Extraterritorial Damages in Patent Law

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EXTRATERRITORIAL DAMAGES IN PATENT LAW♦

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ABSTRACT

In 2018, the Supreme Court in WesternGeco LLC v. ION Geophysical Corp. *held that the owner of a U.S. patent could recover its lost profit on sales it would have made outside the United States, but for the defendant's violation of 35 U.S.C. § 271(f)(2)—a rarely used provision of the Patent Act that prohibits, subject to certain conditions, the export of patented components for combination abroad. The Court left open the question of whether owners also can recover extraterritorial damages resulting from the (much more common) setting in which the defendant is accused of an initial act of making, using, or selling the invention within the United States, in violation of section 271(a). Consideration of this question exposes an ostensible tension between two long-established principles of U.S. patent law: first, that owners are, in general, entitled to full compensation for their losses; and second, that patent rights are territorial—that is, unenforceable against conduct occurring outside a nation's borders.*

This Article argues that allowing patent owners to recover damages for extraterritorial losses stemming from violations of section 271(a) does not, in fact, undermine the territoriality principle, as long as courts are consistent in their application of three limiting principles. The first is that the domestic infringement must be the cause-in-fact (or "but-for" cause) of the defendant's subsequent foreign sales. While this requirement might seem obvious, in the present context it means that, if the

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defendant could have avoided infringing the U.S. patent by outsourcing production, then, as a matter of economic logic, the domestic infringement is not a cause-in-fact of the extraterritorial sales, and at most the patent owner is entitled to a royalty reflecting the lower cost, if any, of domestic manufacture. Second, even if the domestic infringement is the cause-in-fact of foreign sales, the patent owner cannot recover damages unless those sales also are proximately caused by the domestic infringement. Contrary to the views of some commentators, however, there is nothing inherently *unforeseeable, indirect, remote, or speculative about foreign sales tied to domestic infringement, and there is no sound public policy reason for categorically excluding them from consideration. The third principle is that courts should not compensate patent owners twice for the same loss. Fortunately, courts in the United States and elsewhere have considerable experience applying, under a range of circumstances, the "single recovery" rule (otherwise known as the rule against double recovery). Taken together, application of these principles should enable courts to avoid the parade of horribles that some commentators fear will result from any slackening of the territoriality principle.*

INTRODUCTION

Let's begin with a hypothetical. Suppose that a firm—call it Starchild Solar Systems, Inc.—is the owner of a U.S. patent on a new type of solar photovoltaic cell. Starchild engages in the domestic manufacture of solar cells incorporating its patented technology and then markets these products throughout the United States and Canada. One of

Starchild's principal competitors, Big Bang Solar LLC, also makes solar cells in the United States and sells them to customers in both countries. In 2020, Starchild files suit against Big Bang, alleging that Big Bang's manufacture and sale of solar cells in the United States violates Starchild's U.S. patent. If it turns out that the patent is both valid and infringed, and Starchild can prove that it would have made an additional one hundred sales to U.S. customers absent the infringement, U.S. law would entitle Starchild to recover its lost profits on those forgone sales.[1] Suppose, however, that Starchild can also prove that, but for Big Bang's infringing domestic manufacture of solar cells, Starchild would have made an additional one hundred sales in Canada. Unlike Big Bang's sales in the United States, these Canadian sales do not infringe the U.S. patent;[2] but the preceding act of domestic U.S. manufacture, which enabled the Canadian sales, does. On these facts, should Starchild be entitled to recover its lost profit on the lost Canadian sales, in accordance with the well-established principle that courts generally should "afford the plaintiff full compensation for the infringement"?[3] Or should the court reject the claim for lost profits on the Canadian sales, in accordance with the

[1] *See, e.g*., Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1543 (Fed. Cir. 1995) (en banc); Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1156 (6th Cir. 1978).

[2] In general, U.S. patent rights do not apply extraterritorially. *See* Microsoft Corp. v. AT & T Corp., 550 U.S. 437, 443–44 (2007); Brown v. Duchesne, 60 U.S. 183, 195–96 (1856). Therefore, the sales in Canada would not infringe the U.S. patent. If Starchild has a corresponding Canadian patent, Big Bang's sales in Canada may infringe the Canadian patent, but a U.S. court would be unlikely to adjudicate a claim for the infringement of the Canadian patent. *See* Voda v. Cordis Corp., 476 F.3d 887, 897–905 (Fed. Cir. 2007) (holding that, in view of, *inter alia*, the principle of patent independence, it was an abuse of discretion for a U.S. court to assert supplemental jurisdiction to adjudicate claims arising under foreign patents); *see also* Paris Convention for the Protection of Industrial Property art. 4 bis, Mar. 20, 1883, 21 U.S.T. 1583, 828 U.N.T.S. 305 (providing independence of patents for the same invention obtained in different countries); *cf.* Graeme B. Dinwoodie, *Developing a Private International Intellectual Property Law: The Demise of Territoriality?*, 51 WM. & MARY L. REV. 711, 733–34, 752–60, 792–800 (2009) (critiquing some of the reasoning of *Voda* and arguing that courts should have authority to adjudicate foreign patent claims under some circumstances, while recognizing that for the most part courts do not do so). The law in the United Kingdom on this issue may be changing, however. *See* Actavis Grp. hf v. Eli Lilly & Co. [2013] EWCA (Civ) 517, [51], [2013] RPC 37 (Eng.) ("[T]he English court has jurisdiction to entertain claims for infringement of foreign intellectual property rights provided validity is not in issue and there is a basis for exercising jurisdiction over the defendant.").

[3] Gen. Motors Corp. v. Devex Corp., 461 U.S. 648, 654–55 (1983) (stating that, in enacting 35 U.S.C. § 284, which states that "the court shall award the claimant damages adequate to compensate for the infringement," "Congress sought to ensure that the patent owner would in fact receive full compensation for 'any damages' he suffered as a result of the infringement" and that "Congress' overriding purpose" was to "afford[ ] patent owners complete compensation"); *Rite-Hite*, 56 F.3d at 1544–45 (interpreting *Devex* and the plurality opinion in Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 507 (1964), as articulating a "but for" test, under which "the general rule for determining actual damages to a patentee that is itself producing the patented item is to determine the sales and profits lost to the patentee because of the infringement"); *see also* Grain Processing Corp. v. Am. Maize-Prods. Co., 185 F.3d 1341, 1349 (Fed. Cir. 1999) (citing *Rite-Hite* for the proposition that "[f]ull compensation includes any foreseeable lost profits the patent owner can prove").

(equally venerable) principle that U.S. patent law "makes no claim to extraterritorial effect?"[4]

The hypothetical facts above are fictional; but the general fact pattern, and variations on it, have arisen from time to time both in the United States and abroad.[5] Addressing one of these variations, in 2018 the U.S. Supreme Court, in *WesternGeco LLC v. ION Geophysical Corp.*, held that the owner of a U.S. patent could recover its lost profit on sales it would have made outside the United States, but for the defendant's violation of 35 U.S.C. § 271(f)(2).[6] Section 271(f)(2) is a little-used[7] provision of the U.S. Patent Act that prohibits the supply from within the United States of a component of a patented invention with the intent that it will be combined outside the United States in a manner that would infringe the U.S. patent had the combination occurred within the United States.[8] Since *WesternGeco*, a handful of district courts have begun to consider whether patent owners can also recover extraterritorial damages resulting from a defendant's violation of 35 U.S.C. § 271(a), which generally forbids the unauthorized manufacture, use, or sale of a patented invention within the United States.[9] So far, however, the United States Court of Appeals for the Federal Circuit, which hears all appeals in U.S. patent infringement actions, has yet to weigh in on whether *WesternGeco* implicitly overrules earlier Federal Circuit case law precluding extraterritorial damages for violations of section 271(a).

This Article argues that courts should permit patent owners to recover damages to compensate for extraterritorial sales tied to domestic

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[4] *Microsoft*, 550 U.S. at 444 (quoting *Brown*, 60 U.S. at 195).

[5] *See infra* Part I.

[6] WesternGeco LLC v. ION Geophysical Corp.,138 S. Ct. 2129, 2134, 2139 (2018).

[7] A Lex Machina search conducted in June 2020 reported 72,416 patent cases from January 1, 2000, through June 15, 2020. Within this dataset, there were 33,428 complaints citing section 271(a) or keywords relating to section 271(a) (*e.g*., "direct infringement"); 441 citing section 271(f) or keywords relating to section 271(f) (*e.g*., "supplying components"); and 118 citing section 271(f)(2) (search results are on file with author). Presumably, some complaints cited other provisions of section 271, or none at all, but the relative scarcity of explicit citations to section 271(f) or related keywords (or to section 271(f)(2) in particular) is consistent with the belief that these provisions are not commonly used. *See, e.g*., Eric Enger, *The U.S. Supreme Court's Focus on IP Damages Issues*, THE ADVOCATE (TEX.), Spring 2019, at 10, 12 (describing section 271(f)(2) as "a rarely used infringement theory").

[8] Section 271(f)(2) of the U.S. Patent Act provides:

> Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(2) (2018). For further discussion, see *infra* notes 59–61 and accompanying text.

[9] *Id.* § 271(a) ("Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.").

conduct in violation of section 271(a)—or, to put it another way, that such sales should be considered a *cognizable* harm under U.S. patent law[10]—subject, however, to three important limiting principles. Application of these principles should enable courts to avoid the parade of horribles that some commentators, including the dissenting justices in *WesternGeco*,[11] fear will result from any slackening of the territoriality principle.

The first limiting principle is that the domestic infringement must be the cause-in-fact (or "but-for" cause) of any extraterritorial sales that allegedly harm the patent owner or benefit the infringer.[12] While this requirement might seem obvious, in the present context it means that, if the defendant could have avoided the predicate act of infringing the U.S. patent by engaging in the very same conduct outside the United States, then, as a matter of economic logic, the domestic infringement is *not* a cause-in-fact of the extraterritorial sales. In the Starchild hypothetical, for example, if Big Bang could have avoided infringing the U.S. patent by shifting its manufacturing operations to Canada (or some other country), such outsourcing should count as a noninfringing alternative that breaks the causal chain between the actual (U.S.) infringement and the foreign sales. In such a case, the patent owner's damages should consist only of a reasonable royalty capped by the value (e.g., lower labor or transportation costs, if any) the defendant derived from domestic, as opposed to foreign, production.[13]

Second, even if the domestic infringement is the cause-in-fact of foreign sales, the patent owner cannot recover damages reflecting those sales unless the sales also are proximately caused by the domestic infringement.[14] Under conventional tort law principles, this means that courts should reject claims for damages reflecting extraterritorial sales that are "unforeseeable," "indirect," "remote," "speculative," or barred for "policy considerations."[15] To be sure, these terms are hardly self-defining; but one can look to other patent and commercial law cases for guidance, and this Article will argue that, contrary to the views of some commentators, there is nothing *inherently* unforeseeable, indirect, remote, or speculative about foreign sales tied to domestic infringement,

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[10] *See infra* Section II.A. From time to time, this Article also will note how U.S. courts have addressed the issue of extraterritorial damages in copyright law. For a fuller discussion, however, see Thomas F. Cotter, *Extraterritorial Damages in Copyright Law* (unpublished manuscript) (on file with author).
[11] *See WesternGeco*, 138 S. Ct. at 2139–44 (Gorsuch, J., dissenting).
[12] *See infra* Section II.B.
[13] *See infra* note 158 and accompanying text.
[14] *See infra* Section II.C.
[15] Roger D. Blair & Thomas F. Cotter, *Rethinking Patent Damages*, 10 TEX. INTELL. PROP. L.J. 1, 71 (2001) ("Courts frequently state that the proximate cause doctrine screens out claims that are 'unforeseeable,' 'indirect,' 'remote,' 'speculative,' or barred for 'policy considerations,' without much analysis beyond the use of these conclusory terms.") (footnotes and citations omitted).

and no sound public policy reason for categorically excluding them from consideration.

The third limiting principle is that courts should not compensate patent owners twice for the same loss. Fortunately, courts have considerable experience applying what is known in common law countries as the "single recovery" rule (or "rule against double recovery").[16] Thus, even if Big Bang's Canadian sales were both caused-in-fact and proximately caused by its infringing U.S. manufacturer, a U.S. court should reduce the lost profits award on the Canadian sales by the amount (if any) that a Canadian court already has awarded Starchild for the infringement of its corresponding Canadian patent (if any).[17] Note that if the shoe were on the other foot, it is likely that a Canadian court would do precisely the same thing—as in fact, one Canadian court *has* done in an analogous case in which it was the corresponding U.S. litigation that terminated first.[18]

Part I provides an overview of the case law on extraterritorial damages, from the mid-nineteenth century through *WesternGeco* and subsequent lower court decisions. Part II discusses why, both as a matter of doctrine and policy, courts should award damages for extraterritorial losses caused by domestic infringement, but only subject to the three limiting principles set forth above. Part III illustrates the application of these principles with reference to several hypothetical cases. A brief conclusion follows.

I. CASE LAW

Oddly enough, what may well be the first decision anywhere to express approval for awarding extraterritorial damages for domestic infringement is also the foundational case establishing the principle that patents are territorial rights: *Brown v. Duchesne*.[19] Plaintiff John Brown, inventor of a patented "gaff saddle"—"a curved piece of wood or plate of metal that partially wraps around the mast of a ship and supports a gaff, or small boom, at the top of a four-sided sail"[20]—filed suit against the

[16] *See e.g.*, Anheuser-Busch, Inc. v. Starley, 170 P.2d 448, 452 (Cal. 1946) (Traynor, J., dissenting) (stating that "[w]hen the plaintiff has accepted satisfaction in full for the injury done him, from whatever source it may come, he is so far affected in equity and good conscience, that the law will not permit him to recover again for the same damages," and that "the rule against double recovery is aimed at preventing unjust enrichment") (internal quotations omitted); *see also infra* notes 191, 197–198 and accompanying text.

[17] *See supra* note 2 (noting the possibility that Starchild might have a corresponding Canadian patent).

[18] *See infra* notes 46–49 and accompanying text.

[19] Brown v. Duchesne, 60 U.S. 183 (1856).

[20] John H. Evans, National Steel Car Ltd. v. Canadian Pacific Railway, Ltd.*: International Commerce and Exemption from Patent Infringement*, 46 JURIMETRICS 459, 461 n.10 (2006) (citing THE OXFORD COMPANION TO SHIPS AND THE SEA 333–34 (Peter Kemp ed., 1976) and Mode of Constructing Gafts [sic] of Sail Vessels, U.S. Patent No. 1,060 (issued Dec. 31, 1838)). Although the opinion does not mention the patent number of the patent in suit, the patent Evans cites is for a gaff

captain of a French schooner that was temporarily in port in Boston Harbor, alleging that the schooner made use of Brown's patented invention. The lower court dismissed the action[21] and the Supreme Court affirmed. Writing for the Court, Chief Justice Taney began by asserting that Congress's power to grant patents "is domestic in its character, and necessarily confined within the limits of the United States."[22] From this principle, he further inferred that the Constitution "confers no power on Congress to regulate commerce, or the vehicles of commerce, which belong to a foreign nation, and occasionally visit our ports in their commercial pursuits," and thus concluded that the vessel's temporary presence in the United States did not give rise to a claim for patent infringement.[23] More precisely, the Court noted that the ship "could hardly be said to use [the invention] while she was at anchor in the port, or lay at the wharf," and that "the only use made of it, which can be supposed to interfere with the rights of the plaintiff, was in navigating the vessel into and out of the harbor, when she arrived or was about to depart, and while she was within the jurisdiction of the United States."[24] Brushing aside the textualist argument that this use was, nevertheless, an act of infringement,[25] the Court also observed that any damage sustained by the plaintiff from this domestic activity would have been *de minimis*.[26] The principal use of the

saddle, and the inventor is John Brown.

21 Brown v. Duchesne, 4 F. Cas. 369 (C.C.D. Mass. 1855).

22 *Brown*, 60 U.S. at 195. For discussion and criticism of various rationales in support of the general presumption that statutes do not apply extraterritorially (international law, international comity, choice-of-law principles, likely congressional intent, and separation-of-powers considerations), see Curtis A. Bradley, *Territorial Intellectual Property Rights in an Age of Globalism*, 37 VA. J. INT'L L. 505, 513–19 (1997).

23 *Brown*, 60 U.S. at 195, 198–99. The temporary presence exception is now codified at 35 U.S.C. § 272 (2018).

24 *Brown*, 60 U.S. at 196.

25 The Court stated:

> The general words used in the clause of the patent laws granting the exclusive right to the patentee to use the improvement, taken by themselves, and literally construed, without regard to the object in view, would seem to sanction the claim of the plaintiff. But this mode of expounding a statute has never been adopted by any enlightened tribunal—because it is evident that in many cases it would defeat the object which the Legislature intended to accomplish.

Id. at 194. Furthermore:

> [S]uch a construction would be inconsistent with the principles that lie at the foundation of these laws; and instead of conferring legal rights on the inventor, in order to do equal justice between him and those who profit by his invention, they would confer a power to exact damages where no real damage had been sustained, and would moreover seriously embarrass the commerce of the country with foreign nations. We think these laws ought to be construed in the spirit in which they were made—that is, as founded in justice—and should not be strained by technical constructions to reach cases which Congress evidently could not have contemplated, without departing from the principle upon which they were legislating, and going far beyond the object they intended to accomplish.

Id. at 197.

