within the term of the patent.241 That case, however, said nothing about limiting damages as a matter of law once the threshold finding of direct infringement was made.242 The Federal Circuit approved the district court’s reliance of *Joy Technologies*243 even though it was easily distinguishable because no indirect infringement liability at all was found in that case.

In *Cardiac Pacemakers*, of course, all the ICDs were perfectly capable of performing cardioversion if programmed correctly, and the Federal Circuit treated as undisputed the fact that some of them were used in an infringing manner.244 It is thus a stretch to say that *Standard Havens* and *Joy Technologies* compel the result that the defendant “cannot be held liable for infringement of claim 4 on a device that was not programmed to execute the claimed method of cardioversion,”245 and even more of a stretch to argue that the cases supports the conclusion that the plaintiff cannot collect damages on those devices that were so programmed but have not “executed


238 *Cardiac*, 2002 WL 1801525, at *29.
239 6 F.3d 770 (Fed. Cir. 1993).
240 *Cardiac I*, 418 F. Supp. 2d at 1040 (citing *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 773-75 (Fed. Cir. 1993)).
241 *Joy Techs.*, 6 F.3d at 775.
242 The *Joy Technologies* court did say, at one point, that there could not be infringement “with respect to that plant,” *id.* at 775, suggesting a more atomistic conception of liability. Under the facts of that case, however, there was no infringement found for any of the plants sold.
243 *See Cardiac II*, 576 F.3d at 1359.
244 *Id.*
245 *Cardiac I*, 418 F. Supp. 2d at 1040

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the claimed method of cardioversion.”246 The district court’s choice of language, opting for a phrase “cannot be held liable” rather than “does not owe damages,” is notable—it suggests an atomistic, particularized conception of indirect liability. Even though all the ICDs may be exactly the same, liability runs to the indirect infringement defendant via each particular ICD unit, so that the plaintiff must show at least one act of direct infringement for a specific ICD in order to demonstrate indirect infringement liability and therefore collect damages for that unit. Even if the plaintiff shows that some units are used to practice the infringing method, it is barred as a matter of law from collecting damages for all the ICD units sold by the infringer unless it can prove that all the units have been used to perform the claimed method at least once.247 Summing up its atomistic approach, the district court held even though “all of St. Jude’s devices were capable of executing cardioversion therapy, and [plaintiff] contends that St. Jude even instructed physicians how to program its devices to execute this therapy[,] . . . [n]one of these facts are sufficient to impose liability (and therefore damages) for every device sold.”248

c. Tension with Lucent

The tension of Cardiac Pacemakers’ approach by now becomes apparent. What is important is not only the difference in the result—the court affirmed the grant summary judgment to limit damages in Cardiac Pacemakers but refused to grant judgment as a matter of law limiting damages in Lucent249—but difference in the analytical approaches of the two cases. In considering the defendant’s argument for limiting damages as a matter of law, the Federal Circuit in Lucent asked how parties to a hypothetical licensing negotiation would take the end users’ activities into account, and found that, given customary licensing practices, end use would not be necessarily be decisive on damages.250 License agreements, even involving method claims, are generally based on sales of products capable of performing the method.251 To put it crudely, if a customer buys a box with Outlook software and thereafter throws it in the trash, never practicing the

246 Id. at 1040, 1042.
247 This requirement, however, does not have to translate into individualized proof of infringement for every given unit of the device with direct evidence. Cf. Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc, 1 F. Appx. 879, 884 (Fed. Cir. 2001) (nonprecedential) (“We do not imply that [plaintiff] is required to demonstrate a one-to-one correspondence between units sold and directly infringing customers. Proof of inducing infringement or direct infringement may be shown by circumstantial evidence.”); see also supra notes 176-177 and accompanying text.
248 Cardiac I, 418 F. Supp. 2d at 1041.
250 See supra Subpart III.1.
patented date-picker method, Microsoft would still owe money to the licensor if the relevant license agreement required Microsoft to pay royalty for every box of software sold.

It could be that license terms for defibrillation and cardioversion applications of ICDs would have been quite different from the way we would expect the Outlook date-picker license to be structured, and perhaps royalties for a claim directed only to cardioversion would be triggered only when a device would actually be programmed to perform the procedure.252 We do not know. But that is remarkable about Cardiac Pacemakers is that the case is completely devoid of the discussion of what the parties would have considered had they been engaged in a negotiation. While Lucent explicitly warned that royalties are not always to be tied to use, and extent of direct infringement is but one of the factors to be considered in royalty analysis, Cardiac Pacemakers removes the noninfringing units from the royalty calculation without any discussion of how the parties may have approached the relevant hypothetical agreement.

Lucent suggests that the fact-finder might take into account the absence of directly infringing use of some units by giving a low royalty rate, so long as this information properly reflects the parties’ ex ante position that the patented method is not to be valued very highly.253 Cardiac Pacemakers, in contrast, simply cuts out those noninfringing units from the royalty base ex post. Of course, the two approaches might arrive at the same result if the fact-finder under the Cardiac Pacemakers approach gives a high enough royalty rate to make up for the reduced royalty base, so long as he or she realizes that cutting out devices out of the royalty base might result in an unrealistic negotiation.254 The Cardiac Pacemakers opinions, at both the district court and the Federal Circuit levels, do not even begin to consider this problem.

On remand in Lucent, Microsoft attempted to apply Cardiac Pacemakers in its renewed attempt to limit damages “to only those instances where the claimed method is actually practiced” 255 by including in the damages calculation only the “devices performing the patented method.”256 While the district judge needed only say that the Lucent panel opinion governed as the law of the case, she nevertheless attempted to distinguish Lucent from Cardiac Pacemakers:

Typically, damages can only be assessed on devices that perform the actual method. [citing Cardiac Pacemakers.] In Lucent, the Court noted that Lucent had the burden to prove that its lump sum damages award was supported by the extent the infringing method was actually used. [citing Lucent.] On the other hand, the Federal Circuit in Lucent did not limit the consideration to only proven instances of infringement by direct testimony. The Lucent court specifically rejected Microsoft’s argument that “for method claims, Dynacore Holdings Corp. v. U.S. Philips Corp., 363 F.3d

252 See supra notes 234-236 and accompanying text for an explanation why this would be unlikely.
253 See supra notes 192-193 and accompanying text.
254 This approach may be prone to error, however. See infra Subpart V.1.
256 Id.
As discussed above, however, *Lucent*’s “direct evidence” language is a red herring.²⁵⁸ As the district judge herself recognized by citing the Federal Circuit’s rejection of Microsoft’s *Dynacore* argument, *Lucent* was not about circumstantial versus direct evidence (or direct testimony, whatever that might mean), but about not tying indirect infringement damages rigorously to the number of instances of directly infringing use.²⁵⁹ Furthermore, the district court correctly understood that the hypothetical negotiation approach must take the realities of licensing practice into account, noting that “the administrative cost of monitoring use could be expensive and that for some inventions, value is added by simply having the patented feature available for use.”²⁶⁰ This view simply does not fit with the atomistic approach of *Cardiac Pacemakers*, exemplified by the statement that “the district court was . . . correct in limiting damages to sales of ICDs that performed the steps of the claimed method.”²⁶¹ Instead of admitting that *Lucent* and *Cardiac Pacemakers* are probably not reconcilable, the district judge subtly attempted to distinguish the cases, stating that “while damages do not have to be strictly tied to their usage numbers in a lump sum payment, Lucent must correlate its damage numbers to that usage.”²⁶² But, as I explained above,²⁶³ the *Lucent* opinion is not limited to lump-sum reasonable royalties. Indeed, the phrase “lump sum” is not mentioned a single time in the Federal Circuit’s discussion of *Georgia-Pacific*’s eleventh factor (“extent to which the infringer has made use of the invention”), which is the section on which the district judge relied to reject Microsoft’s argument for limiting damages.

To my knowledge, the Federal Circuit is yet to acknowledge the apparent inter-panel conflict. While, as the earlier of the two decisions, *Cardiac Pacemakers* should be governing law according to Federal Circuit rules,²⁶⁴ an argument can be made that the rule of *Cardiac Pacemakers* itself contradicts established precedent, as it is inconsistent with the Federal Circuit’s direct infringement damages cases.²⁶⁵ Moreover, as I argue throughout the next section, there are several reasons why *Lucent* represents better policy.

²⁵⁷ *Id.* (emphasis added).
²⁵⁸ *See supra* notes 176-177 and accompanying text.
²⁵⁹ Presumably, this “extent of infringing use” analysis would subsume both the number of direct infringers and the frequency with which the direct infringers use the product in an infringing manner.
²⁶³ *See supra* notes 181-188 and accompanying text.
²⁶⁴ *See*, e.g., Atlantic Thermoplastics Co., Inc. v. Faytex Corp., 974 F.2d 1279, 1281 (Fed. Cir. 1992) (Rich, J., dissenting from the denial of rehearing en banc) (“[W]here there are conflicting [panel] precedents, the earlier precedent controls.” (emphasis in original)).
²⁶⁵ *See infra* Subpart V.2.
V. EVALUATING THE EVIDENTIARY AND ATOMISTIC APPROACHES

As discussed above, *Cardiac Pacemakers*’ atomistic approach to damages for secondary liability appears to be derived from the tort law principle of imputing the acts of a direct tortfeasor onto the inducer. Indeed, the very use the word “secondary” implies that liability is dependent on another’s primary liability. Logically, then, if there is no primary act for which someone can be held liable, there is no secondary liability that could be associated with this act. This tort law principle, unstated in the opinion, allowed the *Cardiac Pacemakers* court to bring precedents on the direct infringement of method claims to bear on the questions of damages before it and to hold that, for every instance (i.e., for every unit of the accused device) where direct infringement could not be shown, the plaintiff could not collect damages.