26 *See id.* at 196.

invention would have been at sea, but any such use would not be "an infringement of [the owner's] rights, and [the owner] has no claim to any compensation for the profit or advantage the party may derive from it."[27]

The Court nevertheless immediately qualified the preceding language by suggesting, in dictum, that the case would come out differently if the defendant had made or sold the invention while in Boston, for later use outside the United States:

> The chief and almost only advantage which the defendant derived from the use of this improvement was on the high seas, and in other places out of the jurisdiction of the United States. The plea avers that it was placed on her to fit her for sea. If it had been manufactured on her deck while she was lying in the port of Boston, or if the captain had sold it there, he would undoubtedly have trespassed upon the rights of the plaintiff, and would have been justly answerable for the profit and advantage he thereby obtained. For, by coming in competition with the plaintiff, where the plaintiff was entitled to the exclusive use, he thereby diminished the value of his property. Justice, therefore, as well as the act of Congress, would require that he should compensate the patentee for the injury he sustained, and the benefit and advantage which he (the defendant) derived from the invention.[28]

Though not controlling in *Brown*, Taney's dictum is consistent with views expressed in two subsequent Supreme Court opinions from the late nineteenth and earlier twentieth centuries, *Goulds' Manufacturing Co. v. Cowing*[29] and *Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co*.[30] In *Goulds' Manufacturing*, the defendant made and sold 298 pumps that were used for extracting gas from oil wells, which infringed the plaintiff's patent.[31] The defendant's customers were located in Pennsylvania and Canada.[32] The Supreme Court reversed an award of the defendant's profits[33] on the ground that the master had erroneously excluded

[27] *Id.* at 195–96.

[28] *Id.* at 196. Dissenting in *WesternGeco,* Justice Gorsuch simply ignores this language about the possible consequences of extraterritorial use following domestic manufacture or sale, writing that the "Court proceeded to explain that the 'only use' of the invention that might require compensation was 'in navigating the vessel into and out of [Boston] harbor, . . . *while she was within the jurisdiction of the United States*,'" and that "[w]ith respect to uses outside the United States, the Court made clear that 'compensation' was unavailable." WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129, 2140 n.1 (2018) (Gorsuch, J., dissenting) (quoting *Brown*, 60 U.S. at 195–96) (emphasis and omissions in original).

[29] Goulds' Mfg. Co. v. Cowing, 105 U.S. 253 (1881).

[30] Dowagiac Mfg. Co. v. Minn. Moline Plow Co., 235 U.S. 641 (1915).

[31] *See Goulds' Mfg.*, 105 U.S. at 254.

[32] *See id.* at 256.

[33] *See id.* at 256–58. Prior to 1946, the owner of a U.S. utility patent could recover an award of the infringer's profits, in lieu of its own lost profits or a reasonable royalty, in an action for infringement. *See* Christopher B. Seaman, Thomas F. Cotter, Brian J. Love, Norman V. Siebrasse & Masabumi Suzuki, *Lost Profits and Disgorgement*, *in* PATENT REMEDIES AND COMPLEX PRODUCTS: TOWARD A GLOBAL CONSENSUS 50, 74–75 (C. Bradford Biddle et al. eds., 2019) [hereinafter

some of the relevant costs, and, rather than remanding for a recalculation, the Court itself determined that the defendant had made a $15 profit on each of the 298 pumps and awarded that amount—$4,470.[34] This amount necessarily included the profit made on sales to the Canadian customers, though as others have observed, the opinion does not indicate whether the sales to the Canadian customers were concluded in the United States or Canada.[35] Similarly, in *Dowagiac*, the defendants had purchased infringing drills from third-party manufacturers and then resold them to customers in both the United States and Canada.[36] The Court rejected the plaintiff's claim to profits from the Canadian sales, but in doing so distinguished *Goulds' Manufacturing* on the following grounds:

> Some of the drills, about 261, sold by the defendants, were sold in Canada, no part of the transaction occurring within the United States, and as to them there could be no recovery of either profits or damages. The right conferred by a patent under our law is confined to the United States and its territories, and infringement of this right cannot be predicated of acts wholly done in a foreign country.
>
> The case of *Goulds' Mfg. Co. v. Cowing* is cited as holding otherwise, but is not in point. There the defendant made the infringing articles in the United States. Here, while they were made in the United States, they were not made by the defendants. The latter's infringement consisted only in selling the drills after they passed out of the makers' hands. The place of sale is therefore of controlling importance here.[37]

All three cases, then, seemed premised on the understanding that, if the defendant makes the infringing products in the United States, the plaintiff can recover the profit the defendant thereafter earns on both domestic and foreign sales.

A small number of lower court decisions from the nineteenth and twentieth centuries also appear consistent with this rule. In *K.W. Ignition Co. v. Temco Electric Motor Co.*, for example, the Sixth Circuit cited

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COMPLEX PRODUCTS]. This remedy remains available today for the infringement of design patents and for other forms of intellectual property, but (in the United States) not for utility patents. *Id.* at 75 (citing, *inter alia*, 35 U.S.C. § 289 and Samsung Elecs. Co., Ltd. v. Apple, Inc., 137 S. Ct. 429 (2016)); Pamela Samuelson, John M. Golden & Mark P. Gergen, *Recalibrating the Disgorgement Remedy in Intellectual Property Cases*, 100 B.U. L. REV. 1999 (2020).

[34] *See Goulds' Mfg.*, 105 U.S. at 257–58.

[35] *See* WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129, 2141 n.2 (2018) (Gorsuch, J., dissenting) (noting that the opinion does not say "whether the Canada-bound products were actually sold in Canada (as opposed, say, to Canadian buyers in the United States)"). As noted above, however, the Court in *Dowagiac* appears to understand the result in *Goulds' Manufacturing* as resting on the fact that the infringing articles were made in the United States. *See also infra* note 39 and accompanying text.

[36] *See* Dowagiac Mfg. Co. v. Minn. Moline Plow Co., 235 U.S. 641, 643, 650 (1915).

[37] *Id.* at 650 (citations omitted).

Dowagiac in holding that the plaintiff could recover a royalty for sales the defendants made to foreign customers, stating, "[D]efendants would be equally liable whether the absorbers were sold abroad or here, they having been manufactured in the United States."[38] Similarly, in *Ketchum Harvester Co. v. Johnson Harvester Co.*, a case decided just a few months before *Goulds' Manufacturing*, the court stated:

> Although the patent could give no protection abroad in the sale of machines abroad, it gave protection in the United States in making machines in the United States for sale abroad. The patent prevented all persons but the patentee from making in the United States. The privilege of making in the United States, for sale abroad, was valuable, as was shown by the fact that the defendant made in the United States for sale abroad. The plaintiff was entitled to that privilege exclusively, and to damages for its violation. It may be that in the case of manufacture in the United States, without sale anywhere, nominal damages only are to be allowed; but where such manufacture is followed by sale abroad, it cannot be said that the damages ought to be only nominal. It is true that the sale is the fruition, and gives the profit, and that the sale is abroad, and the patent does not cover the sale abroad. But the unlawful act of making is made hurtful by a sale, wherever made.[39]

Later in the century, even the Federal Circuit, in a series of decisions from the 1980s and 1990s, appeared to agree.[40]

U.S. copyright case law has, for the most part, followed a similar path. The leading decision is Judge Learned Hand's opinion in *Sheldon v. Metro-Goldwyn Pictures Corp.*, a case probably better known for its discussion of how to apportion the defendant's profit from the unauthorized use of copyrightable material.[41] Among the many subsidiary issues was whether the defendants would be required to turn over the (apportioned) profit they earned from exhibiting an infringing film outside the

[38] K.W. Ignition Co. v. Temco Elec. Motor Co., 283 F. 873, 879–80 (6th Cir. 1922).

[39] Ketchum Harvester Co. v. Johnson Harvester Co., 8 F. 586, 586–87 (C.C.N.D.N.Y. 1881). Curiously, the plaintiff sought damages only for one-half of the foreign sales, leading the court to characterize this result as

> very liberal to the defendant. It is all the plaintiff asks, and is not to be regarded as establishing the rule that the same damages would not be proper for machines sold abroad and for machines sold here both being unlawfully made. The act of making, in either case, is necessary to enable the sale to be made; and, the making being unlawful, it is no injustice to attribute to the unlawful act all the consequences which flow from it.

Id. at 587.

[40] Schneider (Europe) AG v. SciMed Life Sys., 39 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1995) (per curiam) (lost profits on foreign sales of infringing products manufactured in the United States); Datascope Corp. v. SMEC, Inc., 879 F.2d 820, 826–27 (Fed. Cir. 1989) (reasonable royalty on foreign sales); Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc., 761 F.2d 649, 652–54 (Fed. Cir. 1985) (lost profits on foreign sales); R.R. Dynamics, Inc. v. A. Stucki Co., 727 F.2d 1506, 1519 (Fed. Cir. 1984) (lost profits on foreign sales of infringing products manufactured in the United States).

[41] *See* Sheldon v. Metro-Goldwyn Pictures Corp., 106 F.2d 45, 48–51 (2d Cir. 1939).

United States. While conceding that the foreign exhibition itself was not a violation of U.S. law, the court, citing *Goulds' Manufacturing*, nevertheless concluded that the plaintiff was entitled to an apportionable share of these profits because they were the result of an infringing reproduction that occurred in the United States.[42] Other federal courts have subsequently endorsed the doctrine.[43] The Ninth Circuit, however, has limited the predicate act doctrine to cases (like *Sheldon*) in which the plaintiff seeks to recover the infringer's profits,[44] though it is not apparent that there is any relevant economic distinction between such cases and those in which the plaintiff seeks instead its own lost profit (or a reasonable royalty or statutory damages), as long as the benefit or loss occurring abroad was enabled by the domestic infringement.[45]

[42] The court reasoned:

> The Culver Company made the negatives in this country, or had them made here, and shipped them abroad, where the positives were produced and exhibited. The negatives were "records" from which the work could be "reproduced", and it was a tort to make them in this country. The plaintiffs acquired an equitable interest in them as soon as they were made, which attached to any profits from their exploitation, whether in the form of money remitted to the United States, or of increase in the value of shares of foreign companies held by the defendants.

Id. at 52.

[43] *See, e.g.*, L.A. News Serv. v. Reuters Television Int'l, Ltd., 149 F.3d 987, 992 (9th Cir. 1998); Tire Eng'g & Distrib., LLC v. Shandong Linglong Rubber Co., 682 F.3d 292, 306–09 (4th Cir. 2012) (per curiam); Update Art, Inc. v. Modiin Publ'g, Ltd., 843 F.2d 67, 73 (2d Cir. 1988); Motorola Sols., Inc. v. Hytera Commc'ns Corp., 436 F. Supp. 3d 1150, 1167–68 (N.D. Ill. 2020); ICONICS, Inc. v. Massaro, 192 F. Supp. 3d 254, 262–63 (D. Mass. 2016); Compaq Comput. Corp. v. Ergonome Inc., No. 4:97-cv-01026, 2001 WL 34104827, at *3–5 (S.D. Tex. June 27, 2001); Gen. Motors Corp. v. Ignacio Lopez de Arriortua, 948 F. Supp. 684, 691 (E.D. Mich. 1996); P & D Int'l v. Halsey Publ'g Co., 672 F. Supp. 1429, 1432–33 (S.D. Fla. 1987). Other cases have acknowledged the doctrine but found it inapposite on the facts. *See, e.g.*, Rundquist v. Vapiano SE, 798 F. Supp. 2d. 102, 122–25 (D.D.C. 2011).

[44] L.A. News Serv. v. Reuters Television Int'l, Ltd., 340 F.3d 926, 931–32 (9th Cir. 2003). The court stated that "the *Sheldon* constructive trust rationale includes a territorial connection that preserves consistency with Congress's decision to keep the copyright laws . . . territorially confined." *Id.* at 931 (citation omitted). Additionally,

> no rational deterrent function is served by making an infringer whose domestic act of infringement—from which he earns no profit—leads to widespread extraterritorial infringement, liable for the copyright owner's entire loss of value or profit from that overseas infringement, particularly if the overseas infringement is legal where it takes place.

Id. Contra id. at 932–33 (Silverman, J., dissenting) (arguing that there is no logical basis for reaching a different result when the plaintiff seeks lost profits as opposed to infringer's profits); WILLIAM F. PATRY, 7 PATRY ON COPYRIGHT, § 25:89 n.2 (rev. ed. 2020) (noting that the overdeterrence concern could just as easily apply to awards of the infringer's profits).

[45] In many of the copyright predicate act cases, the plaintiff either was requesting an award of profits or the court did not specify what type of relief the plaintiff was seeking. There are a few, however, in which courts awarded royalties under a compulsory license. *See* Famous Music Corp. v. Seeco Recs., Inc., 201 F. Supp. 560, 568–69 (S.D.N.Y. 1961); G. Ricordi & Co. v. Columbia Gramophone Co., 270 F. 822, 824–25 (S.D.N.Y. 1920). For actual damages, see Liberty Media Holdings, LLC v. Vinigay.com, No. 2:11-cv-00280, 2011 WL 7430062, at *5 (D. Ariz. Dec. 28, 2011); *see also* Randles Films, LLC v. Quantum Releasing, LLC, 551 Fed. App'x 370, 370–71 (9th Cir. 2014) (nonprecedential opinion) (affirming judgment that plaintiff could recover actual damages from reduction in value of worldwide distribution rights stemming from an act of domestic infringement).

Case law from other countries also appears consistent with these U.S. decisions. For example, in *AstraZeneca Canada Inc. v. Apotex Inc.*, the defendant made generic omeprazole (a pharmaceutical product) in Canada, and then sold some of its product in Canada and some in the United States.[46] The plaintiffs, which owned relevant patents in both Canada and the United States, pursued infringement litigation in both countries.[47] The U.S. litigation ended first, with the court ordering Apotex to pay AstraZeneca $76 million for the unlawful sales of the drugs in the United States.[48] AstraZeneca thereafter prevailed in the Canadian litigation as well, and the Canadian court ordered Apotex to disgorge the profit it made from unauthorized sales in both countries, minus the reasonable royalty damages that the U.S. court had awarded for the infringement of the corresponding U.S. patent.[49] There also are two recent Japanese cases awarding damages for extraterritorial losses resulting from the infringing manufacture in Japan,[50] and one (albeit rather old) English case stating that the patent owner was entitled to recover the defendant's profits from the sales of products in Austria, where the defendant had manufactured those products in England.[51] In addition, there is at least one German copyright decision awarding damages for losses incurred abroad as a result of domestic infringement.[52]

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[46] AstraZeneca Can. Inc. v. Apotex Inc. [2017] F.C. 726, paras. 1, 234, 245 (Can. Ont.), https://decisions.fct-cf.gc.ca/fc-cf/decisions/en/235832/1/document.do [https://perma.cc/JVC2-G42P].

[47] *Id.* para. 244.

[48] *See* Astrazeneca AB v. Apotex Corp., 985 F. Supp. 2d 452, 497, 503–06 (S.D.N.Y. 2013), *aff'd in part, rev'd in part on other grounds*, *and remanded*, 782 F.3d 1324 (Fed. Cir. 2015).

[49] *AstraZeneca Can.*, [2017] F.C. 726, para. 253; *see also* Apotex Inc. v. ADIR, [2018] F.C. 346 (Can. Ont.), https://decisions.fct-cf.gc.ca/fc-cf/decisions/en/item/308630/index.do [https://perma.cc/Z2WS-3VW7] (reaffirming earlier judgment awarding the infringer's profit on foreign sales caused by infringing domestic manufacture of perindopril); Varco Can. Ltd. v. Pason Sys. Corp., [2013] F.C. 750, paras. 415, 426, 468 (Can. Ont.), https://www.ippractice.ca/files/2013FC750.pdf [https://perma.cc/R4AY-2H3E] (awarding the infringer's profits, or, in the alternative, actual damages, based, in part, on rental income the defendant earned from rentals outside of Canada); Alliedsignal Inc. v. du Pont Can. Inc., [1998] CanLII 7464, paras. 5, 29–31, 33, 278 (Can. Ont., F.C.), http://canlii.ca/t/4cf8 [https://perma.cc/3WVW-VPBK] (stating that the "patentee has a right to be compensated for all damages flowing from the infringement of the patent within Canada, which may include profits lost on sales outside Canada," and awarding lost profits deriving from Canadian manufacture of infringing products sold primarily to U.S. companies), *aff'd*, [1999] CanLII 7409 (Can. Ont., F.C.), http://canlii.ca/t/4m49 [https://perma.cc/TP8C-K95M].

[50] *See* Osaka Chihō Saibansho [Osaka Dist. Ct.] Jan. 28, 2010, no. 2007 (Wa) 2076, https://www.ip.courts.go.jp/app/files/hanrei_en/584/000584.pdf [https://perma.cc/8LCQ-N7B] (Japan); Tokyo Chihō Saibansho [Tokyo Dist. Ct.] Sept. 25, 2013, no. 2010 (Wa) 17810, https://www.ip.courts.go.jp/app/files/hanrei_en/014/001014.pdf [https://perma.cc/LL8U-QT47] (Japan); Chiteki Zaisan Kōtō Saibansho [Intell. Prop. High Ct.] Dec. 4, 2014, no. 2013 (Ne) 10103, https://www.ip.courts.go.jp/app/files/hanrei_en/829/001829.pdf [https://perma.cc/435V-8BQR] (Japan); *see also* Thomas F. Cotter, *Damages for Extraterritorial Injuries in Japanese Patent Law*, COMPAR. PAT. REMEDIES BLOG (Feb. 18, 2019), http://comparativepatentremedies.blogspot.com/2019/02/damages-for-extraterritorial-injuries.html [https://perma.cc/3MBS-HTJE].

[51] Goucher v. Clayton, [1865] 11 Jur. (N.S.) 462. *Goucher* is cited as persuasive authority in one old U.S. copyright case that anticipated the predicate act doctrine. Fishel v. Lueckel, 53 F. 499, 501 (C.C.S.D.N.Y. 1892).

[52] Bundesgerichtshof [BGH] [Fed. Ct. of Just.] Feb. 6, 1976, I ZR 110/74, Wolters Kluwer (Ger.),

The Federal Circuit took a different tack, however, in a trilogy of cases decided after 2010. First, in *Power Integrations, Inc. v. Fairchild Semiconductor International, Inc.*, a case involving patents relating to power supplies for electronics, the court broadly stated that "entirely extraterritorial production, use, or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement."[53] Neither the appellate nor the district court opinion is altogether clear about what exactly the connection was between the defendant's domestic infringement and the profits the plaintiff allegedly lost overseas.[54] Power Integrations' appellate brief, however, indicates that the company's theory was that, but for Fairchild's domestic manufacture of infringing semiconductor chips, Power Integrations would have made additional sales to Samsung, both within and outside the United States.[55] The Federal Circuit nevertheless concluded that U.S. patent law provided no remedy for these extraterritorial losses.[56]

The second case was *WesternGeco L.L.C. v. ION Geophysical Corp*.[57] WesternGeco owned four patents on a system for surveying the ocean floor for oil and gas deposits.[58] In violation of Patent Act

https://research.wolterskluwer-online.de/document/c57b2474-9e6e-462d-950c-f67dce3b91f4 (last visited Mar. 4, 2021) (where the defendant made infringing "Hummel" sculptural works in Germany and exported them to the United States, the copyright owner could recover damages for the royalties it would have earned on sales by its authorized U.S. licensee); *see also* Thomas F. Cotter, *Damages for Extraterritorial Harms in Germany and the U.S*., COMPAR. PAT. REMEDIES BLOG (May 3, 2018), http://comparativepatentremedies.blogspot.com/2018/05/damages-for-extraterritorial-harms-in.html [https://perma.cc/VCU8-92WY].

[53] Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 711 F.3d 1348, 1371–72 (Fed. Cir. 2013).

[54] *See id.* at 1369–81 (discussing, among other matters, Fairchild's manufacture and sale of merchandise within the United States); Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 589 F. Supp. 2d 505, 509–12 (D. Del. 2008), *aff'd in part, rev'd in part, vacated in part, and remanded*, 711 F.3d 1348 (Fed. Cir. 2013).

[55] Bernard Chao, *Patent Imperialism*, 109 NW. U. L. REV. ONLINE 77, 80 & n.12 (2014) (citing Non-Confidential Brief for Plaintiff-Cross Appellant Power Integrations, Inc. at 20, Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 711 F.3d 1348 (Nos. 2011-1218, 2011-1238), 2011 WL 2827447 [hereinafter PI Brief]) (stating that "Power Integrations[] argued that *but for* Fairchild's U.S. infringement, Fairchild would not have been able to make its foreign sales," because "customers were interested in using the same semiconductor chips in their products . . . everywhere in the world"); Stephen Yelderman, *Proximate vs. Geographic Limits on Patent Damages*, 7 IP THEORY, no. 2, 2018, at 1, 10, https://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=1043&context=ipt [https://perma.cc/NY5Z-8R7Q] (citing PI Brief at 44) (stating that Power Integrations "argued that the defendant could not have made *any* foreign sales without the infringing domestic sales on the theory that most customers would insist on using the same chip in all their devices throughout the world"); *see also* WesternGeco L.L.C. v. ION Geophysical Corp., 791 F.3d 1340, 1350 (Fed. Cir. 2015) ("If the accused infringer had been precluded from U.S. infringement, the patentee alleged that the accused infringer could not have competed for the contracts which necessarily involved supplying chips both in the United States and abroad."), *vacated sub nom.* WesternGeco LLC. v. ION Geophysical Corp., 136 S. Ct. 2486 (2016).

[56] *See Power Integrations*, 711 F.3d at 1371–72.

[57] *WesternGeco*, 791 F.3d 1340.

[58] *Id.* at 1343. Some of the claims at issue were invalidated in subsequent proceedings. *See* WesternGeco LLC v. ION Geophysical Corp., 889 F.3d 1308 (Fed. Cir. 2018). After the Supreme Court

§ 271(f)(2)—which forbids the export of a component of a patented invention if it is "especially made or especially adapted for use in the invention" and the defendant both knows that the "component is so made or adapted" and intends that it "will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States"[59]—ION exported components of WesternGeco's patented system to customers outside the United States.[60] The customers in turn allegedly combined the components to provide surveying services to oil companies at sea, thus depriving WesternGeco of the profits that it would have made from providing those services.[61] Once again, the Federal Circuit concluded that the recovery of damages for extraterritorial losses would violate the presumption against extraterritoriality, stating that "[u]nder *Power Integrations*, WesternGeco cannot recover lost profits resulting from its failure to win foreign service contracts, the failure of which allegedly resulted from ION's supplying infringing products to WesternGeco's competitors."[62]

In dissent, Judge Wallach argued that this result was contrary to *Duchesne*, *Goulds' Manufacturing*, and *Dowagiac*.[63] In response, the majority acknowledged that these cases "suggest that profits for foreign sales of the patented items themselves are recoverable when the items in question were manufactured in the United States and sold to foreign buyers by the U.S. manufacturer," but noted that "[t]here is no such claim here."[64] However, the court did not explain why that distinction was a

reversed the panel decision on extraterritorial damages, discussed *infra* notes 76–82 and accompanying text, the Federal Circuit remanded for the district court to determine if the invalidation of some of the claims in suit would have any effect on WesternGeco's claim for lost profits. WesternGeco LLC v. ION Geophysical Corp., 913 F.3d 1067 (Fed. Cir. 2019).

[59] 35 U.S.C. § 271(f)(2) (2018). Section 271(f)(1) forbids the export of

> all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States . . . .

Id. § 271(f)(1). Both provisions were enacted in 1984 to plug a perceived loophole under which such exportation was held not to violate U.S. patent law. *See* Microsoft Corp. v. AT & T Corp., 550 U.S. 437, 442–45 (2007) (explaining that Congress enacted section 271(f) to overrule Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518 (1972) (holding that the export of components from the United States, with the intention that the foreign purchasers would combine them in a manner that would infringe the U.S. patent if the combination occurred within the United States, did not infringe the U.S. patent)).

[60] Although the majority opinion is not exactly clear on this point, the dissenting opinion and the parties' briefs explain that ION supplied two components of the invention from the United States to overseas locations. *WesternGeco*, 791 F.3d at 1354, 1358 (Wallach, J., dissenting); Reply Brief for Petitioner at 6, 23, WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129 (2018) (No. 16-1011), 2018 WL 1733140; Brief for Respondent at 6–8, *WesternGeco*, 138 S. Ct. 2129 (No. 16-1011), 2018 WL 1517869.

[61] *See WesternGeco*, 791 F.3d at 1349.

[62] *Id.* at 1351.

[63] *Id.* at 1354, 1356–57, 1362 (Wallach, J., dissenting).

[64] *Id.* at 1352.

relevant one in a case brought under section 271(f). The majority also found irrelevant the dissenting judge's concern that, because the use of the patented system occurred in international waters, WesternGeco would be left without an effective remedy.[65]

Eventually, WesternGeco had an opportunity to argue the issue before the U.S. Supreme Court,[66] but first there was one more Federal Circuit decision on extraterritorial damages—*Carnegie Mellon University v. Marvell Technology Group*.[67] The defendant in *Carnegie Mellon* had used the plaintiff's patented technology relating to hard-disk drives during "sales cycles" that occurred in the United States; this use, in turn, allegedly induced both domestic and foreign customers to buy Marvell's infringing chips.[68] The district court awarded a fifty-cent-per-unit royalty for each domestic and foreign sale on the theory that this is what Carnegie Mellon would have agreed to, had Marvell sought permission to use the technology at the domestic sales cycle.[69] The Federal Circuit disapproved of the royalty for foreign sales, however, stating:

> In the lost-profits context, this court indicated in *Power Integrations* that, where the direct measure of damages was foreign activity (i.e., making, using, selling outside § 271(a)), it was not enough, given the required strength of the presumption against extraterritoriality, that the damages-measuring foreign activity have been factually caused, in the ordinary sense, by domestic activity constituting infringement under § 271(a). We think that the presumption against extraterritoriality, to be given its due, requires something similar in the present royalty

[65] *Id.*; *see also id.* at 1360–61 (Wallach, J., dissenting).
[66] WesternGeco first filed a petition for a rehearing en banc, which the Federal Circuit rejected. WesternGeco LLC v. ION Geophysical Corp., 621 Fed. App'x 663 (Fed. Cir. 2015) (per curiam). Judge Wallach dissented again, noting this time, in addition, some of the copyright case law discussed *supra* notes 41–43. *WesternGeco*, 621 Fed. App'x. at 664 (Wallach, J., dissenting) (citing Sheldon v. Metro-Goldwyn Pictures Corp., 106 F.2d 45 (2d Cir. 1939); L.A. News Serv. v. Reuters Television Int'l, Ltd., 149 F.3d 987 (9th Cir. 1998); Tire Eng'g & Distrib., LLC v. Shandong Linglong Rubber Co., 682 F.3d 292 (4th Cir. 2012) (per curiam); Update Art, Inc. v. Modiin Publ'g, Ltd., 843 F.2d 67 (2d Cir. 1988)). WesternGeco filed a petition for certiorari presenting two questions, one related to extraterritorial damages and the other to enhanced damages. Petition for Certiorari, at i–ii, WesternGeco LLC v. ION Geophysical Corp., 136 S. Ct. 2486 (2016) (No. 15-1085), 2016 WL 792196. The Supreme Court granted the writ, vacated the judgment, and remanded the case for further consideration in light of an intervening decision, Halo Elecs. Inc. v. Pulse Elecs., Inc., 136 S. Ct. 1923 (2016), addressing willful infringement and enhanced damages. WesternGeco, LLC v. ION Geophysical Corp., 136 S. Ct. 2486 (2016) (mem.). On remand, the Federal Circuit panel entered a judgment remanding to the district court for further consideration of the willful infringement issue and reinstating its (the Federal Circuit's) judgment as to extraterritorial damages. WesternGeco LLC v. ION Geophysical Corp., 837 F.3d 1358 (Fed. Cir. 2016). Judge Wallach dissented again on the extraterritoriality issue. *Id.* at 1364–69 (Wallach, J., dissenting). WesternGeco then filed a petition for certiorari limited to the extraterritorial damages question, Petition for Certiorari, at i, WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129 (2018) (No. 16-1011), 2017 WL 678358, which the Supreme Court granted, WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 734 (2018) (mem.).
[67] Carnegie Mellon Univ. v. Marvell Tech. Grp., 807 F.3d 1283 (Fed. Cir. 2015).
[68] *Id.* at 1309–10.
[69] *See id*. at 1288, 1291–92, 1303–05.

> setting. Although all of Marvell's sales are strongly enough tied to its domestic infringement as a causation matter to have been part of the hypothetical-negotiation agreement, that conclusion is not enough to use the sales as a direct measure of the royalty except as to sales that are domestic (where there is no domestic making or using and no importing). As a practical matter, given the ease of finding cross-border causal connections, anything less would make too little of the presumption against extraterritoriality that must inform our application of the patent laws to damages.[70]

By 2018, the Supreme Court was ready to consider *WesternGeco*. Taking a different approach from the Federal Circuit, the majority opinion (authored by Justice Thomas) anchors its reasoning in the Court's non-patent law jurisprudence on extraterritoriality—most importantly, its 2016 decision in *RJR Nabisco, Inc. v. European Community*,[71] which applied a two-step framework to determine the territorial reach of the federal racketeering statute. Under this framework, and in view of the general presumption that federal statutes do not apply extraterritorially, the first step requires consideration of whether the statutory text provides a "clear indication" rebutting that presumption.[72] Absent such an indication, the Court would then move on to the second step of considering "whether the case involves a domestic application of the statute."[73] This step requires "identifying the statute's 'focus' and asking whether the conduct relevant to that focus occurred in United States territory. If it did, then the case involves a permissible domestic application of the

[70] *Id.* at 1307 (citations omitted). The court's reference to "the hypothetical negotiation agreement" reflects a common approach to calculating reasonable royalties, which involves attempting to construct the ex ante bargain the parties themselves would have struck for the use of the plaintiff's technology, had the defendant not infringed. *See, e.g.*, Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1324–25 (Fed. Cir. 2009) (citing Ga.-Pac. Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970)) (stating that "the hypothetical negotiation or the 'willing licensor-willing licensee' approach[ ] attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began," recreating "as best as possible . . . the *ex ante* licensing negotiation scenario and . . . the resulting agreement"); Thomas F. Cotter, John M. Golden, Oskar Liivak, Brian J. Love, Norman V. Siebrasse, Masabumi Suzuki & David O. Taylor, *Reasonable Royalties*, *in* COMPLEX PRODUCTS, *supra* note 33, at 6, 16–21 [hereinafter Cotter et al., *Reasonable Royalties*] (discussing the hypothetical negotiation approach and alternatives to it). From an economic perspective, one would expect the royalty to reflect some portion of the incremental value (that is, additional profits or reduced costs) that the defendant anticipated deriving from the use of the patented technology over the next-best available noninfringing alternative. *Id.* at 16 (stating that "[a] license for the use . . . of a patented technology typically requires the licensee to share with the licensor some portion of the incremental value the licensee derives or expects to derive from the use of that technology").

[71] RJR Nabisco, Inc. v. European Community, 136 S. Ct. 2090 (2016). In *RJR Nabisco*, the Court concluded that Congress intended for some of the substantive provisions of the Racketeering Influenced and Corrupt Organizations (RICO) Act to apply extraterritorially. *Id.* at 2101–05. A 4–3 majority of the Court, however, concluded that a person can assert a private right of action under RICO only for injuries to domestic business or property. *Id.* at 2106–11.

[72] *See* WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129, 2136 (2018) (quoting Morrison v. Nat'l Austl. Bank Ltd., 561 U.S. 247, 255 (2010)).

[73] *Id.* (quoting *RJR Nabisco*, 136 S. Ct. at 2101).

statute."[74] Moreover, although one would normally expect courts to apply the two steps sequentially, it is permissible to begin the analysis at step two "if addressing step one would require resolving difficult questions that do not change the outcome of the case but could have far-reaching effects in future cases."[75]

Applying this framework, the Court skipped over step one out of concern that holding the presumption against extraterritoriality never to apply "to statutes, such as section 284, that merely provide a general damages remedy for conduct that Congress has declared unlawful" might "implicate many other statutes besides the Patent Act."[76] The Court therefore began at step two, identifying the statute's "focus."[77] To identify the focus of section 284, the Court looked first to the statutory text, which states that "the court shall award the claimant damages adequate to compensate for the infringement"[78] and concluded that "the infringement is the focus of this statute."[79] "To determine the focus of § 284 *in a given case*," however, the court "must look to the type of infringement that occurred."[80] Here, because "[t]he conduct that § 271(f)(2) regulates—i.e., its focus—is the domestic act of suppl[ying] in or from the United States," the Court concluded "the focus of § 284, in a case involving infringement under § 271(f)(2), is on the act of exporting components from the United States. . . . Thus, the lost-profits damages that were awarded to WesternGeco were a domestic application of § 284."[81] In a footnote, however, the Court noted that it was "not address[ing] the extent to which other doctrines, such as proximate cause, could limit or preclude damages in particular cases."[82]

[74] *Id.* (quoting *RJR Nabisco,* 136 S. Ct. at 2101) (internal quotations omitted). Further describing a statute's focus as "the objec[t] of [its] solicitude, which can include the conduct it seeks to regulate, as well as the parties and interests it seeks to protec[t] or vindicate," the Court stated that "[i]f the conduct relevant to the statute's focus occurred in the United States, then the case involves a permissible domestic application of the statute, even if other conduct occurred abroad," whereas if it "occurred in another country, then the case involves an impermissible extraterritorial application regardless of any other conduct that occurred in U.S. territory." *Id.* at 2137 (first quoting *Morrison*, 561 U.S. at 267; then quoting *RJR Nabisco*, 136 S. Ct. at 2101) (internal quotations omitted) (first, second, and third alterations in original). Note that some commentators have critiqued the focus test as being unduly subjective. *See, e.g.*, Julie Rose O'Sullivan, *The Extraterritorial Application of Federal Criminal Statutes: Analytical Roadmap, Normative Conclusions, and a Plea to Congress for Direction*, 106 GEO. L.J. 1021, 1095 (2018); Kyle A. Mason, Note, *The "Presumption Against Extra(Subjective)Territoriality":* Morrison's *Confounding "Focus" Test*, 38 REV. LITIG. 385 (2019).

[75] *WesternGeco,* 138 S. Ct. at 2136 (internal quotations omitted).

[76] *Id.* at 2136–37.

[77] *Id.*

[78] *Id.* at 2137 (quoting 35 U.S.C. § 284 (2018)).

[79] *Id.* (internal quotations omitted).

[80] *Id.* (emphasis added).

[81] *Id.* at 2138 (internal quotations omitted).

[82] *Id.* at 2139 n.3.

Dissenting, Justice Gorsuch, joined by Justice Breyer, asserted that because acts occurring outside the United States do not infringe U.S. patents, section 284 provides no remedy for such losses.[83] Justice Gorsuch also expressed concern that "[p]ermitting damages of this sort would effectively allow U.S. patent owners to use American courts to extend their monopolies to foreign markets" and that this, "in turn, would invite other countries to use their own patent laws and courts to assert control over our economy."[84] Justice Gorsuch also suggested that "supplying a single infringing product from the United States would make ION responsible for any foreseeable harm its customers cause by using the product to compete against WesternGeco worldwide."[85] For reasons discussed in Part II, it seems unlikely that Justice Gorsuch's hypothetical would lead to the result he envisions.[86] Before taking that matter up, however, this Part will note the handful of U.S. decisions post-*WesternGeco* that have considered whether the statute applies to infringement under section 271(a).