*Lucent*’s evidentiary approach presents something of a counterpoint to the traditional tort law view of secondary liability, though the *Lucent* court too left some important assumptions unstated and did not make clear why it implicitly refused to rely on tort law’s imputation principle. In the sections that follow, I explain that the *Lucent* view is the better one. It is supported by the considerations of accuracy, general patent damages principles, procedure, policy, and tort theory as properly applied to patent law.

1. The atomistic approach is more likely to lead to error and confusion

There is a simple rejoinder to my criticism of *Cardiac Pacemakers*. Suppose the court was wrong to excise from the royalty base, in the summary judgment posture, those ICD units that were never used to carry out cardioversion—in the sense that parties to a licensing negotiation would have based royalties on sales of the devices and not on the execution of the claimed method. So what? Can’t the trier of fact just fix this problem by upping the royalty rate so that the end result—(unrealistically high) royalty rate multiplied by the (unrealistically low) royalty base is the same as the (realistic) royalty rate multiplied by the (realistic) royalty base? I realize my use of the words “realistic” gives away which method I prefer, but if the courts are paying attention to what is going on, does it really matter if the number of units in the royalty base is reduced even in contravention to what parties really do in real-life negotiations? This was the point of the district

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266 See supra notes 153-154 and accompanying text.
267 See supra note 2 and accompanying text.
268 But see Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1308-10 (Fed. Cir. 2012) (en banc) (holding that inducement liability is possible without a showing that anyone can be liable for direct infringement). I explore this point in greater detail in Subpart V.3.
269 See, e.g., Joy Techs., Inc. v. Flakt, Inc. 6 F.3d 770 (Fed. Cir. 1993). It is also telling that subsequent decisions have used the relevant section of *Cardiac Pacemakers* not so much for its specific damages holding but for the more general, uncontroversial proposition that a method claim cannot be infringed by a device merely capable of performing the method. See, e.g., Cyberphone Sys., LLC v. Cellco P’ship, 11–827–SLR, 2012 WL 1509504, at * 2 (D. Del. Apr. 30, 2012) (“The law is unequivocal that the sale of equipment to perform a process is not a sale of the process’ within the meaning of section 271(a).” (quoting *Cardiac Pacemakers*, Inc. v. St. Jude Medical, Inc., 576 F.3d 1348, 1359 (Fed. Cir. 2009)) (emphasis added) (internal citations omitted)).
which, for reasons similar to *Cardiac Pacemakers*, held that plaintiffs cannot collect damages on device units that were not shown to infringe, but added a cautionary note:

Plaintiffs argue that royalties in negotiated licenses were based on the number of converters capable of infringing, rather than on the number that would infringe, because of the difficulty in determining how many converters would infringe the [claimed] method. Plaintiffs claim that we should look to these earlier licenses for guidance to any damage award. Plaintiffs confuse the license terms, which are not binding on courts... with the calculation of a reasonable royalty. These licenses may be evidence of a reasonable royalty but cannot substitute for evidence of the number of infringed converters... *We do note, however, that because these negotiated licenses are based on the number of infringing capable converters, the royalty rate may not be applicable to a situation of calculating a reasonable royalty on infringing converters.*

I commend the *Zenith* court for realizing that, once it reduced the number of units in the royalty base in the summary judgment posture, the royalty rate put in evidence for licensing agreements based on units that are “infringing capable” could no longer be trusted. But it seems to me that, based on its own analysis, *Zenith* court’s reasoning is exactly backwards. If the court believes that extant negotiated licenses are good evidence of reasonable royalties, why not use that rate along with the realistic royalty base of units that are “infringing capable”? Why create the extra problem of having to adjust the royalty rate to account for the (unrealistic) situation where royalties are paid out on units actually used to infringe? There are already enough counterfactual elements inherent in the reasonable royalty calculation—for example, the royalty rate must be based on the assumption that the parties agreed that the patent is valid and infringed. Why create more complications with yet another adjustment, for which it might be difficult to find any reality-based signposts? It seems to me that the *Zenith* court chose the route of potentially sacrificing accuracy on the altar of formalistic adherence to tort law principles.

The *Zenith* court believed that the result it reached was compelled by Section 284 of the Patent Act, citing it for the proposition that “the court shall award the claimant damages adequate to compensate for the infringement but in no event less than a reasonable royalty for the use of the invention by the infringer” and reasoning “Plaintiff’s interpretation [of including units merely capable of infringing] in the royalty base would impose liability on [Defendant] for non-infringing use.” But this outcome is not preordained. If one views damages for indirect infringement holistically as a royalty to be paid by the inducer to the patentee, rather than atomistically as a series of directly infringing acts for which the secondarily

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271 *Id.* at 1544 (emphasis added).
272 Moreover, recent Federal Circuit decisions have generally frowned upon the practice of fixing errors in the royalty base by adjusting the royalty rate. Laserdynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 67 (Fed. Cir. 2012); Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1319-20 (Fed. Cir. 2011).
273 See *supra* note 135 and accompanying text.
274 *Oak Indus.*, 726 F. Supp. at 1543.
liable party must compensate the infringer, including “infringing capable” units in the royalty base fits comfortably within the meaning of the statute.

Indeed, nothing in the statute prevents calculating the “reasonable royalty for the use of the invention” by multiplying the number of all “capable of infringing” units that would have been included in a royalty agreement by negotiating parties by the royalty rate put in evidence for similar agreements. Because indirect infringement, and therefore damages, are possible even in the absence of anyone who is liable for the primary tort, the inclusion of “capable of infringing” units in the royalty base as part of a convenient (and likely more accurate) calculation method chosen by a fact-finder is easily justified. As I argue below, this choice of methodology does not mean that the plaintiff is somehow being compensated for noninfringing conduct.

The problem, moreover, is that not all courts may be as attentive as the Zenith court to the issue of royalty adjustment. For example, neither the district court nor the Federal Circuit opinions in Cardiac Pacemakers flagged the issue, raising the possibility that, had the case not settled after the Federal Circuit opinion, the plaintiff would have been undercompensated because of an inappropriately low royalty rate given the royalty base adjustment in the summary judgment posture. Perhaps, the parties are to be faulted for not reminding the court that limitation of damages at summary judgment should trigger a change in the royalty rate, but the larger point is that, in this context, grants of motions to limit damages introduce thorny evidentiary problems that both courts and litigants must be aware of.

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275 Cf. Engel Indus., Inc. v. Lockformer Co., 96 F.3d 1398, 1408 (Fed. Cir. 1996) (“[R]oyalties [in actual license agreements] may be based on unpatented components if that provides a convenient means for measuring the value of the license.” (citing Automatic Radio Mfg. Co. v. Hazeltine Research, Inc., 339 U.S. 827 (1950); Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 138 (1969))); Damien Geradin & Anne Layne-Farrar, Patent Value Apportionment Rules for Complex, Multi-Patent Products, 27 SANTA CLARA COMPUTER & HIGH TECH. L.J. 763, 775-76 (2011) (“[T]he base on which royalty is calculated must be objective and workable. . . . [T]he average selling price of the product containing the patented feature offers the greatest clarity, as those prices often will be observable in public documents. . . . [P]ractical concerns such as proper reporting do matter and must be considered in the apportionment debate [for setting a proper royalty base].”); see also Thomas F. Cotter, Four Principles for Calculating Reasonable Royalties in Patent Infringement Litigation, 27 SANTA CLARA COMPUTER & HIGH TECH. L.J. 725, 751 (2011) (“Parties sometimes do choose sales revenue from sales of the end product as the royalty base, after all, as a matter of convenience; in such a case, there is no particular reason to avoid using such a base as long as it is accompanied by an appropriate rate.”). Cotter goes on to argue that it, in Lucent, it was commercially unreasonable to have set the royalty at the price of an Outlook package, but does not suggest an alternative royalty base. Id. at 751-52. See Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1339 (Fed. Cir. 2009) (“The license agreements admitted into evidence . . . highlight how sophisticated parties routinely enter into license agreements that base the value of the patented inventions as a percentage of the commercial products’ sales price.”).

276 See Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1308-10 (Fed. Cir. 2012) (en banc).

277 See infra Subpart V.5.

278 See supra notes 252-254 and accompanying text.
2. The atomistic approach is not consistent with the ex ante Georgia-Pacific hypothetical negotiation framework

This brings me to my next point. In direct infringement cases, courts have consistently made it clear that royalties are not always to be tied to the extent of directly infringing use. Indeed, overvaluing the extent of the actual use of the claimed invention may introduce a kind of a “hindsight bias” that distracts the finder from the task of intuitions the parties’ position at the time of the first instance of infringement.\(^{279}\) Consider Hanson v. Alpine Valley Ski Area,\(^ {280}\) a case that the Lucent court cited in its discussion of reasonable royalty damages.\(^ {281}\) In Hanson, the defendant infringed the method claims of a patent on “a method and apparatus for making snow used in winter sports”\(^ {282}\) when using its snowmaking machines. The special master in charge of calculating damages accepted the analysis of the expert witness for the plaintiff, who argued that “the licensor would have insisted on a uniform license based on the gallons-per-minute rated capacity of the Hanson-method machines, and would have refused to grant a license based on actual use.”\(^ {283}\) The Federal Circuit agreed with the special master and rejected the defendant’s contention that “the royalty should have been based upon actual use rather than upon estimated savings reflecting the snowmaking capacity of the machine.”\(^ {284}\) Underscoring the fact-driven nature of the reasonable royalty inquiry, the court opined, simply, that “the record contains substantial evidence that actual use of the snowmaking machinery would not have been the basis upon which a willing licensor and a willing licensee would have established a royalty.”\(^ {285}\) The court then articulated the intuition that actual use is often not the be-all and end-all of setting the terms of a royalty in a licensing negotiation:

[A] royalty based upon actual use would have been inconsistent with the function snowmaking equipment serves at a ski resort and the reasonable needs and expectations of both the licensor and the licensee. A resort has snowmaking machinery to enable it to function at times when there is no or insufficient natural snow. . . . [I]n these circumstances the number of hours a machine is used is irrelevant; the desire is never to use the machine. The machine’s utility simply does not depend upon its hours of operation.