Curiously enough, the first such case was *Power Integrations* itself, in which the patent owner sought relief from the earlier judgment in view of *WesternGeco*.[87] The district court agreed that *WesternGeco* "implicitly overruled the Federal Circuit's *Power Integrations* opinion,"[88] stating:

> The Supreme Court's analysis of the patent damages statute, § 284, has equal applicability to the direct infringement allegations pending here, as governed by § 271(a), as it did to the supplying a component infringement claims at issue in *WesternGeco II*, which were governed by § 271(f)(2). . . . [A]s Power puts it, "Section 271(a) 'vindicates domestic interests' no less than Section 271(f)."[89]

The case thereafter settled pending appeal.[90]

The district court in *SIMO Holdings Inc. v. Hong Kong uCloudlink Network Technology Ltd.*[91] reached a similar conclusion. Plaintiff SIMO owns a U.S. patent on a system and method that enables a roaming device to access a local communications network by mimicking a local device.[92]

[83] *Id.* at 2139–40 (Gorsuch, J., dissenting).
[84] *Id.* at 2139.
[85] *Id.* at 2142.
[86] *See infra* notes 185–187 and accompanying text.
[87] Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., No. 1:04-cv-01371, 2018 WL 4804685, at *1 (D. Del. Oct. 4, 2018).
[88] *Id.*
[89] *Id.*
[90] David Taylor, *Settlement Leaves Important Question Unanswered*—Power Integrations, Inc. v. Fairchild Semiconductor International, Inc., FEDCIRCUITBLOG (Nov. 8, 2019), https://fedcircuitblog.com/2019/11/08/settlement-leaves-important-question-unanswered-power-integrations-inc-v-fairchild-semiconductor-international-inc/ [https://perma.cc/CCH9-83F2].
[91] SIMO Holdings Inc. v. H.K. uCloudlink Network Tech. Ltd., 396 F. Supp. 3d 323 (S.D.N.Y. 2019), *rev'd on other grounds*, 983 F.3d 1367 (Fed. Cir. 2021).
[92] *Id.* at 332–33.

SIMO authorizes a wholly-owned subsidiary, Skyroam, to sell Wi-Fi hotspot devices that practice some of the claims of this patent.[93] These devices function with unpatented data packages ("Daypasses") that enable consumers to access their mobile data.[94] SIMO filed an action against a competitor, uCloudlink, for allegedly selling infringing Wi-Fi hotspot devices in the United States.[95] Following a trial on damages, the jury awarded a reasonable royalty based on testimony that, because neither company makes a profit on the sale of its Wi-Fi hotspot devices, but rather on the sales of Daypasses, a reasonable royalty would be "a function of the number of" noninfringing Daypasses that uCloudlink sold to users in the United States.[96] The plaintiffs then filed a post-trial motion asking the court to supplement the damages award to reflect *foreign* sales of Daypasses that are used with devices purchased in the United States.[97] The court awarded the supplement, stating:

> *WesternGeco* controls this case. . . . [The Supreme Court] reasoned that permitting recovery for lost foreign profits was not an impermissible "extraterritorial" application of the statute, because the focus of § 284 is the infringement, which occurred domestically.
>
> The same is true here. uCloudlink committed an act of infringement by selling its devices in the United States. In the hypothetical world in which the parties had reached an ex ante licensing agreement, SIMO would be entitled to a licensing fee based on the number of Daypasses sold for use with that device, whether the Daypasses were used domestically or abroad.[98]

The court further described *WesternGeco* as standing for the proposition that "patentees may recover for foreign injuries caused by domestic acts of infringement—as long as, of course, those injuries are proximately caused by the domestic acts."[99] In the present case, however, where the devices were "explicitly marketed and promoted as permitting easy access to data while traveling internationally," there was "no proximate cause concern."[100] To date, three other district court decisions[101] are in

[93] *Id.* at 336. On appeal, however, the Federal Circuit held that the district court's claim construction was erroneous, and that the defendants were entitled to a judgment of noninfringement, thus negating the damages award. *See* SIMO Holdings Inc. v. H.K. uCloudlink Network Tech. Ltd., 983 F.3d 1367 (Fed. Cir. 2021).
[94] *SIMO Holdings Inc.*, 396 F. Supp. 3d at 337–38.
[95] *Id.* at 332–33.
[96] *Id.* at 336–39.
[97] *Id.* at 350–51.
[98] *Id.* (citations omitted).
[99] *Id.* at 351.
[100] *Id.*
[101] *See* ABS Glob., Inc. v. Inguran, LLC, Nos. 3:14-cv-00503, 3:17-cv-00446, 2020 WL 2405380, at *8–9 (W.D. Wis. May 12, 2020) (denying a motion for judgment as a matter of law that, where the infringing products were made in the United States, the patent owner could not include the value

accord with the district courts' reasoning in *Power Integrations* and *SIMO*, though two others[102] have expressed doubt.

II. ANALYSIS

As the preceding Part shows, at present the bulk of authority appears to favor awarding U.S. patent owners compensation for losses incurred abroad—or, in the case of reasonable royalties, reflecting benefits gained by the infringer abroad[103]—as long as there is a sufficient nexus to an act of domestic infringement. This Part will argue that this rule is generally sound, subject to the traditional limiting doctrines of cause-in-fact, proximate cause, and the single recovery rule. More specifically, Section II.A argues that, in general, awards based on foreign sales stemming from an initial act of domestic infringement should be considered cognizable harms under U.S. patent law. Sections II.B through II.D then show how proper use of the limiting doctrines will impose meaningful constraints against the undue expansion of U.S. patent rights.

A. *Cognizable Harm*

As noted in the Introduction, U.S. courts sometimes state that, as a general matter, the patent owner is entitled to full compensation for whatever loss it sustains as a result of the infringement.[104] As a matter of

of foreign sales in the royalty base; and declining to address the question of whether foreign manufacture would have been a noninfringing alternative, because the defendant had waived this argument, and in any event had presented insufficient evidence to substantiate it); Plastronics Socket Partners, Ltd. v. Hwang, No. 2:18-cv-00014, 2019 WL 4392525, at *4–5 (E.D. Tex. June 11, 2019), *report and recommendation adopted*, 2019 WL 2865079 (E.D. Tex. July 3, 2019); Verinata Health, Inc. v. Ariosa Diagnostics., Inc., 329 F. Supp. 3d 1070, 1106–07 (N.D. Cal. 2018) (agreeing that the focus of section 271(a) is domestic conduct, but concluding that (1) the U.S. patent owner had failed to prove that the profits lost on foreign sales were its *own* lost profits, as opposed to lost profits of related nonparty foreign companies, and (2) the defendant could not "show that the jury took into account any revenues from foreign subsidiaries in their damages, especially given that the jury only awarded $27 million of the requested $104 million"). The Federal Circuit affirmed *Verinata* without addressing the extraterritorial damages issue. Verinata Health, Inc. v. Ariosa Diagnostics., Inc., 809 F. App'x. 965 (Fed. Cir. 2020).

[102] *See* MLC Intell. Prop., LLC v. Micron Tech., Inc., No. 3:14-cv-03657, 2019 WL 2437073, at *3 (N.D. Cal. June 11, 2019) (stating that whether "*WesternGeco II* implicitly overruled *Power Integrations I* remains to be seen, but at this time controlling law holds that MLC may not seek damages under section 271(a) based on Micron's wholly foreign sales"); Abbott Cardiovascular Sys., Inc. v. Edwards Lifesciences Corp., No. 1:19-cv-00149, 2019 WL 2521305, at *18 (D. Del. June 6, 2019) (denying a preliminary injunction against the domestic manufacture of an allegedly infringing device for purposes of export, on the ground, *inter alia*, that *WesternGeco* does not "stand for the proposition that a patentee in the United States may obtain damages (or injunctive relief) based on harm in another country independent of the theory of infringement liability at issue–i.e., § 271(a) versus § 271(f)"); Andrew C. Michaels, *Implicit Overruling and Foreign Lost Profits*, 25 B.U. J. SCI. & TECH. L. 408, 430 (2019) (concluding that, although the focus of section 271(a) is domestic conduct, to the extent *Power Integrations* "relied upon proximate causation, [it] was not implicitly overruled by *WesternGeco*").

[103] *See* Cotter et al., *Reasonable Royalties*, *supra* note 70, at 16 (noting that a royalty typically reflects some portion of the incremental value to the defendant of using the patented technology over the next-best available noninfringing alternative).

[104] *See supra* note 3.

policy, the full compensation principle can be viewed as serving the goals of the patent system[105] by ensuring that the patentee is no worse off, and the infringer no better off, than either would have been absent the infringement.[106] Put another way, the full compensation principle "preserves the patent incentive by restoring the patentee to the position it would have occupied had the infringer either avoided infringement or obtained a license."[107]

That said, the full compensation principle is not absolute.[108] The law of patent damages, both in the United States and elsewhere, often must negotiate tradeoffs among several important considerations, including

105 The most commonly articulated policy justifications for having a patent system are that patents provide an incentive (1) to invest in the creation of novel, useful, and nonobvious inventions; and (2) to disclose those inventions so that others may learn from them, improve upon them, design around them, license them, and once the relevant patents expire, freely practice them. Some of the relevant academic literature also proposes that patents confer social benefits by providing (3) an incentive to commercialize (innovate); (4) a means for patent owners to coordinate follow-up investment in improvements and to reduce the cost of patent races (the so-called "prospecting" function); and (5) a means for firms to "signal" private value to potential investors. At the same time, patents impose a variety of social costs, sometimes including monopoly and other access costs, transaction costs, and administrative costs. The ideal patent system therefore would maximize the surplus of social benefits over social costs, in comparison with alternatives such as public or private funding, grants, or prizes; tax credits; first-mover advantages; trade secrecy; and contract. For discussion, see THOMAS F. COTTER, PATENT WARS: HOW PATENTS IMPACT OUR DAILY LIVES 37–54 (2018) [hereinafter COTTER, PATENT WARS].

106 *See* Thomas F. Cotter, *Make No Little Plans: Response to Ted Sichelman*, *Purging Patent Law of "Private Law" Remedies*, 92 TEX. L. REV. SEE ALSO 25, 27–28 (2014) (noting further that "[i]n practice, this means awarding the patentee the greater of its own lost profit, if any, resulting from the infringement or the royalty the parties would have negotiated *ex ante* had they believed the patent to be both valid and infringed").

107 *Id.* at 28.

108 In addition to the countervailing considerations discussed in the text above, there are at least two counterarguments to consider against the goal of full compensation. The first is that, in principle, courts could aspire to correct for flaws in the substantive law by appropriately tailoring remedies—for example, by awarding minimal damages for the infringement of a patent that is valid only because the law of nonobviousness is too weak to prevent the awarding of trivial patents. In other work, however, I have argued that legislatures and courts can more directly and effectively address perceived flaws in the substantive law by amending it, rather than doing so indirectly through the law of remedies. Moreover, for courts to use, for example, damages awards as a tool for correcting perceived flaws in substantive patent law might raise separation-of-powers and rule-of-law problems, at least in the absence of explicit legislative authority to do so. *See* THOMAS F. COTTER, COMPARATIVE PATENT REMEDIES: A LEGAL AND ECONOMIC ANALYSIS 49–51 (2013) [hereinafter COTTER, COMPARATIVE PATENT REMEDIES]; Cotter, *supra* note 106, at 30–33. Second, one might argue that the law of patent remedies should aim to directly serve the patent system's idealized purpose of maximizing the surplus of social benefits over costs by, for example, awarding damages to compensate the patent owner for its research and development (R&D) costs, rather than to restore the owner to the position it would have occupied but for the infringement. *See generally* Ted Sichelman, *Purging Patent Law of "Private Law" Remedies*, 92 TEX. L. REV. 517 (2014). In response, I and others have argued that, as a general matter, it would not be advisable for courts hearing patent infringement lawsuits explicitly to tailor remedies in an effort to provide optimal incentives, for several reasons—among them, the lack of consensus on what the optimal reward would be, and the difficulty of obtaining adequate information on R&D costs, and of fairly apportioning those R&D costs among multiple potential infringers, in any given case. *See generally* COTTER, COMPARATIVE PATENT REMEDIES, *supra*, at 49–51; Cotter, *supra* note 106, at 30–31. All that said, there is a robust literature on the comparative efficacy of prizes, compulsory licenses, and other alternative mechanisms for inducing innovation, which I will not go into here. For discussion, see COTTER, PATENT WARS, *supra* note 105, at 47–51, 177, 192–93.

not only the goal of fully and accurately compensating patent owners, but also of deterring infringement and of applying rules that are cost-justified, predictable, and administrable.[109] The perceived need to deter infringement sometimes may require courts to deploy supracompensatory remedies such as enhanced damages, particularly if the type of infringement at issue otherwise is likely to go undetected or unremedied.[110] Alternatively, other policies may counsel in favor of providing compensation that falls below the patent owner's actual loss. In the United States, for example, prevailing patent owners are eligible to recover their attorney's fees only in exceptional cases.[111] This standard is generally consistent with the "American Rule," under which each party bears its own litigation expenses, and which is intended to reduce the probability that risk-averse parties will abandon meritorious claims, even at the expense of fully compensating the prevailing party.[112]

More generally, because causal chains extend out to infinity, all bodies of law necessarily impose limits on the extent to which a person who has breached a legal duty is responsible for the consequences (especially the more remote consequences) of her acts.[113] Generally speaking,

[109] *See generally* Thomas F. Cotter, *Patent Damages Heuristics*, 25 TEX. INTELL. PROP. L.J. 159, 161, 179 (2018).

[110] *See* Colleen V. Chien, Jorge L. Contreras, Thomas F. Cotter, Brian J. Love, Christopher B. Seaman & Norman Siebrasse, *Enhanced Damages, Litigation Cost Recovery, and Interest*, *in* COMPLEX PRODUCTS, *supra* note 33, at 90, 99 (noting that these may include not only enhanced damages, but also or alternatively injunctive relief, disgorgement of the infringer's profits, and fee awards).

[111] *See* 35 U.S.C. § 285 (2018); Octane Fitness, LLC v. ICON Health & Fitness, Inc., 572 U.S. 545, 555 (2014).

[112] *See* Chien et al., *supra* note 110, at 106; *see also* Seaman et al., *supra* note 33, at 69–72 (discussing other arguably noncompensable harms).

[113] Among the doctrinal tools that courts may deploy to establish limits are cause-in-fact, *see, e.g.*, Paroline v. United States, 572 U.S. 434, 449–50, 452 (2014) (stating that "[t]he traditional way to prove that one event was a factual cause of another is to show that the latter would not have occurred 'but for' the former," but that "alternative and less demanding causal standards are necessary in certain circumstances to vindicate the law's purposes"); proximate cause, *see, e.g.*, Hemi Grp., LLC v. City of New York, 559 U.S. 1, 9 (2010) (stating that "[p]roximate cause . . . requires 'some direct relation between the injury asserted and the injurious conduct alleged,'" and that "[a] link that is 'too remote,' 'purely contingent,' or 'indirec[t]' is insufficient") (citations omitted) (third alteration in original); Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1546 (Fed. Cir. 1995) (stating that "[j]udicial limitations on damages, either for certain classes of plaintiffs or for certain types of injuries have been imposed in terms of 'proximate cause' or 'foreseeability'" and that "[s]uch labels have been judicial tools used to limit legal responsibility for the consequences of one's conduct that are too remote to justify compensation"); duty, *see, e.g.*, Consol. Rail Corp. v. Gottshall, 512 U.S. 532, 546 (1994) (citing Palsgraf v. Long Island R.R., 162 N.E. 99 (N.Y. 1928)) (describing "duty" as "functionally equivalent" to proximate cause); "zone of interests," *see, e.g.*, Lexmark Int'l, Inc. v. Static Control Components, Inc., 572 U.S. 118, 129, 132–33 (2014) (based on the presumptions "that a statutory cause of action extends only to plaintiffs whose interests 'fall within the zone of interests protected by the law invoked'" and "that a statutory cause of action is limited to plaintiffs whose injuries are proximately caused by violations of the statute," limiting false advertising claims under Lanham Act § 43(a) to persons who can show that "the deception wrought by the defendant's advertising" causes consumers "to withhold trade from the plaintiff"); antitrust injury, *see* Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 489 (1977) (holding that a private antitrust plaintiff must be able to show that it is threatened with "antitrust injury, which is to say injury of

these doctrines are premised on the assumption that extending liability too far is unlikely to deter the type of wrongful act at issue, and may instead either over-deter actors from engaging in beneficial conduct or, alternatively, undermine the purposes the body of law is intended to carry out or other important public policies.[114] Sections II.B through II.D below discuss three such limits in particular, namely, cause-in-fact, proximate cause, and the single recovery rule. The remainder of this Section,

the type the antitrust laws were intended to prevent and that flows from that which makes defendants' acts unlawful"); and the "economic loss" rule, *see* RESTATEMENT (THIRD) OF TORTS: LIAB. FOR ECON. HARM § 7 (AM. L. INST. 2020) (stating that "[e]xcept as provided elsewhere in this Restatement, a claimant cannot recover for economic loss caused by: (a) unintentional injury to another person; or (b) unintentional injury to property in which the claimant has no proprietary interest"). Two other related doctrines of potential relevance here are "the fruit of the poisonous tree" doctrine, *see, e.g.*, Missouri v. Seibert, 542 U.S. 600, 612 n.4 (2004) (plurality opinion) (describing "the doctrine known by the metaphor of the 'fruit of the poisonous tree,' developed in the Fourth Amendment context . . . ," as standing for the proposition that "evidence otherwise admissible but discovered as a result of an earlier violation is excluded as tainted, lest the law encourage future violations"); and the single recovery rule (also known as the rule against double recovery). For a classic statement of the latter, *see* Anheuser-Busch, Inc. v. Starley, 170 P.2d 448, 452 (Cal. 1946) (Traynor, J., dissenting) (stating that "[w]hen the plaintiff has accepted satisfaction in full for the injury done him, from whatever source it may come, he is so far affected in equity and good conscience, that the law will not permit him to recover again for the same damages," and that "the rule against double recovery is aimed at preventing unjust enrichment") (internal quotations omitted); *see also* John G. Fleming, *The Collateral Source Rule and Contract Damages*, 71 CALIF. L. REV. 56, 77 n.100 (1983) (stating that the fact that Justice Traynor's "statement stems from a dissenting opinion does not detract from its validity"). As Fleming notes, however, there are some standard exceptions, for example when the parties agree otherwise by contract, or when the common law imposes the collateral source rule and insurers are unable to obtain subrogation. *Id.* (passim).