A royalty based on actual use would produce unsatisfactory results here for both the licensor and the licensee. If there were extensive snow during the season, there would be

\(^{279}\) See Omri Ben-Shahar, *Damages for Unlicensed Use*, 78 U. Chi. L. Rev. 7, 14 (2011) (“The *ex ante* measure is estimated as the hypothetical royalties that the owner would have negotiated in a hypothetical license, had the infringer approached him and sought to secure a license. This hypothetical royalty measure is merely an educated guess—an average. It reflects the *expected value* of the patent to both parties and their relative bargaining power, based on information that was available pre-infringement.” (emphasis in original)).

\(^{280}\) 718 F.2d 1075 (Fed. Cir. 1983).

\(^{281}\) *Lucent*, 580 F.3d at 1333-34.

\(^{282}\) *Hanson*, 718 F.2d at 1076. For the appellate opinion affirming the finding of liability for infringement of the claims, see *Hanson v. Alpine Valley Ski Area, Inc.*, 611 F.2d 156 (6th Cir. 1979).

\(^{283}\) *Id.*, 718 F.2d at 1079 (emphasis added).

\(^{284}\) *Id.* at 1080.

\(^{285}\) *Id.*
little use of the machine and the patentee would receive an inadequate return for the value of his invention. On the other hand, if there were little or no snow, the licensee would have to pay exceptionally large royalties.\textsuperscript{286}

Perhaps the fact that the snow-making machine is a kind of an “insurance policy,” not meant to be used in the ideal scenario when there’s plenty of snow on the slopes, makes this case unusual.\textsuperscript{287} But Hanson’s larger point, already discussed in the context of the Lucent case, is well-taken: when parties negotiate a patent license agreement, they may not always tie the royalty rate to the frequency with which the patented function is actually used.\textsuperscript{288} And even when parties do take actual use into account, the value of the patented feature is estimated ex ante—and the number of actual uses may or may not closely track the pre-negotiation estimate.\textsuperscript{289}

Notably, the step of “going back in time” to simulate a hypothetical negotiation approach does not have to favor the patentee.\textsuperscript{290} In the cases of Riles v. Shell Exploration and Production Co.\textsuperscript{291} and Integra Lifesciences I, Ltd. v. Merck KGaA,\textsuperscript{292} defendants successfully argued that relying on the extent of actual use of the claimed invention would lead to overvaluing of the patent, because the respective inventions were in very early stages of development at the time of the first infringement and the widespread demand for the technology could not reasonably have been predicted or expected at the time of the hypothetical negotiation.\textsuperscript{293} This view is consonant with basic contract principles, which hold that parties cannot repudiate a license because the claimed feature turned out to be more (or less) successful than expected.\textsuperscript{294} Licensees may decide to commit an “efficient breach,” but they

\textsuperscript{286} Id. (quotation marks and alterations omitted).
\textsuperscript{287} It has been argued that Hanson stands for the more specific proposition that “reasonable royalty damages, even determined by the Georgia-Pacific approach, do not necessarily require the setting of a royalty rate that is applied to sales,” and focus on cost savings to the infringer as a measure of damages. See Fish and Richardson, Methodologies for Determining Reasonable Royalty Damages, http://www.fr.com/reasonableroyalty (last visited Jan. 6, 2013). Along with the Lucent court, however, I use the Hanson case for the more general proposition that the reasonable royalty does not have to be based on the extent of directly infringing use, since that is after all only one of the Georgia-Pacific factors. See supra notes 180-184 and accompanying text.
\textsuperscript{288} See supra notes 250-252 and accompanying text.
\textsuperscript{289} Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1334 (Fed. Cir. 2009).
\textsuperscript{290} See supra note 134 and accompanying text.
\textsuperscript{291} 298 F.3d 1302, 1313 (Fed. Cir. 2002)
\textsuperscript{292} 331 F.3d 860, 871 (Fed. Cir. 2003), rev’d on other grounds, 545 U.S. 193 (2005).
\textsuperscript{293} Ironically, while propounding its limitation of damages theory Lucent, at oral argument Microsoft also took the inconsistent position that the “information about how often the date-picker tool has in fact been used by consumers of Microsoft products,” which apparently was damaging to its cause, was “irrelevant” because “such facts postdate the time of the hypothetical negotiation.” Lucent, 580 F.3d at 1333. Based on the book of wisdom principle, the Federal Circuit emphatically rejected this argument: “[N]either precedent nor economic logic requires us to ignore information about how often a patented invention has been used by infringers. Nor could they since frequency of expected use and predicted value are related.” Id.; see also supra notes 132-133 and accompanying text.
would still be on the hook for damages as dictated by the terms of the license. The contract analogy makes sense for patent damages because, in contrast to many other torts, the specific legal rights of the “victim” are defined in advance by claims over which a license could be negotiated, such that parties are able, in principle, to agree upon the cost of invading these rights through the contractual mechanism of the royalty agreement.

The direct infringement cases discussed above cast serious doubt on approaches that would rigidly tie reasonable royalty damages to actual usage. Other than formalistic adherence to general tort law’s imputation principle, there is really no strong reason why courts should depart from the approaches of Hanson, Riles, and Integra in indirect infringement cases. The salient difference in the “extent of infringing use” in direct and indirect infringement cases is this: In the former, the extent has to do with how frequently the direct infringer uses a claimed feature, and in the latter, two separate “frequency of use” layers can be discerned. The first is, how many of the users of a product provided by the indirect infringer actually used the product in an infringing manner—even once—and the second is, of those users, how many times they actually employed the product to carry out the claimed method. But both of these layers can be subsumed under the eleventh Georgia-Pacific factor, “the extent to which the infringer has made use of the invention,” and taken into account in setting a reasonable royalty.

Again, it is helpful to consider what it is that the Georgia-Pacific factors are supposed to help the trial of fact to figure out. In an indirect

repudiate their promises simply because they become dissatisfied with the deal, at least without compensating the other contracting party.”).

See Marvin A. Chirelstein, Concepts and Case Analysis in the Law of Contracts 192 (6th ed. 2010) (illustrating the concept of efficient breach); see also id. at 86 (“[T]he promisor [may regard] it as less costly to pay damages than to meet its contract obligations unless the contract terms are modified.”).

See supra note 102 and accompanying text.

See supra notes 101-104 and accompanying text.

The “atomization” issue can arise in direct infringement cases as well, however. For example, a (direct infringement) defendant can argue that it carries out the claimed method only in some units of an accused device that it uses, while the other units are employed in a noninfringing way. Under this view, infringing use of each unit of the device represents a separate tort. An argument along these lines was made in, for example, Inline Connection Corp. v. AOL Time Warner, Inc., 470 F. Supp. 2d 424, 431 (D. Del. 2007), and rejected by the district court, which said that “calculating a reasonable royalty is not merely a function of the number of infringing systems, other elements contribute to and influence the analysis.” I focus here on the atomistic approach in context of indirect infringement for two reasons. First, the damage-limiting arguments have appeared to gain more traction in indirect rather than direct infringement cases. I am not aware of a Federal Circuit decision in a direct infringement case parallel to Cardiac Pacemakers, i.e., upholding a summary judgment order to limit damages to units of the same device that have actually been used to infringe, and excising out of the royalty base those units that are merely “capable of infringing.” Second, motions to limit of damages in indirect infringement cases raise interesting issues with regard to the connection between primary and secondary liability not raised by direct infringement cases, perhaps making the atomistic approach easier to justify in indirect infringement cases.

See also supra note 184 and accompanying text.
infringement case such as *Lucent*, it goes without saying that the fact-finder must determine the outcome of a hypothetical negotiation between the patentee and Microsoft, the indirect infringer, rather than having to divine the terms of individualized licenses between the patentee and each customer.\(^{301}\) Since it is extremely unlikely that the agreement would be structured so as to monitor individual use,\(^{302}\) both types of “frequency of use” layers would, and should, be included in the ex ante estimate of how popular the date-picker feature would be. As long as the plaintiff can establish that a hypothetical negotiation would proceed in this manner,\(^{303}\) the case, at the damages stage, becomes no different from a direct infringement case where extent of use is one of the many factors that would go into figuring the reasonable royalty analysis. *Lucent’s* evidentiary approach thus mirrors the approach to damages generally taken in direct infringement cases, while *Cardiac Pacemakers*’ atomistic approach unjustifiably departs from the hypothetical negotiation framework and creates a special rule for figuring reasonable royalty damages for indirect infringement. While the *Cardiac Pacemakers* approach is consistent with the formal “liability-shifting” view of indirect infringement,\(^{304}\) it does not coherently fit within the dominant framework for measuring patent damages.

3. Under a proper analysis, atomistic arguments will rarely satisfy the standard for granting summary judgment or judgment as a matter of law

Some courts, in patent and non-patent cases, have refused to make rulings on damages motions before the determination of liability. A few judges have justified this position by the text of Rule 56 of the Federal Rules of Civil Procedure,\(^{305}\) while others have held that granting such motions

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\(^{301}\) *See supra* note 154 and accompanying text.

\(^{302}\) The point of monitoring use would be to ensure that no royalties are paid on software units that are never used in an infringing manner, or to limit royalties when the licensee demonstrates that a feature is used rarely. *Cf. supra* notes 250-251 and accompanying text.

\(^{303}\) Of course, if the defendant can establish, at trial or at summary judgment, that the negotiation would not have proceeded in this manner, units could be properly excised from the royalty base. *See also infra* Subpart V.3.


\(^{305}\) *See, e.g.*, Arado v. General Fire Extinguisher Corp., 626 F. Supp. 506, 508-09 (N.D. Ill. 1985) (“Rules 56(a) and 56(b) [of the Federal Rules of Civil Procedure then in force] simply do not permit the piecemealing of a single claim or the type of issue-narrowing sought here,” namely partial summary judgment to prevent plaintiff from collecting “compensatory, consequential and liquidated damages”). The better and more widely accepted view, however, is that motions on the partial summary judgment on the measure of damages can be validly entertained under Rule 56. *See, e.g.*, Hamblin v. British Airways PLC, 717 F. Supp. 2d 303, 306-07 (E.D.N.Y. 2010) (“Some courts have limited the availability of summary judgment motions to foreclosure of specific claims, not remedies. . . [However], I conclude that the word “claim” in Rule 56 is not limited to the theory of liability that a plaintiff asserts. A theory of liability is useless to a plaintiff without remedies flowing from that claim, and so I see the ‘claim’ as being composed of both the theory of liability and the remedies that that theory supports.”); Williams v. J.P. Morgan & Co., 199 F. Supp.
would be improvident and used their inherent powers to refuse them.\textsuperscript{306} Yet even without having to invoke such reasons, defendants may be able to show that motions to limit damages to proven instances of direct infringement fail the summary judgment standard.\textsuperscript{307} The courts could reach this conclusion if litigants convince them to view such motions as a way of eliminating a method of calculating damages—the method involving counting noninfringing units in the royalty base for ease of computation.\textsuperscript{308}

Even if the defendant offers uncontroverted proof that, say, only 60\% of Outlook users have ever used the date-picker feature, the plaintiff may argue that what the defendant is really doing is removing a particular approach to figuring damages from the consideration of the fact-finder. The defendant could say that what granting the motion would mean that, as a matter of law, there must be a reason to prevent the plaintiff from computing the reasonable royalty by multiplying the number of units capable of

\begin{itemize}
  \item See, e.g., Kendall McGaw Labs., Inc. v. Community Mem. Hospital, 125 F.R.D. 420, 422 (D.N.J. 1989) (“A Rule 56 movant may not ‘play leapfrog’ with his case by seeking a decision whose validity depends on one or more unresolved issues. To allow another result would ignore the chronological structure of trial practice. . . . A different arrangement would run the law into conceptually backward nonsense; damages do not bring forth liability any more than an injury produces a duty.”); Hoffman-La Roche Inc. v. Promega Corp., 33 U.S.P.Q. 2d 1641, 1649 (N.D. Cal. 1994) (denying as premature a motion for summary adjudication of patent damages, which was brought prior to determination of liability); see also Tyco Healthcare Group LP v. Biolitec, Inc., No. C–08–3129 MMC, 2010 WL 3324893 (N.D. Cal. Aug. 23, 2010) (similar).
  \item See \textit{Fed. R. Civ. P. 56(A)} (summary judgment should be granted when there is “no genuine dispute as to any material fact and the movant entitled to a judgment as a matter of law”). Besides summary judgment motions to limit damages, attempts to reduce the royalty base that includes both infringing and noninfringing units may be styled as motions \textit{in limine} to exclude evidence. See, e.g., Telcordia Techs., Inc. v. Lucent Techs. Inc., 04–875 GMS, 04–876 GMS, 2007 WL 7076662, at *1-2 (D. Del. Apr. 27, 2007); see also Honeywell Int’l, Inc. v. Hamilton Sunstrand Corp., 378 F. Supp. 2d 459, 463-70 (D. Del. 2005) (attempting to exclude evidence of post-infringement sales projections). Damages issues may also come up as \textit{Daubert} motions to exclude evidence under \textit{Fed. R. Evid. 702}. See, e.g., Lucent Techs., Inc. v. Microsoft Corp., 837 F. Supp. 2d 1107, 1122-26 (N.D. Cal. 2011). When it comes to attempts to limit damages in the guise of evidentiary motions, we might be well-served to follow Judge O’Malley’s remarks in \textit{Landmark Screens v. Morgan, Lewis Bockius LLP}, 676 F.3d 1354, 1365 (Fed. Cir. 2012) (O’Malley, J., concurring), with regard to issues that come up as part of in limine motions that should be left for a trier of fact: “While a trial judge always may conclude that no reasonable trier of fact could reach a different conclusion than he on questions presented in a motion \textit{in limine}, that is not what the trial judge did here. Not once did he address what a reasonable juror might or might not conclude on the facts presented.”
  \item See supra Subpart V.1. \textit{Cf.} Inline Connection Corp. v. AOL Time Warner, Inc., 470 F. Supp. 2d 424, 431 (D. Del. 2007) (noting that summary judgment is not appropriate when it is based on the argument that the ‘parties’ experts use[d] different theories, data and reach[ed] different conclusions’); see also Minks v. Polaris Indus., 546 F.3d 1364, 1372 (Fed. Cir. 2008) (“A comparison of the \textit{Georgia-Pacific} factors and the standard of a hypothetical negotiation to the evidence of record in this case makes clear that the district court’s reduction of compensatory damages necessarily amounted to an assessment of the sufficiency of the evidence, and as such, the option of a new trial was required.”).
\end{itemize}
infringing by the royalty rate in evidence on sales of such units in, say, analogous licensing agreements, so that it could be figured only by multiplying the number of units actually used to infringe by some other, specially adjusted royalty rate. Cast in this light, succeeding in a motion to limit damages would be a tall order for a defendant—how does one show that “there is no genuine dispute as to any material fact” of how a royalty calculation would be approached in a licensing transaction?

In addition, to oppose the motion, the plaintiff could make the argument that the Georgia-Pacific reasonable royalty it its particular case should be based primarily on costs savings to the defendant or even determined by comparison with non-infringing alternatives in order to “estimate[s] the advantages conferred by the use of the patented technology.” To counter these types of arguments and win on a motion to limit the royalty base, the defendant would need to show that extent of actually directly infringing use would be the key factor in the hypothetical license negotiation—so important, in fact, there could be no genuine issue of material fact over whether parties would have agreed to structure their license based on actual use. While I have no doubt that sometimes parties tie royalty payments to the extent of the utilization of a claimed feature and monitor end-user behavior accordingly, in many cases the movant may not be able to make this showing. In the absence of such evidence, what is left for the defendant is to argue for no damages on noninfringing units, as a matter of law, based on the “atomization” of the infringement tort into multiple acts of infringement by primarily liable parties—a position, which, as I have argued above, is inconsistent with the hypothetical negotiation approach and might lead to inaccurate results. Otherwise, the fact-intensive nature of the hypothetical negotiation analysis would seem to prevent the defendant from succeeding in this type of a “limitation of damages” motion in a great number of cases.

4. Indirect infringement in patent law is different from secondary liability in other areas of tort law

Besides the practical reasons for not limiting indirect infringement damages in the summary judgment (or JMOL) posture to proven acts of direct infringement discussed in the preceding sections, the special nature of indirect infringement in patent law militates against tying damages for this tort too closely to primary infringement. While I recognize that the ultimate purpose of secondary liability is to compensate the patentee for the harm from direct infringement, I think that the patentee’s loss can sometimes be more accurately measured by focusing the conduct of the inducer rather the direct infringers. As discussed in the Introduction, secondary liability in intellectual property cases arises in factual scenarios that are generally quite different from their analogs in general tort law. The ubiquitous pattern of

309 And, of course, appropriately adjusted with the “valid and infringed” assumption.
311 Monsanto Co. v. McFarling, 488 F.3d 973, 980 (Fed. Cir. 2007).
312 See infra notes 390-393 and accompanying text.
313 See supra notes 266-268 and accompanying text.
314 See supra Subparts V.1 and V.2.
315 See supra note 308 and accompanying text.
316 See supra note 40 and accompanying text.
317 See supra notes 27-28 and accompanying text.
a manufacturer-inducer knowingly providing technology that allows a large number of customers to invade the legal rights of the tort victim\textsuperscript{318} is a long way from “isolated acts of adolescents in rural society” that the D.C. Circuit tellingly thought to be emblematic of general secondary civil liability.\textsuperscript{319} Ignoring this reality and figuring damages by applying the principle of imputation confuses the matters and distracts the trier or fact from the task of measuring the patentee’s loss of reasonable royalty caused by the infringement.