[114] *See, e.g.*, RESTATEMENT (THIRD) OF TORTS: LIAB. FOR ECON. HARM § 7 cmt. b (AM. L. INST. 2020) (explaining the economic loss doctrine as resting on concerns that awarding damages for remote economic losses caused by an unintentional injury to another's property could result in liability "out of proportion to the culpability of the defendant" which are not "likely to be justified by comparable benefits," because it is unlikely that "threats of open-ended liability would usefully improve the incentives of parties to take precautions against accidents or would make a material contribution to the cause of fairness"; moreover, "the victims of economic injury often can protect themselves effectively by means other than a tort suit"); Blair & Cotter, *supra* note 15, at 71 & nn.313–14 (arguing that, when the defendant's conduct does not materially increase the ex ante probability of the injury occurring, "the social costs of imposing liability may exceed the social benefit of a reduction in injury, because the imposition of liability when the probability of injury is very low will have little if any ex ante deterrent effect, and may impose substantial administrative costs") (citing William M. Landes & Richard A. Posner, *Causation in Tort Law: An Economic Approach*, 12 J. LEGAL STUD. 109, 124–29 (1983), and Steven Shavell, *An Analysis of Causation and the Scope of Liability in the Law of Torts*, 9 J. LEGAL STUD. 463, 481, 484, 490–93 (1980)); Joseph F. Brodley, *Antitrust Standing in Private Merger Cases: Reconciling Private Incentives and Public Enforcement Goals*, 94 MICH. L. REV. 1, 5, 18–21 (1995) (noting that, in theory, the antitrust injury requirement "screens the economic interests of the plaintiff" to ensure that it cannot "collect damages for losses that stem from competition," a result that "would undermine the very purpose of those laws"); Wendy J. Gordon, *Fair Use in* Oracle*: Proximate Cause at the Copyright/Patent Divide*, 100 B.U. L. REV. 389, 396–98, 417–21 (2020) (arguing that proximate cause, duty, antitrust injury, and copyright's fair use doctrine all serve to limit liability in circumstances in which imposing liability would not advance the goals of the relevant body of law); *see generally* Amy L. Landers, *Proximate Cause and Patent Law*, 25 B.U. J. SCI. & TECH. L. 329, 352–64 (2019) (citing various sources to argue that proximate cause reduces the risk of overdeterring reasonable or socially beneficial conduct); Mark A. Lemley, *The Fruit of the Poisonous Tree in IP Law*, 103 IOWA L. REV. 245, 249 (2017) (stating generally that "the law does not—and likely cannot—fully undo the harm caused by various infractions," and that it instead "tries to balance the effort to redress injury with the practical limits of tracing the ripples of causation as far as they might go").

however, will address the preliminary question of whether courts should consider extraterritorial losses (or gains, on the part of the infringer) that are factually and proximately caused by an act of domestic infringement as *cognizable* harms (gains) for purposes of patent law.[115] This type of question is perhaps more analogous to the antitrust injury doctrine, under which a private antitrust plaintiff must be able to articulate how the defendant's conduct threatens the plaintiff with "antitrust injury, which is to say injury of the type the antitrust laws were intended to prevent and that flows from that which makes defendants' acts unlawful."[116]

In a recent paper, for example, the author of this Article argued that U.S. patent law rightly excludes damages for emotional harm, because awarding such damages would undermine the utilitarian purposes for which patent laws exist.[117] In the present context, by contrast, where an initial act of domestic infringement causes the owner to lose both domestic and foreign profits, there is no difference in kind between these two, purely commercial, losses. Writing shortly before the Supreme Court's decision in *WesternGeco*, Stephen Yelderman illustrated this point by posing a hypothetical in which a patent owner earns $2 million from using its patented tool in Texas and $1 million from using it in Louisiana; an infringer makes the tool in Texas and sells it to firms in Texas and Louisiana; and the purchasers use the tool in, respectively, Texas and Louisiana, thereby driving the owner's profit to zero:

> But if we change the facts slightly so that the patent holder is using her patented tool not in Texas and Louisiana but in Texas and *France*, her quest for full compensation will encounter the Federal Circuit's geographic limit on patent damages. The $2 million loss of

[115] To be sure, cognizability and proximate cause inquiries are sometimes intertwined—particularly when courts invoke policy reasons as a basis for concluding that an injury was (or was not) proximately caused by the defendant's wrongful act, which can be just another way of saying that the injury is (or is not) a cognizable consequence of that type of act. *See, e.g.*, Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 767 (2004) (citing W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS 264, 274–75 (5th ed. 1984)) (stating that "proximate cause analysis turns on policy considerations and considerations of the 'legal responsibility' of actors"). In Section II.C, however, I will assume that extraterritorial losses are, in general, a cognizable type of harm for patent infringement, and consider whether there are, nonetheless, some standard situations in which it might be appropriate to conclude that those losses are too remote, unforeseeable, or indirect to qualify for relief.

[116] *Brunswick*, 429 U.S. at 489. Other scholars have argued that the various bodies of IP laws expressly should (and to some extent, already implicitly do) apply an analogous "IP injury" requirement. For recent discussion, *see, e.g.*, Christina Bohannan & Herbert Hovenkamp, *IP and Antitrust: Reformation and Harm*, 51 B.C. L. REV. 905, 985 (2010) (proposing that the IP owner be required to prove "demonstrable injury that is tied to the purpose for which the IP laws were passed"); Gordon, *supra* note 114, at 397–98, 417–21; Mark A. Lemley & Mark P. McKenna, *Unfair Disruption*, 100 B.U. L. REV. 71, 119–29 (2019) (proposing, as "one specific implementation of the IP injury idea," that courts should ask whether the plaintiff would have "suffer[ed] the same injury from a market intervention that is not infringing").

[117] *See* Thomas F. Cotter, *Damages for Noneconomic Harm in Intellectual Property Law*, 72 HASTINGS L.J. (forthcoming 2021).

> profits in Texas would remain cognizable, but the court would deny recovery of the $1 million loss of profits in France. . . .
>
> This change in outcome is remarkable, because nothing about the infringing conduct has changed—the other manufacturer is still infringing under § 271(a), at the same volume, still in Texas, through the manufacture and sale of the patented tool. Moreover, the harm those domestic acts of infringement have done to the patentee is the same too—she is still $3 million worse off as a direct result of the infringement. But, because the patent holder's business is now vulnerable in a different market—she is losing profits in Texas and France, not Texas and Louisiana—the Federal Circuit would stop short of restoring her rightful position.[118]

Further, as Yelderman noted in the amicus brief he filed in *WesternGeco*, there is nothing unusual about compensating victims of domestic torts for losses they have incurred or will incur outside the United States: if Smith's U.S. factory sells products to both U.S. and foreign firms, and Jones's negligence causes the factory to burn down, under general tort law, Jones will be liable for Smith's quantifiable lost profits on the forgone domestic and foreign sales.[119] In the simple tort case, Yelderman argues, it seems clear that "drawing a line at the water's edge" would "subvert the fundamental goal" of placing the prevailing plaintiff "in the position he would have enjoyed absent the wrong."[120] Absent some basis for treating patent disputes differently from other types of tort cases—a result that would be contrary to contemporary trends[121]—the same principles should apply here.[122]

118 Yelderman, *supra* note 55, at 4.
119 Brief of Law Professor Stephen Yelderman as Amicus Curiae in Support of Petitioner at 1–2, WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129 (2018) (No. 16-1011), 2018 WL 1393832; *see also* Brief for United States on Petition for a Writ of Certiorari to the United States Court of Appeals for The Federal Circuit as Amicus Curiae at 13, WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129 (2018) (No. 16-1011) [hereinafter U.S. Brief] (noting that "a foreign tourist negligently injured in a car crash in the United States may recover full compensation from the tortfeasor, including for lost wages that the tourist would have earned in his home country," and that "[t]he fact that the wages would have been earned abroad would not prevent the defendant's domestic negligence from being treated as the proximate cause of their loss").
120 Brief of Law Professor Stephen Yelderman as Amicus Curiae in Support of Petitioner, *supra* note 119, at 2.
121 *See, e.g.*, Peter Lee, *The Supreme Assimilation of Patent Law*, 114 MICH. L. REV. 1413, 1416 (2016) (stating that "the Supreme Court has consistently sought to eliminate patent exceptionalism, bringing patent law in conformity with what it characterizes as general legal standards").
122 As discussed above, full compensation arguably preserves the patent incentive scheme and discourages infringement. *See supra* notes 3, 105 and accompanying text. Of course, it could be the case that the patent incentive scheme is itself out of whack, but if so, the better response would be to reform the substantive law or at least the law of patent damages generally. *See supra* note 108; *see also* Yelderman, *supra* note 55, at 4–5 (noting that "failing to restore the plaintiff's rightful position does not necessarily mean that damages are undercompensatory as a matter of policy," but that the problem with the Federal Circuit's post-2000 case law was that it "replaced a set of generally applicable, flexible tools for limiting damages with a newly crafted, bright-line prohibition that applie[d] only to a particular scope boundary").

Confusion nevertheless may arise because, contrary to the typical tort case, the foreign activity that causes the owner's loss may also violate foreign patent law (which, moreover, might be different from U.S. law in important respects)[123]—or, alternatively, may be *permitted* under foreign law because, for example, the foreign country does not extend patent protection to the subject matter of the patent, or exempts the defendant's conduct from the scope of liability.[124] For this reason, several commentators have argued that for U.S. courts to award damages for extraterritorial harms resulting from an act of domestic infringement would intrude upon the sovereignty of other countries by regulating conduct within their borders.[125]

This line of argument is misguided, however, because in cases such as *WesternGeco*, *Power Integrations*, and *SIMO*, the United States would *not* be regulating foreign conduct, but rather deciding what the consequences should be for an act of *domestic* infringement.[126] To be sure, to the extent those consequences can include compensation for the profits the U.S. patent owner would have earned abroad absent the domestic infringement, the defendant may be discouraged from engaging in those

[123] For example, the remedies for infringement may be different. U.S. law permits enhanced damages for willful infringement, *see* Halo Elecs. Inc. v. Pulse Elecs., Inc., 136 S. Ct. 1923 (2016), whereas most other countries do not (often or ever). *See* Chien et al., *supra* note 110, at 94–96. On the other hand, U.S. law no longer awards the infringer's profits for the infringement of utility patents, and usually does not award attorney's fees, *see supra* notes 33, 111 and accompanying text, whereas other countries often do both. *Id.* at 104–06; Seaman et al., *supra* note 33, at 75–80.

[124] *See, e.g.*, COTTER, COMPARATIVE PATENT REMEDIES, *supra* note 108, at 13 n.30, 56 (noting that, unlike the United States, some countries do not award patents for higher life forms; but that some have a broader experimental use defense than does the United States).

[125] *See* Chao, *supra* note 55, at 86–87; Timothy R. Holbrook, *Extraterritoriality and Proximate Cause After* WesternGeco, 21 YALE J.L. & TECH. 189, 205–06 (2019); Sapna Kumar, *Patent Damages Without Borders*, 25 TEX. INTELL. PROP. L.J. 73, 109–10 (2018); Landers, *supra* note 114, at 339–40; *see also* 7 PATRY, *supra* note 44, § 25:92 (making the same argument with regard to copyright).

[126] As Judge Rakoff reasoned in *SIMO*, for example:

> uCloudlink argues that SIMO cannot recover for Daypasses purchased abroad because foreign infringement is not infringement at all. But that argument "conflates legal injury with the damages arising from that injury." SIMO does not seek to recover for "infringement" abroad. Rather, it seeks to recover fully for a *domestic* act of infringement, i.e. the sale of an Infringing Device in the United States. And SIMO is entitled to full compensation for that act of infringement, even if some of the harm traceable to it occurred abroad.

SIMO Holdings Inc. v. H.K. uCloudlink Network Tech. Ltd., 396 F. Supp. 3d 323, 350 (S.D.N.Y. 2019) (quoting WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129, 2138 (2018)) (citations omitted), *rev'd on other grounds*, 983 F.3d 1367 (Fed. Cir. 2021). Judge Rakoff's analysis, in my view, refutes commentators such as Holbrook, who writes that "[a]n award of damages based on foreign conduct is the same as finding a party liable based on extraterritorial acts." Holbrook, *supra* note 125, at 206. By the same token—and contrary to the opinions of some commentators, *see WesternGeco*, 138 S. Ct. at 2143 (Gorsuch, J., dissenting); Chao, *supra* note 55, at 87—the United States would have no ground for complaining if a foreign court were to determine that the consequences of a foreign infringement include compensation for profits the patent owner otherwise would have made in the United States. Indeed, that is precisely what happened in the Canadian *AstraZeneca* decision discussed *supra* notes 46–49 and accompanying text.

loss-generating foreign activities. But such would be the case (indeed, even more so) if a court were to *enjoin* the defendant from engaging in the domestic manufacture of a product it intends to export for purposes of sales in another country; and yet, it seems reasonably clear that a court, subject to the exercise of its equitable discretion,[127] has the authority to do *that*.[128] This is not to suggest that courts necessarily *should* grant

127 *See* eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 391 (2006) (interpreting 35 U.S.C. § 283, which states that courts: "may grant injunctions in accordance with the principles of equity," as requiring the plaintiff to "demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction"). Studies published in the years following *eBay* indicated that courts still were granting prevailing patent owners' requests for permanent injunctions, in contested cases, about seventy-five percent of the time. *See* GENEVA CLARK, LEX MACHINA, PATENT LITIGATION REPORT 2019, at 24–25 (discussed in Thomas F. Cotter, *News on Injunctions*, COMPAR. PAT. REMEDIES BLOG (Mar. 11, 2019), http://comparativepatentremedies.blogspot.com/2019/03/news-on-injunctions.html [https://perma.cc/HV5M-LPUF]); Christopher B. Seaman, *Permanent Injunctions in Patent Litigation After* eBay: *An Empirical Study*, 101 IOWA L. REV. 1949, 1983 (2016).

128 There do not appear to be any recent U.S. cases clearly stating that a court may enjoin the domestic manufacture of a product intended for export. There are some old ones, however. *See* Bullock Elec. & Mfg. Co. v. Westinghouse Elec. & Mfg. Co., 129 F. 105, 109 (6th Cir. 1904); Adriance, Platt & Co. v. McCormick Harvesting Mach. Co., 55 F. 288, 292 (C.C.N.D. Ill. 1893) (granting a preliminary injunction against the domestic manufacture of a patented machine for export), *aff'd*, 56 F. 918 (7th Cir. 1893) (per curiam). The issue also has been squarely addressed in some recent non-U.S. decisions. *See* Merck Sharp & Dohme Corp. v. Gupta, (2018) 5675 IA 1, 7, 10 (2019) (India), http://164.100.69.66/jupload/dhc/PRJ/judgement/19-11-2019/PRJ18112019SC8232018.pdf [https://perma.cc/2PHW-G7SQ] (granting an interim injunction against the domestic manufacture for export of an anti-diabetes drug, and specifically rejecting the argument that doing so amounts to the extraterritorial application of Indian patent law); Alliedsignal Inc. v. DuPont Can. Inc., [1998] CanLII 7464 para. 5 (Can. Ont., F.C.), https://canlii.ca/t/4cf8 [https://perma.cc/RAX8-J6MJ] (noting that the Federal Court of Appeal had previously enjoined the defendant's manufacture of infringing products for sale outside Canada); Sandeep K. Rathod, *Interim Injunctions and Working of Patents: A Short Note from India*, 16 J. GENERIC MEDS. 72 (2020) (discussing other Indian cases addressing this issue and arguing that in cases unlike *Merck* in which the patent owner is not domestically working the patent, the equities may favor denying the injunction). Moreover, the TRIPS Agreement imposes strict limits on the ability of countries to grant compulsory licenses for domestic firms to manufacture drugs for export to developing countries—which limits would be unnecessary if the general consensus was that, as a matter of international patent law, countries could decide that domestic manufacture for export is not remediable at all. Agreement on Trade-Related Aspects of Intellectual Property Rights art. 31bis, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I.L.M. 1197 (as amended Jan. 23, 2017) [hereinafter TRIPS Agreement]; COTTER, PATENT WARS, *supra* note 105, at 199–200 (discussing the lead-up to this provision).

Further, by way of analogy, there seems to be little doubt that a copyright owner can obtain an injunction against the unauthorized copying of a pictorial, graphic, or sculptural (PGS) work, even though the effect of such an injunction might be to impede the defendant from using the work to construct a useful article—which construction itself, however, is *not* an act of infringement. 17 U.S.C. § 113(b) (2018) (stating that the Copyright Act "does not afford, to the owner of copyright in a work that portrays a useful article as such, any greater or lesser rights with respect to the making, distribution, or display of the useful article so portrayed than those afforded to such works under the law . . . in effect on December 31, 1977"); H.R. REP. NO. 94-1476, at 105 (1976) (stating that "copyright in a pictorial, graphic, or sculptural work portraying a useful article as such, does not extend to the manufacture of the useful article itself") (citation omitted). *See, e.g.*, Oravec v. Sunny Isles Luxury Ventures, L.C., 527 F.3d 1218, 1228 (11th Cir. 2008) ("[Plaintiff] could not establish infringement of these works because, unlike an architectural work copyright, a PGS copyright does not protect against the construction of a building based on copyrighted architectural injunctions in such cases, if ongoing royalties would be an adequate remedy—in which case, however, we are back to the initial question of having to decide whether the royalty should reflect some portion of the value of the expected foreign sales. The point nevertheless remains that, if it does not unduly intrude upon foreign sovereignty for a domestic court to enjoin domestic manufacture—even when the practical effect of doing so is to deter the defendant from engaging in lawful conduct abroad—it is hard to see how awarding damages that may have a similar deterrent impact constitutes any greater intrusion.[129]

Of course, even if awarding damages reflecting extraterritorial harms or benefits does not unduly interfere with other countries' laws, such a practice might be undesirable simply as a matter of U.S. patent law or policy. In this regard, Professor Holbrook argues that, even after *WesternGeco*, courts should not award extraterritorial damages for violations of section 271(a), because the focus of that provision is distinct from that of section 271(f):

> For section 271(f)(2), the focus, as noted by the Court, is on domestic conduct—supplying components of the patented invention from within the United States. But part of that focus is supplying from the United States *to outside* of the United States. The contemplated result of infringement under section 271(f)(2) is regulation of events outside of the United States. The statute even contemplates the potential assembly of the invention outside of the United States in a way quite

plans; it only prohibits copying of the plans themselves."); Demetriades v. Kaufmann, 680 F. Supp. 658, 664, 669 (S.D.N.Y. 1988) (recognizing that copyright in a PGS work (architectural plans) did not entitle the plaintiff to an injunction against construction of a building, but preliminarily enjoining further copying of the plans themselves, and impounding existing copies).