Indeed, casting the issue in terms of causation helps justify the focus on the conduct of the indirect infringer in figuring a proper measure of damages and explain why, among the intellectual property torts, such a focus is particularly appropriate in patent law. Stepping away from the framework of pure secondary liability\textsuperscript{320} and adopting the language of primary tort,\textsuperscript{321} one realizes that the causal link between the acts of the inducer and the harm to the patentee is strong and direct,\textsuperscript{322} and the invasion of patenette’s rights is eminently foreseeable by the inducer.\textsuperscript{323} To take the Lucent case as an example, Microsoft knew (and likely expected—why else put in the date-picker feature and provide training manuals on how to use it?) that Outlook users would click on the calendar and infringe Lucent’s patent, and continued to supply the technology without which most of us would simply be unable to carry out the patented method.\textsuperscript{324}

\textsuperscript{318} See supra notes 42-43 and accompanying text. 
\textsuperscript{319} See supra notes 25-26 and accompanying text. 
\textsuperscript{320} By “pure” secondary liability, I mean a formulation that does not include the elements of proximate or but-for causation, as for example formulated \textit{infra} at text accompanying note 64; see also supra Part II (formally, no causation element in establishing secondary patent infringement liability). 
\textsuperscript{321} To be sure, some courts include a causation element for establishing secondary liability in tort. See, e.g., Bigio v. Coca-Cola Co., 675 F.3d 163, 173 (2d Cir. 2012) (stating the elements of secondary civil liability in Georgia:“(1) through improper action or wrongful conduct and without privilege, the defendant acted to procure a breach of the primary wrongdoer’s duty to the plaintiff; (2) with knowledge that the primary wrongdoer owed the plaintiff a duty, the defendant acted purposely and with malice and the intent to injure; (3) the defendant’s wrongful conduct procured a breach of the primary wrongdoer’s duty; and (4) the defendant’s tortious conduct proximately caused damage to the plaintiff.” (quoting Insight Tech., Inc. v. FreightCheck, LLC, 633 S.E. 2d 373, 379 (Ga. App. 2006)) (alterations omitted)). 
\textsuperscript{322} Cf. supra Bartholomew & McArdle, supra note 36, at 698-704 (analyzing secondary civil liability in terms of causation and indicating that courts do so as well); see also Nathan Isaac Combs, Note, Civil Aiding and Abetting Liability, 58 Vand. L. Rev. 241, 292-99 (2005) (analyzing secondary liability in tort in terms of but-for cause, proximate cause, and foreseeability). But see Bartholomew, supra note 94, at 840-44 (discussing inducement in intellectual property law as “liability without causation”); see also supra Subpart II.3. 
\textsuperscript{323} See Robert D. Blair & Thomas F. Cotter, Rethinking Patent Damages, 10 Tex. Intell. Prop. L.J. 1, 4, 43-92 (2001) (arguing that patent infringement damages should follow the tort-law causation model, but without distinguishing direct and indirect infringement). 
\textsuperscript{324} It could be that Microsoft thought that Lucent’s patents were invalid or that it did not infringe them. But that suggests only that Microsoft is not morally blameworthy and is not liable for willful infringement. See 35 U.S.C. § 284 (2012). The bottom line is that Microsoft was found liable in spite of what it believed, and the issue being considered is the effect that Microsoft’s conduct had on the patent right.
Of course, some very sophisticated users could in theory write their own code that might happen to enable operating one’s email account in an infringing manner, and perhaps another software provider—probably unlikely given Microsoft’s market dominance—could have come forward with its own version of Outlook. The point is that computer users could and did use Outlook in an infringing manner with the indirect infringer’s knowledge, and Microsoft’s conduct is unquestionably both a but-for and proximate cause of harm to the patentee.\footnote{One of the fears of expansion of indirect liability is that legitimate commercial activity might unfairly become actionable in tort. See, e.g., Rantanen, supra note 86, at 1591 (“[I]ndirect infringement’s ability to deter must be balanced against the possibility of over-imposing liability on those who participate in commerce.”). However, the extensive actus reus (i.e., selling the enabling software and providing instructions to use it in an infringing manner) and mens rea (i.e., knowledge of infringement of a patent) create a tight causal link between the activities of the inducer and the harm to the patentee. In think this alleviates concerns about ensnaring legitimate commercial activity. In addition, at least in a subset inducement of infringement cases, it seems quite surprising that the accused manufacturer could not be found liable for direct infringement. See infra notes 346-347 and accompanying text.} Analyzing the causation issue another way, even though acts of direct infringement are surely expressions of independent human will, direct infringers can hardly be said to be “superseding causes” that could break the chain of causation between the conduct of the inducer and harm to the patentee.\footnote{See supra text accompanying notes 18-22.} As far as Outlook users know, they are doing nothing wrong when they are using the date-picker feature, and indeed their operation of the software in tortuous manner is perfectly reasonable and expected.\footnote{See 17 U.S.C. § 506 (2012) (criminal liability for copyright infringement); see also WALL STREET JOURNAL, How Much Does Illegally Sharing a Song Cost? $9,250, http://blogs.wsj.com/law/2012/09/11/how-much-does-illegally-sharing-a-song-cost-9250 (describing successful lawsuit for direct copyright infringement where an enabling service, i.e., Kazaa, was used). To be sure, there are instances of accidental copyright infringement that ordinary individuals may engage in every day. See generally John Tehranian, Infringement Nation: Copyright Reform and the Law/Norm Gap, 2007 UTAH L. REV. 537. Still, there surely is more deliberate (i.e., knowingly wrongful) copyright infringement than deliberate patent infringement by ordinary consumers.} In addition, and in stark contrast to copyright law,\footnote{Cf. Sherkow, supra note 28, at 4. Of course, criminal conduct can often become a superseding cause. See LEE & LINDAHL, MODERN TORT LAW, supra note 326, § 4:7 at 4-17.} patent infringers cannot incur criminal liability.\footnote{See J.D. LEE & BARRY A. LINDAHL, MODERN TORT LAW § 4:7 at 4-14 - 4-15 (2d ed. 2002) (“[A] superseding cause is one that alters the natural sequence of events and produces results that would not otherwise have occurred. Or one that is ‘of such an extraordinary nature or so attenuates defendant’s negligence from the ultimate injury that responsibility for the injury may not be reasonably attributed to the defendant.’” (footnotes and citations omitted)).} The issue of deterrence is closely related to the close nexus between acts of indirect infringers and harm to the patentee. Since patent infringers are not subject to criminal prosecution, and individual customers like Outlook users are almost never sued in tort for direct patent infringement, there is essentially no practical legal mechanism for deterring direct
Copyright owners engage in “education” campaigns to warn those who copy files that they might get into trouble, but we don’t see Lucent warning an average Outlook user about the date-picker function. Indeed, by not providing statutory damages and barring double recovery from direct and indirect infringers (both of which are allowed in copyright law), the Patent Act makes meaningful relief against direct infringers in some indirect infringement cases (specifically those where method patents are asserted) so impractical as to be all but impossible. It is as if, in the case of the manufacturer-inducer, patent law is designed to make the indirect cause of action the only route for obtaining compensation. And so, it makes little sense to persist, in the damages context, in the legal fiction of imputation. While the end users carry out the infringing combination of steps, the inducer is the entity that is really causing the invasion of the right to exclude. This disconnect between directly infringing conduct and harm to the patentee is particularly stark in the Akamai “divided infringement” scenario, since no individual entity whose acts might be imputed to the inducer can ever be held directly liable.

Although inducement of infringement lacks the moral blameworthiness of an enabling tort, the tight causal link between activities of the indirect infringer and the conduct of “primary tortfeasors” makes me think of inducement as “negligent entrustment on drugs.”

330 Cf. Love, supra note 138, at 934-41 (explaining why the deterrence rationale does not work against “innocent” or unknowing infringers, e.g., independent developers); see also Rantanen, supra note 86, at 1591 (“Indirect infringement . . . serves a deterrence function, as it incentivizes parties to avoid or minimize conduct that results in third-party infringement.”).


334 See supra note 332 and accompanying text; see also Arista Records LLC v. Lime Group LLC, 06–CV–5936 (KMW), 2011 WL 1338194, at *2-3 (S.D.N.Y. Apr. 17, 2011) (holding that on “the issue of whether a plaintiff should be precluded from recovering a statutory damage award from a secondarily liable inducer, with respect to those sound recordings for which that plaintiff has already obtained a judgment against an individual direct infringer,” that “Section 504 does not state that a copyright owner is limited to a single statutory damage award for each work, no matter how many actions the owner brings” (emphasis in original)).

335 See supra note 28 and accompanying text. The patent law also lacks a right of contribution, though such a right was recently proposed. See Bernard Chao, The Case for Contribution in Patent Law, 80 U. CIN. L. REV. 113 (2011).

336 See supra notes 68-70 and accompanying text.

337 See Sherkow, supra note 28, at 26 (“Inducement . . . is not a moral device but a tool concerned with providing economic recovery against “upstream” infringers.”).

338 See RESTATEMENT (SECOND) TORTS § 308 (1965) (“It is negligence to permit a third person to use a thing or to engage in an activity which is under the control of the actor, if the actor knows or should know that such person intends or is likely to use the thing or to conduct himself in the activity in such a manner as to create an unreasonable risk of harm to others.” (emphasis added)). Unlike inducement of infringement, which is a form of secondary liability, negligent entrustment is an
Liability for negligent entrustment may lie when the tortfeasor negligently provides an instrumentality (often a car) to a person—usually someone of questionable reputation—who goes on to use it to harm a victim. In indirect patent infringement cases, the inducer provides an instrumentality enabling tortuous acts to take place while on notice that a number of the ultimate users, regardless of their reputation or character, could use the instrumentality in an infringing manner—and besides, they could do so in the course of its normal operation, not during a “joyride.”

But what does this have to do with damages? Only that, given the close nexus between the acts of the indirect infringer and the ultimate harm to the patentee, it seems more sensible to view damages for indirect infringements as stemming ultimately from the inducer’s conduct rather than trying to approach the patentee’s loss formally as a sum total of discrete instances of direct infringement. The inducer was able to save on licensing, manufacturing, and design-around costs by including the “capable of infringing” feature in the multiple units of the product it sold. The fact that some of the units have not, for whatever reason, ended up being used in infringing manner may, or may not, speak to the magnitude of the reasonable royalty “adequate to compensate for the infringement.” The bottom line is that there is nothing wrong with focusing the analysis on the inducer’s activities to formally measure the harm to the patentee caused by the direct infringements. Moreover, because Akamai discarded the formalism that indirect liability cannot lie but for actionable conduct by a direct infringer, it appears even less problematic to stop viewing inducement liability as nothing but a series of acts of direct infringement imputed onto the inducer in the damages analysis.

Patent law already focuses on the conduct of the indirect infringer in other contexts, and money damages analysis should be no different. For example, when courts enjoin indirect infringers, they do not merely order them to stop carrying out acts of active inducement (e.g., providing instructions to end users) and leave the patentee with the remedy of pursuing injunctions against each direct infringer, assuming the end users continue to carry out infringing acts once the inducing conduct ceases. No—the courts generally enjoin the inducer from “making” and “selling” the product capable of carrying out the claimed method, which are distinctly 271(a), not 271(b), activities. This makes sense—it’s the “making” and “selling,” not

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339 See, e.g., Vince v. Wilson, 561 A.2d 103, 105 (Vt. 1989) (“[C]ourts have allowed recovery against an automobile dealer who sold a vehicle to an inexperienced and incompetent driver whose driving injured several people when the seller knew or should have known of the incompetency.” (citing Johnson v. Casetta, 197 Cal. App. 2d 271 (1961))).

340 See, e.g., Winn v. Haliday, 109 Miss. 691 (Miss. 1915). Of course, there are many deterrents for the primary tortfeasor from engaging in reckless driving: criminal liability, liability in tort, personal injury, and moral opprobrium. In sum, reckless driving sounds a lot worse than even primary copyright infringement!


342 I thank Professor Kevin Collins for suggesting that I make this point.

343 See, e.g., i4i Ltd. P’ship v. Microsoft Corp., 598 F.3d 831, 861 (Fed. Cir. 2010), aff’d, 131 S. Ct. 2238 (2011) (affirming injunction to prohibit “Microsoft from . . . selling, offering to sell, and/or importing into the United States any infringing Word products with the capability of opening XML files containing custom XML”).
“actively inducing,” that is likely to be the more significant but-for and proximate cause of the harm to the patentee. And, as already discussed above, when fact-finders set up a hypothetical negotiation for determining a reasonable royalty, the negotiation is assumed to take place between the patentee and the inducer, not between the patentee and multiple end users. Thus, perhaps for practical reasons, courts already treat inducers as “almost” direct infringers—as entities that did everything possible to ensure that patent infringement occurs, but avoided actually carrying out the claimed steps themselves. It does not serve the courts well to depart from this reality at the point of assessment of damages, and begin treating indirect infringement as series of discrete directly infringing acts imputed to the inducer.

5. Including noninfringing units in the royalty base does not impermissibly extend the scope of the patent right

At this point, the reader might come to believe that I am advocating extension of the scope of the patent tort infringement to unpatented items. As formulated by a district court in A&L Tech. v. Resound Corp. (albeit in a direct infringement case), “the established royalty rate . . . should be applied only to sales of infringing products to avoid running afoul of the policy against extending patents beyond their lawful scope.” Isn’t inclusion of units that have not been used to infringe in the reasonable royalty base in effect results in charging the indirect infringer for selling a noninfringing product? One answer, already suggested above, is that a proper royalty rate will ensure appropriate compensation for the patentee. But there is another
reason, related to the principle of using “convoyed” or collateral sales of non-patented items with the patented item to adjust the royalty, that counting “capable of infringing” units in the royalty base is consistent with sound patent damages principles.

Explaining convoyed sales, the A&L court modified its seemingly black-and-white “lawful scope” statement when it stated that the “licensee would in theory be disposed to pay a higher royalty if it could expect . . . collateral benefits,” such as sales on non-patented products that form a “functional unit” with the product covered by the claims of the patent at issue. Though controversial, this position reflects established Federal Circuit law before and since the A&L case, and indeed convoyed sales are subsumed within the sixth Georgia-Pacific factor, firmly entrenched in the reasonable royalty damages jurisprudence. In addition, convoyed sales can and do become a part of the royalty base, though of course the fact-finder must be careful to avoid double-counting of this factor.

272. But my argument at infra Subpart V.1 is precisely that the royalty base that includes noninfringing units can be the right royalty base in some circumstances. 

350 See, e.g., American Seating Co. v. USSC Group, Inc., 514 F.3d 1262, 1268 (Fed. Cir. 2008) (“A ‘convoyed sale’ refers to the relationship between the sale of a patented product and a functionally associated non-patented product.”); Interactive Pictures Corp. v. Infinite Pictures, Inc., 274 F.3d 1371, 1384 (Fed. Cir. 2001) (“The jury was entitled to rely on evidence of bundling [of the product covered by the patent with the product not covered by the patent] and convoyed sales in determining the proper scope of the royalty base.”).

351 Cf. Interactive Pictures, 274 F.3d at 1384 (“[Earlier case] does not require that estimates of sales revenues, as referenced in a hypothetical negotiation at the time infringement began, must later bear a close relation to actual sales revenue. Such a proposition would essentially eviscerate the rule that recognizes sales expectations at the time when infringement begins as a basis for a royalty base as opposed to an after-the-fact counting of actual sales.”) (emphasis added)).


354 Id. at 1556 (Nies, J, dissenting) (“A royalty must be based on the value of the patented hook, not on other features in the infringing device, e.g., the motors, which form no part of the patented invention used by [defendant]”); Lemley, supra note 118, at 665 (criticizing the importation of the concept of “convoyed goods” from the lost profits into the reasonable royalty context).


356 Georgia-Pac. Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970) (“The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales.”).

357 See State Indus., 883 F.2d at 1580 (“The value of collateral sales could also be factored into the royalty rate.”) (citing Deere & Co. v. International Harvester Co., 710 F.2d 1551, 1559 (Fed. Cir. 1983)); see also Michael R. Annis & Brad L. Pursel, Intellectual Property Valuation Under U.S. GAAP and the Impact on Intellectual Property Litigation, 38 AIPLA Q.J. 373, 390 (2010) (“A reasonable royalty rate accounts for derivative sales because a hypothetical licensee expecting a patent to generate such sales would pay a higher royalty.”).

358 As with the extent of use factor, the “convoyed sales” factor should be properly applied to figure the royalty rate, the royalty base, or else used in a holistic
To prove convoyed sales, the patent owner must generally show that the purchase of the convoyed good was driven by the demand for the claimed feature, or at the very least associated in some way with the purchase of a product that includes the claimed feature. Conceptually, then, if the plaintiff can show that some direct infringers would have bought a product capable of performing the claimed method based on their interest in the claimed feature, damages may still be due on the sale. As one of the amicus briefs in *Lucent* noted, this scenario is easily foreseeable for inventions whose value to their user lies in their capability to perform the claimed method—be they airbags, defibrillators, or snow-making machines. Of course, when taken to its logical extreme, the argument for assessing damages on “capability” products collapses. If an individual user bought a car thanks to his or her interest in having an airbag capable of performing a claimed method, then drove safely and thus ensured that the airbag never deployed (thus never carrying out the claimed method), no infringement damages could lie because the individual user has not performed acts giving rise to liability. This surely is a nightmare scenario for reasonable royalty determination for awarding a lump sum royalty. *Cf. Interactive Pictures*, 274 F.3d at 1385 (discussing “unfair double recovery”); *Rite-Hite*, 56 F.3d at 1549 n.9 (“[The] issue of royalty base is not to be confused with the relevance of anticipated collateral sales to the determination of a reasonable royalty rate.”).

The “convoyed sales” principle started off as only applicable to lost profits but expanded to reasonable royalties. *See infra* note 368 and accompanying text. I think that, because of the “convoyed sales” principle, the atomistic approach is also unsuitable when the measure of damages is lost profits. However, the analysis is different because the lost profits approach involves an ex post determination of what sales the plaintiff has lost due to the infringement, and does not have much to do with a hypothetical negotiation or what parties what would have considered. *See Ben-Shahar, supra* note 279, at 14 (explaining that lost profits and reasonable royalties measures of patent damages are fundamentally different because “[e]ach conforms to a different remedial conception”; lost profits is an ex post measure and “serves with great accuracy the ‘make whole’ principle, while reasonable royalty is an ex ante measure and ‘mimics the bargain that would have been struck,’ thus ‘protect[ing] the patentee’s market position’”). In lost profits cases, the relevant question is whether the patentee lost a sale based on the indirect infringer’s own sale of a “capable of infringing” units, and if the plaintiff can prove that this is the case, it should collect lost profits damages on sales of such units.


*See Lucent Co. v. Lantech, Inc.*, 926 F.2d 1136, 1144 (Fed. Cir. 1991).