Finally, if it is fair to assume that, after *WesternGeco*, the extraterritorial lost profit resulting from the export of components of a patented device in violation of section 271(f) constitutes cognizable harm to the patent owner, the avoidance of which might in some cases justify injunctive relief, it would seem odd if courts lacked the authority to enjoin the manufacture for export of the *entire device*. I therefore conclude that the district court decision in Abbott Cardiovascular Sys., Inc. v. Edwards Lifesciences Corp., 1:19-cv-00149, 2019 WL 2521305, at *18 (D. Del. June 6, 2019)—holding that the loss of foreign sales resulting from domestic manufacture of a patented invention cannot qualify as a cognizable irreparable harm for purposes of deciding whether to grant a preliminary injunction—was incorrect.

[129] The above is subject to the qualification that the domestic manufacture was the cause-in-fact of the foreign conduct, in the sense that the defendant could not have achieved the same result by manufacturing the product outside the United States. *See infra* Section II.B. Note also that Patent Act § 283 states that courts may enter injunctions only "to prevent the violation of any right secured by patent." 35 U.S.C. § 283 (2018). Because the extraterritorial manufacture, use, or sale of an article patented in the United States does not infringe "any right secured by a [U.S.] patent," U.S. courts generally lack the authority to enjoin the foreign conduct itself. *See* Spine Sols., Inc. v. Medtronic Sofamor Danek USA, Inc., 620 F.3d 1305, 1320 (Fed. Cir. 2010) (noting, however, that courts may enjoin a defendant who has exported infringing products from repatriating them back to the United States). In addition, because the Patent Act does not grant patent owners a right against exportation, the court lacks authority to enjoin the defendant from exporting a product it lawfully made in the United States before the patent issued. *See* Johns Hopkins Univ. v. CellPro, Inc., 152 F.3d 1342, 1366–67 (Fed. Cir. 1998).

> distinct from § 271(a). This express consideration of foreign activity is in sharp contrast to the explicit territorial limits of section 271(a). Section 271(a) does not contemplate any activity outside of the United States, other than the importation of the invention into the United States, the impact of which would be domestic.[130]

Holbrook's analysis is clever, but it strains against the actual language of *WesternGeco,* which repeatedly characterizes the conduct regulated by section 271(f)(2) as "domestic" in nature, full stop,[131] and emphasizes the need to consider the focus of *both* section 284 *and* the relevant substantive provision. On this latter issue in particular, the Court stated:

> The portion of § 284 at issue here states that "the court shall award the claimant damages adequate to compensate for the infringement." We conclude that "the infringement" is the focus of this statute. As this Court has explained, the "overriding purpose" of § 284 is to "affor[d] patent owners complete compensation" for infringements. . . .
>
> . . . .
>
> In sum, the focus of § 284, in a case involving infringement under § 271(f)(2), is on the act of exporting components from the United States. In other words, the domestic infringement is "the objec[t] of the statute's solicitude" in this context. The conduct in this case that is relevant to that focus clearly occurred in the United States, as it was ION's domestic act of supplying the components that infringed WesternGeco's patents. Thus, the lost-profits damages that were awarded to WesternGeco were a domestic application of § 284.[132]

Imagine now that the case had involved section 271(a) instead of section 271(f)(2). The only necessary alteration to the portion quoted

[130] *See* Holbrook, *supra* note 125, at 220–21 (footnotes omitted); *see also* Timothy R. Holbrook, *Is There a New Extraterritoriality in Intellectual Property?*, COLUM. J.L. & ARTS (forthcoming) (manuscript at 46–47), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3757627 [https://perma.cc/H9L7-XVQ9]; Timothy R. Holbrook, *Boundaries, Extraterritoriality, and Patent Infringement Damages*, 92 NOTRE DAME L. REV. 1745, 1777–83, 1790 (2017) [hereinafter Holbrook, *Boundaries*].

[131] Specifically, the court stated:

> Section 271(f)(2) focuses on domestic conduct. It provides that a company "shall be liable as an infringer" if it "supplies" certain components of a patented invention "in or from the United States" with the intent that they "will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." The conduct that § 271(f)(2) regulates—*i.e.*, its focus—is the domestic act of "suppl[ying] in or from the United States." As this Court has acknowledged, § 271(f) vindicates domestic interests: It "was a direct response to a gap in our patent law," and "reach[es] components that are manufactured in the United States but assembled overseas." As the Federal Circuit explained, § 271(f)(2) protects against "domestic entities who export components . . . from the United States."

WesternGeco, 138 S. Ct. at 2137–38 (citations omitted) (alterations in original).

[132] *Id.* (citations omitted) (brackets in original).

above would be to amend the second paragraph to read something like this (altered portion in italics):

> In sum, the focus of § 284, in a case involving infringement under *§ 271(a)*, is on the act of *making, using, offering to sell, selling, or importing the patented invention in* the United States. In other words, the domestic infringement is "the objec[t] of the statute's solicitude" in this context. The conduct in this case that is relevant to that focus clearly occurred in the United States, as it was ION's domestic act of *making [or using, offering to sell, selling, or importing]* an invention that infringed WesternGeco's patents. Thus, the lost-profits damages that were awarded to WesternGeco were a domestic application of § 284.

Holbrook's interpretation does not explain why one should expect that the Court would have engaged in some more extensive revision—leading to a different result—had the case involved section 271(a). Indeed, as ION's attempt to distinguish the pre-2000 case law demonstrates, if anything the case for awarding extraterritorial damages seems stronger in the section 271(a) context, since there necessarily would have been an initial manufacture or sale of the complete product within the United States.[133]

Finally, however, one might argue that awarding damages for extraterritorial losses in some sense enables U.S. patent owners to leverage their domestic rights to control conduct falling outside the scope of those rights. Here an analogy might be drawn to various doctrines in patent and (copyright) law that prevent IP owners from leveraging their rights to encompass unprotectable subject matter. Patent law, for example, limits patent owners' ability to assert control over subject matter that they have already commercially exploited,[134] or that is on a trajectory toward public

[133] *See* Brief for Respondent at 29 n.10, *WesternGeco*, 138 S. Ct. 2129 (No. 16-1011), 2018 WL 1517869 (arguing that, "[i]n calculating a reasonable royalty . . . a factfinder may consider the expected foreign use of an object in determining the reasonable royalty *rate* that would have emerged from the hypothetical negotiation, even though the factfinder cannot properly use a physical article manufactured, sold, and used abroad in the royalty *base*"); *id.* at 42 (distinguishing some of the pre-2000 cases on the ground that "the defendant manufactured or sold an infringing product in the United States"). ION also distinguished some of the pre-2000 case law, as well as cases decided under copyright's predicate act doctrine, on the ground that they involved the disgorgement of the defendant's profits, rather than the plaintiff's lost profits. *See id.* at 42–46. As noted above, however, there is no compelling economic rationale for such a distinction. *See supra* note 45 and accompanying text.

[134] *See, e.g.*, 35 U.S.C. § 102(b)(1)(A) (2018) (precluding an inventor from obtaining a patent if she publicly discloses the invention more than one year prior to filing a patent application); Helsinn Healthcare S.A. v. Teva Pharms. USA, Inc., 139 S. Ct. 628 (2019) (holding that a patent applicant is barred from obtaining a patent if she places the subject matter on sale more than one year prior to filing a patent application); Sun Pharm. Indus. v. Eli Lilly & Co., 611 F.3d 1381, 1384–85 (Fed. Cir. 2010) (holding that an inventor is precluded from patenting obvious variations over her own previously patented invention).

disclosure,[135] or that is already in some sense in the public domain.[136] It also includes the (somewhat amorphous) misuse doctrine, which constrains owners from exercising power beyond the patent's intended scope.[137] Within the domain of copyright, the fair use, idea–expression, merger, and misuse doctrines respond to analogous concerns.[138] So perhaps one could argue that, since U.S. patent rights are territorial, awarding damages based on extraterritorial harms unduly expands their scope, even if those harms are tethered to an initial act of domestic infringement—or, as William Patry puts it in another context, awarding such damages would be "to grant a remedy when there is no right."[139]

There are several reasons why this argument does not work, however. First, as discussed above, awarding extraterritorial damages does not really expand the geographic scope of U.S. patent rights but rather only sets the appropriate compensation for domestic infringement.[140] Second, and also as discussed above, a patent (or copyright) owner can obtain an injunction against domestic manufacture (copying), subject to the court's equitable discretion, even if, as a practical matter, the effect is to prevent the defendant from doing something in another country.[141]

Third, there are other contexts in which courts have permitted patent owners to recover damages for harms to unprotected subject matter, where those harms were caused by an initial act of infringement. The principal example arises when the patent owner sells two products, one incorporating its patented technology and one not, and the defendant sells

[135] *See, e.g.*, 35 U.S.C. § 102(a)(2) (2018) (precluding an inventor from obtaining a patent if, prior to her filing date, the claimed invention is described in a pending application that later issues). A slightly different version of this provision was codified at 35 U.S.C. § 102(e) prior to the 2011 America Invents Act, while another provision, section 102(g), precluded an inventor from obtaining a patent if prior to her date of invention the claimed invention had been made in the United States by another inventor and not abandoned, suppressed, or concealed. 35 U.S.C. §§ 102(e), (g) (2006), *repealed by* Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3(b), 125 Stat. 284, 286 (2011).

[136] Examples include the inherency doctrine, *see, e.g*., Schering Corp. v. Geneva Pharms., Inc., 339 F.3d 1373, 1379 (Fed. Cir. 2003); Dan L. Burk & Mark A. Lemley, *Inherency*, 47 WM. & MARY L. REV. 371 (2005); some applications of patentable subject matter doctrine, *see* Kevin Emerson Collins, Prometheus Laboratories, *Mental Steps, and Printed Matter*, 50 HOUS. L. REV. 391, 396 (2012) (arguing that "[i]f it is simply the mental comprehension of a newly discovered law of nature that distinguishes a claimed process from the prior art . . . the process is not patentable subject matter"); and rules precluding a person who obtained the subject matter from another from obtaining a patent on it, *see* Dennis Crouch, *With 102(f) Eliminated, Is Inventorship Now Codified in 35 U.S.C. 101? Maybe, but Not Restrictions on Patenting Obvious Variants of Derived Information*, PATENTLY-O (Oct. 4, 2012), http://patentlyo.com/patent/2012/10/with-102f-eliminated-is-inventorship-now-codified-in-35-usc-101.html [https://perma.cc/5NJ2-2Q9N].

[137] For discussion, see, e.g., Thomas F. Cotter, *Four Questionable Rationales for the Patent Misuse Doctrine*, 12 MINN. J.L. SCI. & TECH. 457 (2011); Thomas F. Cotter, *Misuse*, 44 HOUS. L. REV. 901 (2007).

[138] For discussion, see, e.g., Thomas F. Cotter, *The Procompetitive Interest in Intellectual Property Law*, 48 WM. & MARY L. REV. 483, 503–15 (2006); Gordon, *supra* note 114.

[139] 2 PATRY, *supra* note 44, § 3:105.

[140] *See supra* notes 118–122 and accompanying text.

[141] *See supra* notes 127–129 and accompanying text.

infringing products that compete against both of the owner's products. According to the Federal Circuit's decision in *Rite-Hite Corp. v. Kelley Co.*, in such a case the owner may recover its lost profits on lost sales of both the patented and unpatented products, in accordance with the full compensation principle.[142] In addition, if the owner typically sells some unpatented, complementary product (e.g., spare or replacement parts) along with its patented product, and the infringement deprives the owner of sales of both the patented product and the unpatented complements, the owner may recover lost profits on lost sales of the complementary products, though only if the complementary goods "function together" with the patented subject matter.[143] In a similar vein, courts will award "head-start" or "springboard" damages to compensate for the defendant's ability to enter the market sooner, after the patent has expired, than it would have done had it avoided infringing during the patent term.[144] As Yelderman has argued, however, if courts permit recovery for losses outside the technical or temporal scope of the patent, where those losses are caused by an act of infringement, it is not obvious why the result should be different when the loss is outside the patent's geographic scope.[145]

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[142] Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1546–49 (Fed. Cir. 1995) (en banc). The majority therefore rejected the dissenting judges' view, *see id.* at 1556 (Nies, J., dissenting), that allowing the owner to recover lost profits on lost sales of the unpatented goods effectively expands the scope of the patent to unpatented subject matter.

[143] *Id.* at 1549–51. In other work, Roger Blair and I have argued that, in general, *Rite-Hite* was correctly decided. We were somewhat less sure that the Federal Circuit was right to require proof that the complementary products function together with the patented products but suggested some possible justifications. Blair & Cotter, *supra* note 15, at 88–91. We also argued, more tentatively, that the owner probably should be entitled to recover her lost profits on lost sales of unpatented goods that compete against the infringing goods, even when (unlike in the *Rite-Hite* case itself) she does not sell *any* goods incorporating her patented technology. *Id.* at 74–84. *See also* COTTER, COMPARATIVE PATENT REMEDIES, *supra* note 108, at 116–18, 187, 318 (discussing *Rite-Hite*, and parallels under English and Japanese law); THOMAS F. COTTER, REMEDIES IN U.S. PATENT LAW 39 n.2 (2d ed. 2020) (responding to criticism of *Rite-Hite*); Seaman et al., *supra* note 33, at 64–66.

[144] *See* Lemley, *supra* note 114, at 255 n.38 (collecting district court cases awarding such damages and noting that "these cases extend damages to cover products that were 'in process' but not actually made at the time the patent expired"). Injunctive relief would be unavailable, however, under the express language of section 283. *See id.* at 255. In addition, as Lemley further points out, the law of contributory infringement expressly confers rights against unpatented components that have no substantial noninfringing use, *see id*.; and, for better or worse, injunctions directed against products that contain protected and unprotected subject matter, reach-through royalties, and damages awarded in accordance with the so-called "entire market value rule" also may allow the owner to capture the value of some unprotected subject matter. *See id.* at 256–59, 261. Another example would be some applications of Patent Act § 271(g), *see infra* text accompanying note 228.

[145] *See* Yelderman, *supra* note 55. Note that, in some cases in which defendants have used PGS works to construct useful articles, courts have awarded damages or profits based on the defendant's exploitation of those useful articles, even though, as noted above, the copyright in the PGS work does not preclude the manufacture of the useful article itself. *See supra* note 128 (discussing 17 U.S.C. § 113(b)); *see, e.g.*, Tire Eng'g & Distrib., LLC v. Shandong Linglong Rubber Co., 682 F.3d 292, 308–09 (4th Cir. 2012) (per curiam); Robert R. Jones Assocs., Inc. v. Nino Homes, 858 F.2d 274, 280–81 (6th Cir. 1988). Some commentators have argued, however, that these cases undermine section 113(b). *See* 2 PATRY, *supra* note 44, § 3:105; Lemley, *supra* note 114, at 261 n.75. These cases might seem consistent with the logic expressed in the text above, though arguably awarding any damages for the exploitation of a type of thing that a body of law does not protect is

Of course, one might argue that these cases permitting recovery for harms to unprotected subject matter were themselves wrongly decided—or that some broader principle that explains them nevertheless counsels against awarding extraterritorial damages. In this regard, Mark Lemley argues that three factors should be relevant in determining whether an IP owner should be allowed to control or benefit from "the fruit of the poisonous tree"—that is, the defendant's "unauthorized use of the plaintiff's work in the course of producing something else that does not itself infringe the IP right."[146] The first is the extent to which the defendant has added value to the plaintiff's initial contribution, because "the more valuable the defendant's contribution is, the more reluctant we should be to ban it or require the defendant to disgorge its profits from that non-infringing work."[147] Second, courts should consider "whether the defendant was a willful infringer," because "[o]ne reason to deprive a defendant of downstream benefits traceable to infringement is to deter the act of infringement," but "deterrence only works against people who make a deliberate decision to infringe."[148] Third, courts might consider the difficulty the IP owner would face in trying to enforce its "IP rights against direct acts of infringement," though Lemley admits that he is "somewhat nervous about th[is] third justification because . . . it is easy to abuse."[149]

While not necessarily disagreeing with *Rite-Hite* or with cases awarding head-start damages,[150] Lemley apparently views his three proposed factors as weighing against awards of extraterritorial damages,[151] although he does not flesh out specifically how they would apply in this context. The first factor, however, actually seems to weigh *in favor* of permitting extraterritorial damages, at least in garden-variety cases in which the defendant is selling the same type of product as the plaintiff.

different in kind from awarding extraterritorial damages for the exploitation of a type of thing the body of law *does* protect. As discussed above, in other common settings it is not unusual to award damages to compensate for extraterritorial losses caused by a domestic wrong. *See supra* text accompanying notes 119–122.

[146] *See* Lemley, *supra* note 114, at 250; *see also id.* at 264–65.

[147] *Id.* at 264.

[148] *Id.*; *see also* Landers, *supra* note 114, at 399 (arguing, in her discussion of proximate cause, that "[t]he patent system should consider treating non-willful infringers that create implementations which generate social goods, including public goods, in light of its goals"). Patent infringement is, in general, a strict liability tort, *see* Jurgens v. CBK, Ltd., 80 F.3d 1566, 1570 n.2 (Fed. Cir. 1996) (citation omitted), but in the present context the argument would be that the defendant's state of mind is relevant in determining whether patent law should enable the owner to benefit from another's production of unprotected subject matter derived from a predicate use of protected subject matter.

[149] Lemley, *supra* note 114, at 264–65.

[150] *See id.* at 255, 258–59.

[151] *See id*. at 254 & n.37 (expressing agreement with the Federal Circuit's decisions in *Carnegie Mellon*, *WesternGeco*, and *Power Integrations*, as well as with Professors Chao and Holbrook); *see also id.* at 260–61 & n.75 (arguing that Copyright Act § 113(b) rightly prevents "the depiction of a work" from being "parlayed into control over the work itself").

More generally, as long as the defendant's domestic manufacture, use, or sale does not escape infringement liability, it is hard to see how the overseas sale of the very same product would add sufficient value to the plaintiff's initial contribution to merit a different outcome. Additionally, while it is true that you can only deter a knowing infringer, a rule that excludes patent owners from recovering extraterritorial damages would risk encouraging defendants to engage in domestic infringement, knowing that the full consequences of their activities would be irremediable. In a case like *WesternGeco* or *SIMO*, for example, if the damages awarded for domestic misconduct cannot reflect the defendant's plans for subsequent exploitation of the infringing subject matter overseas, those damages may be much less than what the parties themselves would have agreed to in voluntary licensing negotiations, absent the infringement.[152] Similarly, without the risk of incurring liability for extraterritorial lost profits, there is much less reason to avoid engaging in domestic manufacture for export.[153] For these same reasons, the plaintiff might not be able to derive much value from challenging the initial infringement.

To be sure, if the plaintiff has parallel patent protection in the importing country, it could seek to recover damages for the defendant's exploitation of the patented subject matter there (though this option might not be available in cases like *WesternGeco*, where the patented combination was assembled and used on the high seas).[154] Even so, it is difficult to see exactly why patent owners should be put to this expense, if as argued above, awards of extraterritorial damages do not undermine comity, and if the end result—ensuring that the patent owner receives (more or less) full compensation—is a desirable one.[155]

[152] For that matter, it is not clear what a coherent damages methodology would even *be* in such cases. *See infra* note 163.

[153] The risk of being enjoined of course would provide some disincentive, though if the patentee's losses from foreign sales are not cognizable harms, it is not clear what the basis would be for entering an injunction either. *See supra* notes 127–128 and accompanying text.

[154] *See* Kumar, *supra* note 125, at 104–09 (arguing that it is uncertain, under "the law of the flag" doctrine, whether the law of the country whose flag the ship flies would apply in a case like *WesternGeco*).

[155] By way of contrast, in copyright cases it may be easier to (1) assert claims abroad, since copyrights (unlike patents) require no examination, *see, e.g.*, Berne Convention for the Protection of Literary and Artistic Works art. 5(2), Sept. 9, 1886, *as revised* July 24, 1971, *and as amended* Sept. 28, 1979, 102 Stat. 2853, 1161 U.N.T.S. 3 (stating that, in countries of the Berne Union other than the country of origin of the work, "[t]he enjoyment and the exercise of [copyright] rights shall not be subject to any formality"); and (2) convince a U.S. court to adjudicate foreign copyright, as opposed to patent, claims, *see* Graeme W. Austin, *Domestic Laws and Foreign Rights: Choice of Law in Transnational Copyright Infringement Litigation*, 23 COLUM.-VLA J.L. & ARTS 1, 43–46 (1999) (arguing that U.S. courts should be more open to adjudicating foreign copyright claims and applying foreign law to remedies); *cf.* Kumar, *supra* note 125, at 110 (arguing that it makes sense for courts to apply the predicate act doctrine more liberally in copyright as opposed to patent cases). For fuller exploration of this topic, see Cotter, *supra* note 10.

B. *Cause-in-Fact and Noninfringing Alternatives*

Assuming that the extraterritorial losses described above constitute cognizable harms under U.S. law, then, consistent with generally applicable tort principles, the patent owner must be prepared to prove, as needed, that any such loss for which it seeks compensation was both caused-in-fact and proximately caused by an act of domestic infringement.[156] Limiting our focus for now to cause-in-fact, this means that an owner seeking to recover actual damages must prove that, but for the infringement, it would have earned *x* additional dollars.[157] Put another way, losses that would have occurred anyway, even absent the infringement, are not compensable.

One long-recognized implication of this principle is that, if the defendant could have avoided infringing by employing a noninfringing alternative, the infringement has not caused the plaintiff to suffer any actual harm because whatever losses it did suffer would have occurred anyway.[158] To illustrate by means of the hypothetical from the Introduction,

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156 *See* Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1545–46 (Fed. Cir. 1995).

157 *See id.* A reasonable royalty often is thought of in a similar manner, as restoring the royalty the parties would have negotiated had the defendant not infringed. *See* Cotter et al., *Reasonable Royalties*, *supra* note 70, at 8–10.

158 *See* Grain Processing Corp. v. Am. Maize-Prods. Co., 185 F.3d 1341, 1351–53 (Fed. Cir. 1999) (stating that "[w]ithout the infringing product, a rational would-be infringer is likely to offer an acceptable noninfringing alternative, if available, to compete with the patent owner rather than leave the market altogether," and that evidence of the availability of such an alternative can enable the defendant to "avoid[ ] lost profits"); *see also* Blair & Cotter, *supra* note 15, at 73 (stating that "the availability of a noninfringing alternative . . . means that the infringer has not 'caused' any harm at all, since the patent owner would have suffered the same loss absent the infringement"); Lemley & McKenna, *supra* note 116, at 77, 127–28 (proposing that "[i]f the plaintiff would suffer the same injury from a noninfringing market intervention, that injury cannot be evidence of IP infringement," and citing the noninfringing alternatives concept as illustrating this principle); Stephen Yelderman, *Damages for Privileged Harm*, 106 VA. L. REV. 1569, 1582, 1602 (2020) (arguing that in some contexts, including patent law, courts reduce damages awards to reflect the amount by which the defendant lawfully could have caused the plaintiff to suffer harm).

Note also that, although U.S. courts (unlike their foreign counterparts) no longer award the infringer's profits in utility patent cases, *see supra* note 33, recognition of the noninfringing alternatives principle appears to have originated in that context. *See, e.g.*, Black v. Thorne, 111 U.S. 122, 124 (1884). Logically, the same considerations would apply as in the lost profits context: if in the absence of the infringement the infringer would have exited the market in which the patented article competes, all of the profit the infringer earned is rightly attributable to the patented technology. On the other hand, if the infringer could have competed using a noninfringing alternative, the profit (or cost saving) properly attributable to the use of the patented technology is only the additional profit (or cost saving) that the infringer earned above what it would have earned by using the noninfringing alternative. To award the entire profit under such circumstances renders the infringer worse off than it would have been absent the infringement, and (as in the lost profits example) overvalues the patented technology. For discussion of other countries' approaches to the relevance of noninfringing alternatives, see Seaman et al., *supra* note 33, at 60–61 (noting that France and Canada follow a similar approach to the United States in regard to lost profits, and critiquing the English courts' long-standing view that noninfringing alternatives are irrelevant).

Finally, note that there may be cases in which the noninfringing alternative would have been equally acceptable to some but not all of the infringer's customers. From an economic perspective, the appropriate award in such a case would be either (1) the lost profit on the additional sales the suppose that Starchild alleges that Big Bang's infringing sales of solar cells to U.S. customers caused Starchild to lose one hundred sales (and thus the profit it would have earned on those sales) to those same customers. If there were no noninfringing alternatives that Big Bang could have used that would have been equally acceptable to those customers, then absent the infringement, Big Bang would not have competed with Starchild for those sales, and Starchild has indeed lost the hundred sales (assuming it had sufficient capacity to make those sales itself).[159] If, however, Big Bang would have made the same hundred sales by resorting to a noninfringing alternative technology, Starchild would have lost those hundred sales anyway, and thus has not lost any profit *as a result of the infringement* (though it may be entitled to a reasonable royalty reflecting the cost the infringer saved, if any, by using the patented invention instead of the alternative).[160] To award a lost profit on the hundred sales therefore would render Starchild better off than it would have been, but for the infringement. It also would overvalue the patented technology's contribution to the art, because the economic value of a technology *is* its value over the next-best available noninfringing alternative.[161] In such instances, the only relief to which Starchild is entitled is a royalty reflecting the value (if any) to Big Bang from preferring the infringing to the noninfringing alternative (for example, its lower cost).[162]

A similar analysis would be necessary to evaluate whether Big Bang's U.S. infringement caused Starchild to lose the hundred *Canadian* sales. As above, if Big Bang could have made an equally satisfactory solar cell by using a noninfringing technology, then Starchild has not lost any sales to the (in this case) Canadian customers, though it would still be entitled to a royalty for the unauthorized domestic manufacture. Assuming further, however, that the royalty should reflect the bargain the parties themselves would have negotiated ex ante, this bargain presumably would have reflected some portion of Big Bang's expected profits

patentee would have made but for the infringement, coupled with a reasonable royalty on the infringing sales that did not deprive the patentee of sales or (2) the infringer's entire profit earned on sales that deprived the patentee of sales, plus (for the remaining infringing sales) the profit above what the infringer would have made by using the noninfringing alternative. *See* COTTER, COMPARATIVE PATENT REMEDIES, *supra* note 108, at 116.

[159] *See* Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1156 (6th Cir. 1978) (to recover lost profits, plaintiff must prove, *inter alia*, "manufacturing and marketing capability to exploit the demand").

[160] *See Grain Processing*, 185 F.3d at 1352–53. The district court had earlier awarded a three-percent royalty, based on a portion of the cost saving the defendant enjoyed from using the patented process over the noninfringing alternative. Grain Processing Corp. v. Am. Maize-Prods. Co., 893 F. Supp. 1386, 1392–93 (N.D. Ind. 1995), *rev'd on other grounds*, 108 F.3d 1392 (Fed. Cir. 1997).

[161] *See* Blair & Cotter, *supra* note 15, at 19.

[162] *See Grain Processing*, 893 F. Supp. at 1392–93.

from sales in Canada,[163] or, more likely, a running royalty on its actual sales there.[164] This is, essentially, Judge Rakoff's rationale for awarding SIMO a royalty based on uCloudlink's domestic and extraterritorial sales of Daypasses, which is what he concluded the parties themselves would have agreed to had they negotiated a license for uCloudlink's domestic sales of devices incorporating SIMO's patented technology.[165]

Crucially, however, even if there is no noninfringing *technological* alternative to Starchild's invention, it is still possible that Starchild suffered no actual loss as a result of Big Bang's Canadian sales, *if* Big Bang could have avoided infringing the U.S. patent by making the infringing product outside the United States (say, in Canada itself). Any such outsourced manufacture would be lawful as far as U.S. law is concerned—and therefore, if feasible, should be viewed as a noninfringing alternative that would have lawfully caused Starchild to lose the Canadian sales.[166] Thus, if the evidence shows that the defendant could have outsourced production to avoid domestic infringement, the defendant should be liable only for a reasonable royalty reflecting some portion of the benefit (e.g., lower labor costs) of domestic versus foreign production.[167]

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[163] *See supra* note 70 (discussing the hypothetical negotiation framework). Indeed, if the rule were otherwise—if courts had to award royalties for the unauthorized domestic manufacture of the patented technology without taking account of the defendant's plans for its subsequent exploitation—it is not at all clear what that royalty would be. The value to the defendant of manufacturing the invention and then not doing anything with it would be zero.

[164] *See* Norman V. Siebrasse & Thomas F. Cotter, *A New Framework for Determining Reasonable Royalties in Patent Litigation*, 68 FLA. L. REV. 929, 988 (2016) (noting that running royalties, the product of a royalty rate times a base consisting of the revenue derived from sales of the infringing product, are usually thought to be more common than lump-sum royalties).

[165] SIMO Holdings Inc. v. H.K. uCloudlink Network Tech. Ltd., 396 F. Supp. 3d 323, 350–51 (S.D.N.Y. 2019), *rev'd on other grounds*, 983 F.3d 1367 (Fed. Cir. 2021); *see also* U.S. Brief, *supra* note 119, at 23 n.3 (noting that "the amount of the appropriate royalty may be significantly reduced" if the calculation "must ignore the infringer's potential to earn profits outside the United States").

[166] *See* Yelderman, *supra* note 55, at 8 (noting that manufacturing and selling the product abroad would avoid infringing the U.S. patent); U.S. Brief, *supra* note 119, at 9 n.1 (stating that the "right to recover lost profits may be further limited by consideration of how an infringer might have adjusted its own conduct to mitigate its liability—including . . . by shifting all of its operations abroad"). Of course, if Starchild has a corresponding Canadian patent, Big Bang's manufacture and sales in Canada might infringe under Canadian law, but arguably that should be of no relevance to the U.S. action. *See infra* Section III.B. Anticipating the outsourcing argument, Professor Chao argues that awarding extraterritorial damages is a bad idea precisely because U.S. patent law should not encourage companies to outsource, *see* Chao, *supra* note 55, at 88–89, but the argument elides the fact that the unauthorized domestic manufacture of the patented technology is itself unlawful.

[167] In theory, there is a third possibility as well: that the next-best available noninfringing alternative to making the infringing product in the United States would have been employing the alternative technology *and* doing so outside the United States. In that case, again, the royalty would reflect some portion of the value to the defendant of having avoided this option. Note also two less obvious matters that could complicate the determination of whether Starchild actually lost the Canadian sales. First, although the majority of U.S. cases allocate to the patent owner the burden of coming forward with evidence that there were no adequate noninfringing alternatives, there is some case law (including *Grain Processing* itself) that appears to allocate the burden to the defendant. *See* Seaman et al., *supra* note 33, at 62–63 (noting, in addition, that "there is little discussion in the legal or economic literature addressing which of these approaches is optimal"). Second, there may

Whether the defendants in *Power Integrations*, *Carnegie Mellon*, and *WesternGeco* could have made such an argument, as a *factual* matter, is a question to which I cannot speak; but if the analysis is correct, the concern that awarding extraterritorial damages risks opening the floodgates to catastrophic liability would seem to be exaggerated. Part III below will elaborate, by means of some examples.[168]

Before moving on, however, it is important to note that there is one possible remaining objection which could throw a monkey wrench into everything argued above: namely, that once courts are free to regard extraterritorial losses caused by domestic infringement as a type of cognizable harm, judges (and juries) will resist applying the outsourcing-as-non-infringing alternative principle, and that as a result damages awards systematically will be overcompensatory.[169] Juries in particular may find it distasteful to hear how the defendant could have avoided causing harm to the plaintiff by moving operations overseas—or consider it nothing more than a lawyer's trick to try to make damages go away. Anticipating this in advance, defense lawyers may be reluctant even to bring the matter up at trial; and as long as there are contestable issues of fact regarding the feasibility of outsourcing, the matter is unlikely to be resolved on a motion for summary judgment. Of course, to the extent judges are less likely than juries to take offense at the argument, it may not be as much of an issue in bench trials (which, however, are a minority of patent infringement trials in the United States)[170] or in other countries (where there are no juries in patent cases).[171] On the other hand, some other countries (including the United Kingdom) do not apply the noninfringing alternatives principle *at all* when awarding lost profits for patent infringement,[172] which poses a risk that if these countries were to recognize extraterritorial

be instances in which the evidence shows that the defendant *could* have avoided infringing by outsourcing production, but *would* not have done so for business or ethical reasons. In such a case, arguably it makes sense *not* to consider outsourcing as a feasible noninfringing alternative. For discussion, see Norman Siebrasse, *The "Would Have" Branch of the Non-Infringing Alternative Analysis*, SUFFICIENT DESCRIPTION BLOG (Apr. 17, 2020), http://www.sufficientdescription.com/2020/04/the-would-have-branch-of-non-infringing_75.html [https://perma.cc/Z2A3-VNTL]; *see also* Yelderman, *supra* note 55, at 8 (noting that "intellectual property rights, customer relationships, and domestic manufacturing advantages may prevent complete expatriation from being a realistic alternative for the accused infringer").

168 As Part III will show, the questions of whether the defendant could have manufactured the product abroad, as well as whether the plaintiff itself could have exploited the product abroad, become yet more complicated when there are foreign patents that may read on the relevant products. *See infra* Sections III.B–D.

169 I thank Bernard Chao and Mark Lemley for raising different versions of this point with me.

170 *See* COTTER, COMPARATIVE PATENT REMEDIES, *supra* note 108, at 59 n.40.

171 *See id.* at 59. In Canada, for example, where there are no juries in patent cases, the Federal Court of Appeal has held that outsourcing can be a noninfringing alternative to infringing domestic manufacture. Apotex Inc. v. ADIR, [2017] F.C.A. 23, paras. 30, 33 (Can. Ont.), http://decisions.fca-caf.gc.ca/fca-caf/decisions/en/item/218443/index.do [https://perma.cc/S22D-77VM].

172 *See* discussion *supra* note 158.

losses as cognizable harms they might exacerbate an already-existing risk of overcompensation. Moreover, under U.S. law, the prevailing patent owner is entitled to "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty";[173] and while it is possible that a U.S. court would be willing to award only a minimal royalty (perhaps even zero)[174] in a case in which the defendant easily could have outsourced (and thus gained no substantial economic advantage from domestic production), one might question whether as a matter of fact courts would be willing to follow this argument all the way to its logical conclusion.

In the end, it is not altogether clear how to address these objections, other than to state that it would be preferable for courts to apply the noninfringing alternatives principle accurately and consistently, rather than to impose artificial limits on damages as a second-best solution; and to note that, at least in the United States (and Canada, for that matter), courts have experience applying the noninfringing alternatives principle *generally*, despite the logic of the argument perhaps being difficult for nonspecialists to grasp. Judges also have to apply many other "technical" rules, such as the rules of evidence, and hope that juries will follow appropriate limiting instructions. Still and all, if experience comes to show that judges and juries view the cognizability of extraterritorial losses as a warrant for awarding economically unsupportable damages, the second-best alternative of eliminating such awards would become more attractive. But I would counsel against making that concession just yet.