*See Lucent Techs., Inc. v. Gateway, Inc.*, *Brief of 13 Diverse Innovators As Amici Curiae in Support of Lucent Technologies, Inc.*, 2009 WL 870147, at *26 (N.D. Cal. Mar. 5, 2009) (“[T]here are some inventions having value that is derived from just being available, not from actually being used. For example, someone buying an automobile probably considers an airbag an important feature. But an airbag has value even if it is never actually used—in fact, the customer hopes it is never used. In this situation, therefore, the value of a patent on the use of airbags to a prospective licensee—and thus the royalty that would be the result of the hypothetical negotiation—would depend on the number of airbags to be placed in vehicles, not the number of airbags that might subsequently inflate in collisions. The same thing could be said for any number of inventions, from defibrillators to antivirus software to spare tires. Requiring district courts in these situations to limit damages awards based on the actual use of the invention, rather than on the invention’s real value, would divorce the damages analysis from economic reality.” (emphasis in original)).
the patentee, but we do not have to feel sorry because the problem could have perhaps been anticipated with appropriate claim drafting.\footnote{See, e.g., Mark A. Lemley, David W. O’Brien & Wade Malone, Capability Claiming, available at https://www.law.stanford.edu/sites/default/files/event/266396/media/slspublic/Panel%201%20-%20Mark%20Lemley%20et%20al%20-%20Capability%20Claiming.pdf (explaining how method claims cast in functional terms, e.g., having “capable of” phrasing, may afford broader claim coverage). Apparatus claims can also help the patentee in this scenario. See infra notes 52-53 and accompanying text.}

The situation is different, however, in the \textit{Lucent} and \textit{Cardiac Pacemakers} scenarios. There, the liability for the indirect infringement has already been established, and the infringement action has proceeded to the separate step of the money damages assessment.\footnote{See supra notes 52-53 and accompanying text.} The question of whether or not to include noninfringing but “capable of infringing” units in the royalty base reduces to the question of what kind of legal harm to the right to exclude occurred due to the infringement.\footnote{See supra note 344 and accompanying text.} The hypothetical negotiation analysis tackles this question, with the fact-finder left to figure out whether or not noninfringing units would have been included in the royalty base by the parties.\footnote{See supra Subpart V.2.} In some situations, the patentee would have surely received a royalty payment on the sale whether or not the claimed method were to be practiced by the end user;\footnote{See supra note 251 and accompanying text.} assessing the damages on such sales thus satisfies the but-for test reflected in the application of the convoyed-sales principle in the reasonable royalty context.\footnote{See generally Blair & Cotter, supra note 323 (advocating the but-for approach for patent damages generally).}

The general approach of “liability opening the door to damages” is not unprecedented. We see something similar in the “eggshell plaintiff” principle of tort law, where courts refuse to “subdivide” the extent of harm occasioned by a tortfeasor into foreseeable and unforeseeable damages.\footnote{See, e.g., Benn v. Thomas, 512 N.W.2d 537, 538 (Iowa 1994) ("[T]he ‘eggshell plaintiff’ rule . . . requires the defendant to take his plaintiff as he finds him, even if that means that the defendant must compensate the plaintiff for harm an ordinary person would not have suffered.").} Contract law, too, has its own take on the “liability opening the door to damages” approach, as reflected in awards of consequential damages.\footnote{See, e.g., \textsc{Uniform Commercial Code} § 2-715(2) (“Consequential damages resulting from the seller’s breach include (a) any loss resulting from general or particular requirements and needs of which the seller the time of contracting had reason to know and which could not reasonably be prevented by cover or otherwise; and (b) injury to person or property proximately resulting from any breach of warranty.”).}

Such damages may be assessed in addition to general contractual damages measured by expectation, reliance, or restitution interests, and are limited by the principle of foreseeability.\footnote{Professor Marvin Chirelstein explains that the foreseeability limitation to consequential damages is driven by the “absolute” nature of contract liability, which}
famous case of *Sheldon v. Metro-Goldwyn Pictures Corp.*[^372] allowed the plaintiff to recover damages for exploitation of a copyrighted work abroad. Although the rule of *Sheldon* is in tension with the principle of territoriality of copyright law[^373], the court reasoned that, since the initial act of infringement (i.e., copying) occurred in the United States, damages attributable to the infringement—no matter where the copyrighted work was ultimately exploited—could be properly assessed on the theory of constructive trust[^374].

I do not mean to suggest that the atomistic approach is inapplicable in all patent damages scenarios, and in the next section I explore when such an approach might be justified. Nevertheless, the principle of convoyed sales and the examples from other areas of law support the point that “non-atomistic” approaches to the measure of damages are not unprecedented and do not have to be seen as impermissibly overcompensating the patentee. In indirect patent infringement cases, it is not that inducers are charged for selling items that only have the capability to infringe. Instead, the issue is better viewed as follows: Upon being found liable for indirect infringement, the defendants may become exposed to a measure of damages that, for an appropriate calculation of foreseeable harm, includes “capable of infringing” units in the royalty base along with the units of the same type of device actually used to infringe.

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[^372]: 106 F.2d 45, 52 (2d Cir. 1939), *aff’d*, 309 U.S. 390 (1940). *Accord* *L.A. News Serv. v. Reuters Television Int’l, Ltd.*, 149 F.3d 987, 992 (9th Cir. 1998) (“Under the Second Circuit’s rule . . . a party becomes liable for extraterritorial damages only when an act of infringement occurs within the United States, subjecting it to liability as an infringer (or a contributory infringer) under the Copyright Act.”).

[^373]: *L.A. News*, 149 F.3d at 990-91.

[^374]: *Sheldon*, 106 F.2d at 52. I do necessarily not advocate collecting indirect infringement damages in patent law when the steps of the claimed method are carried out abroad. It is well-settled that a sale of a patented item abroad is outside of the reach of U.S. patent law. *See* *Dowagiac Mfg. Co. v. Minn. Moline Plow Co.*, 235 U.S. 641, 650 (1915). Thus, even if royalties in a hypothetical agreement were to be based on sales of an item capable of carrying out a claimed method and not on actual use, the agreement could not trigger royalty obligations for an extraterritorial sale. A more interesting situation would arise if the sale occurred in the U.S. but the method was practiced abroad. Since the test is what parties would have agreed to in a hypothetical negotiation, it would appear that the plaintiff could collect damages for this unit if it could prove that the royalty agreement would have been based on sales. However, the powerful principle of territoriality of U.S. patent law might militate against the award of damages in this scenario and justify “atomistic” reasoning. *See, e.g.*, Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law*, 49 WM. & MARY L. REV. 2119, 2129-36 (2008) (discussing the Supreme Court’s strict application of the territoriality principle and the use of the presumption against U.S. patent law’s extraterritorial applications).
In contrast, the atomistic approach analytically breaks down the indirect infringement into many different “sub-torts” and limits the damages accordingly. Such an approach, however, has been generally rejected in several Federal Circuit cases in favor of the but-for approach. If we can charge the defendant for sales of “convoyed” but completely unpatented items, surely it is consistent to also charge it for sales of “capable of infringing” items that the parties would have included in the royalty base.

6. Scenarios where the atomistic approach is appropriate

All criticism aside, the atomistic approach can be appropriate in certain circumstances. I have already discussed the Standard Havens case, which involved exclusion of units that were not capable of infringing in any configuration. Of course, also properly excluded from the damages base are the sales that precede the existence of patent rights, since hypothetical negotiation by definition begins at the time of first infringement—and infringement before the existence of patent rights is not possible. Another obvious example of an appropriate use of the atomistic approach, in a temporal sense, is the prohibition against collecting damages for the period when the patentee fails to mark its products, if any, which is explicitly authorized by statute. Finally, to round out the list of the easy ones, the Federal Circuit was right to prevent the plaintiff from collecting damages on sales by an entity not related to the infringer.

There are other interesting cases that could properly give rise to atomistic-type approaches to damages. For example, in the Lexmark inkjet cartridge litigation, the declaratory judgment plaintiff, SCC, requested summary adjudication of no indirect liability on sales by an entity not related to the infringer.

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375 See supra notes 244-248 and accompanying text.
376 See, e.g., Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538 (Fed. Cir. 1995) (en banc); see also Seaman, supra note 143, at 1700-01.
377 See supra notes 229-233 and accompanying text.
378 Joy Techs., Inc. v. Flakt, Inc. 6 F.3d 770 (Fed. Cir. 1993). In an important recent case, the Federal Circuit held that the date of the hypothetical negotiation in inducement cases is the date that underlying direct infringement attributable to acts of inducement, not the date that there relevant state of mind for inducement was formed. Laserdynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 75-76 (Fed. Cir. 2012). The Laserdynamics court rejected the concept of “atomizing” the negotiation date: “[T]here should be only a single hypothetical negotiation date, not separate dates for separate acts of infringement, and that a direct infringer or someone who induced infringement should pay the same reasonable royalty based on a single hypothetical negotiation analysis.” Id. at 76.
379 It is, however, possible to collect damages for infringement based on “provisional rights,” i.e., claims in a published patent application if the “invention as claimed in the patent is substantially identical to the invention as claimed in the published patent application.” 35 U.S.C. § 154(d).
380 Cf. Blair & Cotter, supra note 16, at 806 (“[T]he owner of an idle patent may recover damages for conduct occurring prior to the receipt of notice, although typically these damages will take the form of a reasonable royalty, rather than lost profits.” (emphasis added)).
382 See Mitutoyo Corp. v. Central Purchasing, LLP, 499 F.3d 1284 (Fed. Cir. 2007).
some of its customers, who sold Lexmark’s toner cartridges covered by Lexmark’s method patents.\footnote{Lexmark argued that SCC induced the remanufacturers’ infringement by “sell[ing] to the remanufacturers parts and supplies for reworking the used toner cartridges, such as replacement parts, toner, and microchips.” Static Control Components, Inc. v. Lexmark Int’l, Inc., 487 F. Supp. 2d 830, 835 (E.D. Ky. 2007).} SCC contended that “Lexmark lacks the evidence necessary to sustain a finding of direct patent infringement on the part of ‘anonymous remanufacturers,’ on which Lexmark conducted no direct, remanufacturer-specific discovery.”\footnote{Static Control Components, Inc. v. Lexmark Int’l, Inc., Nos. 5:02–571, 5:04–84, 2008 WL 4542735, at *3 (E.D. Ky. Oct. 3, 2008).} Given that the motion was styled in terms of limiting liability based on the absence of proof of infringing activities by specific customers, rather than limiting damages, the court focused on liability in rejecting the motion:

Case after case supports Lexmark’s position that it has no duty to depose or investigate every alleged direct infringer . . . to sustain its burden of proving direct infringement. . . . The Court ultimately finds that a material issue of fact exists regarding whether the cartridge remanufacturers infringe as a class.\footnote{See generally Gregory C. Keating, The Theory of Enterprise Liability and Common Law Strict Liability, 54 VAND. L. REV. 1285 (2001).}

This language implies that a plaintiff could potentially fail to show that a category of direct infringers exists. If this is the case, the plaintiff might have to cast its theory of liability (and therefore damages) more narrowly. In the end, Lexmark was unable to prove at trial what the court interestingly termed “enterprise liability,”\footnote{Id. at 893 (citations omitted) (emphasis added).} evoking a tort law rule allowing for a finding of liability for a whole class of accused tortfeasors without proof of liability for each specific member of the class.\footnote{Id.} As a result, “it was reasonable for the jury to decide that Lexmark had not proven its case for direct infringement by the entire class of [SCC’s] customers by a preponderance of the evidence.”\footnote{Static Control Components, Inc. v. Lexmark Int’l, Inc., Nos. 5:02–571, 5:04–84, 2008 WL 4542735, at *3 (E.D. Ky. Oct. 3, 2008).} The court allowed the jury to restrict liability, and therefore damages, to sales that SCC made to specific cartridge remanufacturer customers for whom direct infringement was proven.\footnote{Of course, it does not matter under this approach whether the plaintiff asks for reasonable royalty or lost profits damages because the finding is styled in such a way that there is no underlying liability as a matter of law for specific customers. See supra Subpart IV.2.}

Although it did not grant a summary judgment limiting damages, the Lexmark court followed an approach that was similar to the particularized theory of liability propounded in Cardiac Pacemakers.\footnote{See supra Subpart IV.2.} The difference between Lexmark and Cardiac Pacemakers is based on the absence of infringing activities by some end users, rather than on the absence of infringing utilization of some devices.

Lexmark, however, may be consistent with the principle of Lucent in that, in a hypothetical licensing negotiation, the parties might have agreed to treat sales to some remanufacturer customers differently from sales to others. Perhaps, SCC’s sales to certain remanufacturers would not have triggered royalty obligations because those specific buyers would not have
assembled infringing cartridges. Indeed, because the customers in Lexmark were not individuals but commercial entities, it is reasonable to speculate that Lexmark and SCC, had they negotiated a license, would have entered into separate licensing agreements whenever SCC began selling its products to a new remanufacturer. Given the unique status of customers in Lexmark, the case may be distinguishable from Lucent and Cardiac Pacemakers. In contrast, it is unimaginable that the parties would structure a licensing agreement in a customer-specific manner in cases like Lucent and Cardiac Pacemakers, where the sales are made to untold number of dispersed end users of the patented technology.  

Lexmark did not invent the class, or category, approach—it originated from the case of Dynacore Holdings v. U.S. Philips, on which Microsoft relied to make its damage-limiting argument in Lucent. The patent in suit in Dynacore was directed to Local Area Networks, or LANs, and “a method of communicating information frames between three nodes in a . . . LAN.” The court ultimately affirmed a summary judgment order of no contributory infringement or inducement of infringement by the defendants who sold products that could have been configured to fall within the scope of the patent’s claims, but nevertheless offered its view on the issue of damages. The opinion is a bit cryptic because the language seemingly blurs the requirements for establishing indirect infringement liability and calculating damages for such liability. The court said that “[a] defendant’s liability for indirect infringement must relate to the identified instances of direct infringement,” which is consistent with other indirect infringement cases insofar as a threshold showing of direct infringement must typically support a finding of indirect infringement. The court then stated that “[p]laintiffs who identify individual acts of direct infringement must restrict their theories of vicarious liability—and tie their claims for damages or injunctive relief—to the identified act.” Clarifying what that meant in the scenario of manufacturer-inducer and a class of directly infringing customers, the court then opined that “[p]laintiffs who identify an entire category of infringers (e.g., the defendant’s customers) may cast their theories of vicarious liability more broadly, and may consequently seek damages or injunctions across the entire category.”

Lucent and several other cases that followed Dynacore did not read that case to endorse a hardline atomistic approach. Indeed, proving up a
“category of infringers” under the hypothetical negotiation construct would properly require examining customary licensing practices in order to determine whether or not the plaintiff and the indirect infringer would have subdivided the license into provisions that call out sales to specific customers. Again, where the potential direct infringers belong to a large, undifferentiated class of customers so that it is nearly impossible to predict, at the time the license agreement is entered into, which of them would actually perform the patented method under license, and no monitoring of end-user usage patterns is expected—the answer would likely be “no.” In the language of Dynacore as informed by Lucent, the plaintiff should be able to seek damages in those cases for a “category of infringers” without any damages limitations as a matter of law. As Lucent suggested, the limited extent of directly infringing use would properly be reflected in a damages award that is based on an appropriately low royalty rate, a reduced royalty base, or a small lump-sum “licensing” payment. In contrast, the atomistic approach invites error by introducing ex post elements into an ex ante hypothetical negotiation.

VI. CONCLUSION

Damages is a highly contentious area of patent law, and numerous reform proposals have been introduced to ensure that infringement awards provide an appropriate level of compensation for patent owners without being punitive or out of proportion to the value of the patented invention. It is often said that courts have struggled to fulfill their gatekeeping role under the current legal framework for figuring patent damages, though other commentators have argued to the contrary and recent cases indicate a trend toward increasingly vigorous review of damages awards at the Federal Circuit. This Article has focused on damages for indirect

401 See supra notes 250-252 and accompanying text; cf. Subpart V.2 (discussing customary licensing practices in the direct infringement context).
402 Dynacore, 363 F.3d at 1274.
403 See supra Subpart IV.1.
406 William C. Rooklidge & Martha K. Gooding, The Real Problem with Patent Infringement Damages, 91 J. PAT. & TRADEMARK OFF. SOC’Y 484, 506 (2009) (“There is a common perception that ‘damage awards are seldom overturned on appeal.’ That perception is wrong. Even discounting damage awards that are overturned because of reversal or vacatur of the underlying liability ruling, the Federal Circuit has overturned many damages awards. Indeed, the Federal Circuit repeatedly has shown willingness to overturn jury damages verdicts.”); see also Opderbeck, supra note 404, at 131.
407 Laserdynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51 (Fed. Cir. 2012); Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292 (Fed. Cir. 2011); Wordtech
infringement and discussed two Federal Circuit opinions that reflect this trend. One of the opinions, *Cardiac Pacemakers v. St. Jude Medical*, has endorsed a special damage-limiting rule for indirect infringement cases may result in a systematic undercompensation of the plaintiff. I think that rule is misguided. Contributory liability in patent law has firm historical roots, making suspect an approach that departs from Federal Circuit precedent on reasonable royalty in order to cut back on indirect infringement damages. This is all the more so given the relatively more stringent substantive requirements for proving indirect, as opposed to direct infringement liability.

Additionally, the indirect infringement cause of action, and particularly inducement of infringement under Section 271(b), often provides the only realistic route for enforcing process or “method” claims. While they are an integral part of the statutory scheme for patentable subject matter, method claims are already somewhat disfavored because of the evidentiary difficulties associated with proving their infringement and doctrines that limit their usefulness. *Cardiac Pacemakers* further singles


See supra Subpart IV.2.

See generally Adams, supra note 23.

Cf. supra Subpart V.2.

See supra Part II.

See supra note 52.

35 U.S.C. § 100(b) (2012) (defining “process” as “process, art, or method, and . . . a new use of a known process”) (emphasis added); id. § 101 (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . . ”) (emphasis added).

See Sean B. Seymore, *Rethinking Novelty in Patent Law*, 60 Duke L.J. 919, 957-58 n.188 (2011) (describing evidentiary difficulties for proving infringement of method claims and other disadvantages of such claims); see also Dan L. Burk, *Patenting Speech*, 79 Tex. L. Rev. 99, 148 (2000) ("[P]olicing prohibited uses of patented inventions is notoriously difficult. For precisely this reason it is a maxim, and almost a cliché, that a patent owner would rather hold a product patent than a process patent. Process infringement occurs behind the scenes, in use or production of the unpatented materials, and it is not always possible to tell whether the materials were made via the patented process or via some other public domain process.").

out method claims for unfavorable treatment, and does so in a manner inconsistent with the widely accepted hypothetical negotiation framework. Although the Cardiac Pacemakers approach is faithful to the formal principles of secondary liability in tort, it is in tension with ex ante approach for calculating reasonable royalties. Specifically, the strict tort approach ignores the reality that parties to a negotiation would not, in many circumstances, distinguish between method and apparatus claims in structuring royalty payments in a license agreement. Just as uncertain patentability of method claims might reduce incentives to innovate in industries where apparatus or composition claims provide little coverage or are difficult to draft, availability of systematically lower damages for indirect infringement of such claims, owing to a questionable rule, might lead to the same undesirable effect.

In devising a uniform approach to indirect infringement damages, courts should take into account the policies behind the indirect infringement causes of action and the important role that method claims play in providing patent protection. The first step in the search for the proper remedial approach, however, is to realize that secondary liability in patent law is sufficiently different from its tort law roots so that the formalism of imputation is unhelpful in the damages analysis.

417 See Abernathy, supra note 416, at *24-27.