C. *Proximate Cause*

As noted above, courts sometimes apply the proximate cause doctrine to exclude recovery for injuries that are "'unforeseeable,' 'indirect,' 'remote,' 'speculative,' or barred for 'policy considerations.'"[175] Like the other exclusionary doctrines discussed above, with which it sometimes overlaps, proximate cause precludes responsibility for injuries under circumstances in which imposing liability would be unlikely to deter wrongful conduct, would risk overdeterring beneficial conduct, or would undermine the purpose of the body of law at issue or other public policies.[176] Since Section II.A has already addressed many of the arguments against extraterritorial damages that commentators sometimes raise under the

[173] 35 U.S.C. § 284 (2018).
[174] *See* Apple, Inc. v. Motorola, Inc., 757 F.3d 1286, 1328 (Fed. Cir. 2014) (stating that "a fact finder may award no damages . . . when the record supports a zero royalty award," such as when "the defendant considered the patent valueless and the patentee would have accepted no payment for the defendant's infringement," but suggesting that this state of affairs may be "unlikely").
[175] Blair & Cotter, *supra* note 15, at 71.
[176] *See supra* note 114 and accompanying text.

rubric of proximate cause,[177] this Section will concentrate on only a subset of issues. More specifically, if we assume that a given extraterritorial harm (or benefit) is cognizable, and, further, that it is caused in fact by the defendant's domestic infringement, are there nevertheless any circumstances under which courts should cut off liability because the harm or benefit is too remote, indirect, or speculative?

In this regard, Professor Yelderman has argued that the Federal Circuit should have resolved both *Carnegie Mellon* and *Power Integrations* on proximate cause, rather than extraterritoriality, grounds—the former because the connection between the infringing U.S. sales cycle and the defendant's subsequent sales to foreign customers was too tenuous, the latter because "customer preference for purchasing infringing and non-infringing products as a package was too remote a connection to obtain lost profits on the non-infringing products."[178] On the other hand, he argues, the defendant should be liable for extraterritorial lost profits in a case like *WesternGeco*, where the defendant sold the components knowing and intending that its customers would combine them outside the United States, in order to compete against the patent owner.[179]

Although Yelderman's analysis of *WesternGeco* seems correct,[180] his analysis of the other two cases is questionable. The whole point of the infringing sales cycle in *Carnegie Mellon*, after all, was to attract foreign customers.[181] Moreover, while Yelderman is correct to refer to the chips

[177] *See, e.g.*, Landers, *supra* note 114, at 394–99 (arguing that proximate cause should preclude awards of extraterritorial damages because such awards would interfere with other countries' policies, undermine U.S. patent policy, or would discourage beneficial infringement).
[178] Yelderman, *supra* note 55, at 10. As support for the statement that customer preference is "too remote a connection," Yelderman cites Am. Seating Co. v. USSC Grp., Inc., 514 F.3d 1262, 1268 (Fed. Cir. 2008), which in turn cites Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1550 (Fed. Cir. 1995).
[179] *See* Yelderman, *supra* note 55, at 11.
[180] In particular, under general tort law principles, the fact that the lost profits were directly caused by third parties—the customers who bought the components, combined them, and used the combination to market services in competition with WesternGeco—should not be a bar to liability, where the third party's conduct was both foreseeable and intended. *See* RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL AND EMOTIONAL HARM § 34 cmt. e (AM. L. INST. 2010) (rejecting any categorical exception from liability against a tortfeasor whose initial breach is followed by a third party's criminal or intentional act). *Compare* Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 711 F.3d 1348, 1371–72 (Fed. Cir. 2013) (stating that "entirely extraterritorial production, use, or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement"), *with* Landers, *supra* note 114, at 375 (stating that "[p]roximate cause doctrine relies on the mechanism of the intervening, superseding cause to cut off liability in particular cases"). In addition, courts are less likely to invoke proximate cause as a reason for cutting off liability if the defendant's breach was intentional, in contrast to cases in which the defendant is negligent or liable only as a matter of strict liability. *See* RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL AND EMOTIONAL HARM § 33 (AM. L. INST. 2010).
[181] *See* Carnegie Mellon Univ. v. Marvell Tech. Grp., 807 F.3d 1283, 1309–10 (Fed. Cir. 2015). Moreover, under general tort law principles, it usually does not matter if the specific amount of the resulting harm is unknown at the time of the breach, as long as the type of harm was foreseeable. *See, e.g.*, RESTATEMENT (THIRD) OF TORTS, LIAB. FOR PHYSICAL AND EMOTIONAL HARM § 31

sold to foreign customers in *Power Integrations* as noninfringing, they were the very same chips the defendant sold to domestic customers.[182] As noted above, however, the *Rite-Hite* decision permits the recovery of damages for unpatented components which, together with the patented product, are "considered to be components of a single assembly or parts of a complete machine, or . . . together constitute[] a functional unit."[183] But if proximate cause does not preclude a patent owner from recovering lost profits on sales of products that are only functionally related to the patented product, it is not clear why it would preclude her from recovering lost profits on sales of products that are *identical* to the patented product.[184]

That said, proximate cause should work to limit liability in cases in which the initial act of domestic infringement is not so closely tied to subsequent foreign sales—as in the hypothetical Justice Gorsuch posed in his dissent in *WesternGeco*, in which the only domestic infringement appears to be the development of a prototype of an invention that the defendant later makes and sells abroad.[185] In such a case, it is hardly obvious that, under standard proximate cause analysis, the initial act of manufacturing the infringing prototype in the United States would necessarily be the legal cause of *all* of the infringer's foreign sales. One might imagine that often there would be several intervening steps between the development of the prototype and at least some of the subsequent acts of making and selling abroad; but as the Court has noted elsewhere in regard to proximate cause, "[t]he general tendency . . . in regard to damages at least, is

(AM. L. INST. 2010). *Cf. Rite-Hite Corp.*, 56 F.3d at 1546 (stating that "remote consequences, such as a heart attack of the inventor or loss in value of shares of common stock of a patentee corporation caused indirectly by infringement are not compensable").

[182] *See supra* note 55.

[183] *Rite-Hite Corp.*, 56 F.3d at 1550.

[184] Yelderman's other examples of proximate cause precluding damages seem more plausible. *See* Yelderman, *supra* note 55, at 9–10 (presenting a hypothetical in which "a patentee tried to claim that the defendant's domestic infringement had impacted the global supply of components, and thus had reduced the profitability of the patentee's sales in foreign markets," and another in which it argued that domestic infringement caused it to lose "foreign sales on the theory that the infringement had distracted management, deprived the firm of capital, or otherwise increased its operating costs").

[185] Specifically, the hypothetical was:

> Suppose a company develops a prototype microchip in a U.S. lab with the intention of manufacturing and selling the chip in a foreign country as part of a new smartphone. Suppose too that the chip infringes a U.S. patent and that the patent owner sells its own phone with its own chip overseas. Under the terms of the Patent Act, the developer commits an act of infringement by creating the prototype here, but the additional chips it makes and sells outside the United States do not qualify as infringement. Under WesternGeco's approach, however, the patent owner could recover any profits it lost to that foreign competition—or even three times as much, see § 284—effectively giving the patent owner a monopoly over foreign markets through its U.S. patent.

WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129, 2142 (2018) (Gorsuch, J., dissenting).

not to go beyond the first step."[186] And, of course, if the defendant could have developed the prototype abroad, the issue should not arise at all, because in that case any claim for lost profits should fail for lack of but-for causation.[187] Nevertheless, where it is the case that the defendant could not have made the prototype elsewhere, and the foreign sales are directly related to this initial infringement, the analysis above leads to the conclusion that the patent owner should recover damages for those foreign sales.

D. *The Single Recovery Rule*

One final issue to consider is whether, as some commentators have argued,[188] awards of extraterritorial damages pose a risk that U.S. patent owners will be compensated twice, once in the United States and once in another country, for the same loss. Returning, once again, to the opening hypothetical, suppose that Starchild has patents covering the identical subject matter in the United States and Canada, and that Big Bang makes infringing products in the United States for sale in both countries. Starchild files suit, and prevails, in both countries as well. Suppose further, however, that the Canadian court rules first, and awards Starchild the profit it lost on sales in Canada. If the U.S. court does not reduce the amount of the damages award by the amount already awarded in Canada for the Canadian sales, but rather also awards lost profits on those sales, Starchild will be compensated twice for the very same loss. Such a result would overvalue Starchild's contribution to the state of the art, would seem grossly unfair to Big Bang, and would pose a risk of overdeterring others from selling products that pose only a small risk of infringing another's patent.[189]

The risk of courts actually awarding such duplicative damages nevertheless appears small. In a wide range of contexts, courts in the United

[186] Hemi Grp., LLC v. City of New York, 559 U.S. 1, 2 (2010) (quoting Holmes v. Secs. Inv'r Prot. Corp., 503 U.S. 258, 271–72 (1992)) (brackets in original). For further elaboration, see *infra* Section III.F.
[187] *See supra* note 160 and accompanying text.
[188] *See* Landers, *supra* note 114, at 336; Holbrook, *Boundaries*, *supra* note 130, at 1789–90.
[189] The risk of overdeterrence arises because patent rights are uncertain. Even assuming that the defendant is aware of, or could readily become aware of, the patent at issue prior to launching its product, it may reasonably, but incorrectly, conclude either that the patent is invalid, or that it has successfully avoided infringing by designing around. As my coauthors and I have noted in other work, "[e]mpirical evidence indicates that over forty percent of patents litigated to judgment are invalidated in whole or in part, and that patentees overall win only about twenty-five percent of all cases litigated to judgment. . . . Invalidation and win rates in other countries are roughly comparable." Thomas F. Cotter, Erik Hovenkamp & Norman Siebrasse, *Demystifying Patent Holdup*, 76 WASH. & LEE L. REV. 1501, 1549–50 n.151 (2019) (citations omitted). In addition, in some sectors it can be difficult to uncover relevant patents in advance of patent launch; patent claim terms can be opaque; and the cost of defending against a patent suit is notoriously high, which further fuels overdeterrence concerns. *See* COTTER, COMPARATIVE PATENT REMEDIES, *supra* note 108, at 216, 222.

States[190] and other common law countries, such as Canada[191] and the United Kingdom,[192] have long applied something known variously as the "single recovery rule" or the "rule against double recovery." In the patent context in particular, U.S. courts will award only one recovery for harm that is simultaneously caused by the violation of two or more intellectual property rights,[193] or that is caused by two or more actors.[194] It seems likely, then, that if a foreign court were to award damages for the foreign sale of the patented invention under that country's own law, a U.S. court would reduce the damages for those same sales by an equivalent amount.[195] As discussed above, that is exactly what a Canadian court, applying the rule against double recovery, did in a similar case in which it was the U.S. litigation that concluded first.[196] And while the author of this Article cannot speak authoritatively about how other countries would approach this issue, the rule against double recovery is a standard norm in international arbitration[197] and civil law countries appear generally to follow a similar principle derived from Roman law.[198]

190 *See, e.g.*, Tex. Advanced Optoelecs. Sols., Inc. v. Renesas, Elecs. Am., Inc., 895 F.3d 1304, 1328 (Fed. Cir. 2018) ("[D]ouble recovery for the same injury is inappropriate.") (citations omitted) (brackets in original); Janusz v. City of Chicago, 832 F.3d 770, 774 (7th Cir. 2016) (stating that "under both federal and Illinois law . . . '[a] tort victim can obtain only one recovery for his harm, no matter how many tortfeasors inflicted it'") (citations omitted) (brackets in original); Jerry R. Selinger & Jessica W. Young, *Suing an Infringing Competitor's Customers: Or, Life Under the Single Recovery Rule*, 31 J. MARSHALL L. REV. 19, 29 (1997) ("[A] patentee is entitled to full compensation for related acts of infringement, but the patentee, like any tort victim, is not entitled to multiple recoveries for the same injury.").

191 *See, e.g.*, AstraZeneca Can. Inc. v. Apotex Inc. [2017] F.C. 726, para 253 (Can. Ont.), https://decisions.fct-cf.gc.ca/fc-cf/decisions/en/235832/1/document.do [https://perma.cc/JVC2-G42P] (applying the principle against double recovery to reduce the patent owner's recovery by the amount it already had received in the U.S. litigation for the same acts); Norman Siebrasse, *Territoriality and Remedies for Transnational Infringement*, SUFFICIENT DESCRIPTION BLOG (Oct. 27, 2017), http://www.sufficientdescription.com/2017/10/territoriality-and-remedies-for.html#more [https://perma.cc/9ULS-DWCR] (citing Canadian antitrust cases articulating the same principle).

192 *See, e.g.*, Hunt v. Severs [1994] 2 AC 350 (HL) (appeal taken from Eng.); Ramzan v. Brookwide Ltd. [2011] EWCA (Civ) 985, [2012] 1 All ER 903 (Eng.).

193 *See Tex. Advanced Optoelecs. Sols.*, 895 F.3d at 1328; Mareesa A. Frederick, Clara N. Jiménez & Alexander Poonai, *Avoid Overlap in Trade Secret and Misappropriation Claims*, LAW360 (Oct. 10, 2018, 3:19 PM), https://www.law360.com/articles/1091023 (last visited Jan. 6, 2021) (discussing other cases).

194 *See* Selinger & Young, *supra* note 190, at 29.

195 There could be some residual left over if U.S. damages law applied to the facts of the case is more generous than Canadian law, or if the U.S. patent expires later. Or the Canadian award could be higher than the U.S. award, if Canadian law is more generous, or if the U.S. patent expires first (as was the case in *AstraZeneca Can.*, [2017] F.C. 726, discussed *supra* notes 46–49 and accompanying text).

196 *See AstraZeneca Can.*, [2017] F.C. 726, para. 253.

197 *See* Craig Miles & David Weiss, *Overview of Principles Reducing Damages*, *in* GLOBAL ARBITRATION REVIEW: THE GUIDE TO DAMAGES IN INTERNATIONAL ARBITRATION 81, 88–89 (John A. Trenor ed., 2d ed. 2017) (stating that "[t]he principle against double recovery—or allowing a party to obtain compensation in excess of what is required to make that party whole—is widely recogni[z]ed" in commercial arbitration, and "usually arises in the context of parallel, or multiple, related proceedings").

198 *See, e.g.*, Case C-338/14, Quenon K. SPRL v. Beobank SA., ECLI:EU:C:2015:795, ¶¶ 34, 35 (Dec. 3, 2015) (stating that E.U. law precludes member states from awarding double recovery to

In any event, as long as courts follow the first two limiting principles proposed above, relating to cause-in-fact and proximate cause, the number of cases in which duplicative damages would even be at issue should be relatively small. As Craig Miles and David Weiss observe in their discussion of the rule against double recovery in international arbitration, parties "should not be allowed to rely on the mere *risk* of double recovery as a defen[s]e to paying the first recovery."[199]

III. HYPOTHETICALS

Building on the analysis presented in Part II, this Part returns to the Starchild v. Big Bang hypothetical with which the Article began and presents several variations on that initial fact pattern. As it will show, these variations largely fall into predictable patterns, which lend themselves to principled distinctions in treatment—though the outcome of at least one of them may remain unclear until certain preliminary questions of substantive patent law are resolved.

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terminated commercial agent); Council Directive 2004/35/CE, art. 16(2), 2004 O.J. (L 143) 56, 64 (EC) (stating that Member States may adopt "appropriate measures, such as the prohibition of double recovery of costs, in relation to situations where double recovery could occur as a result of concurrent action by a competent authority under this Directive and by a person whose property is affected by environmental damage"); Reinhard Zimmermann, *Art 9:502: General Measure of Damages*, *in* COMMENTARIES ON EUROPEAN CONTRACT LAWS 1461–62 (Nils Jansen & Reinhard Zimmermann eds., 2018) (discussing the principle of *compensatio lucri cum damno* in contract law); James Devenney & Geraint Howells, *Chinese Law of Performance and Breach: A Common Law Perspective*, *in* CHINESE CONTRACT LAW: CIVIL AND COMMON LAW PERSPECTIVES 351, 359 (Larry A. DiMatteo & Lei Chen eds., 2017) (discussing rules against double recovery in Chinese contract law); Vera Korzun, *Shareholder Claims for Reflective Loss: How International Investment Law Changes Corporate Law and Governance*, 40 U. PA. J. INT'L L. 189, 193–94 (2018) (noting that corporate law in the United States, the United Kingdom, Hong Kong, France, and Germany forbids claims for "reflective loss"—shareholder claims for injuries to a corporation, *inter alia*, to avoid double recovery, although international investment law treaties often expressly permit such claims); Ulrich Magnus, *"Vorteilsausgleichung"–A Typical German Institute of the Law of Damages?*, *in* VOORDEELTOEREKENING NAAR DUITS EN NEDERLANDS RECHT 1 (Ulrich Magnus & Chris van Dijk eds., 2015) (discussing the principle of *Vorteilsausgleichung* which, like *compensation lucri cum damno*, generally requires courts to adjust the plaintiff's monetary recovery to account for offsetting benefits); Eri Osaka, *Reevaluating the Role of the Tort Liability System in Japan*, 26 ARIZ. J. INT'L & COMP. L. 393, 396 (2009) (stating that courts reduce tort victims' recoveries in Japan by the amount of their non-life insurance, to avoid double compensation). Note, however, that in the only other case I am aware of addressing the issue of duplicative recovery in the context of extraterritorial damages for domestic patent infringement, a Japanese court rejected the argument that the rule against double recovery prohibited the patentee from recovering damages based on sales in Europe, even though the plaintiff also had initiated litigation in Europe against the defendant's affiliates for infringing the European counterpart to the Japanese patent. [Osaka Dist. Ct.] Jan. 28, 2010, no. 2007 (Wa) 2076, https://www.ip.courts.go.jp/app/files/hanrei_en/584/000584.pdf [https://perma.cc/AYA5-AUD6] (Japan). The court does not expressly address what the result would have been had the patentee sought and recovered damages against the Japanese defendant itself in Europe. *See also* Marketa Trimble, *The Territorial Discrepancy Between Intellectual Property Rights Infringement and Remedies*, 23 LEWIS & CLARK L. REV. 501, 542, 549 (2019) (proposing an "individualized approach" to "overlapping remedies" cases but suggesting that problems could arise if, for example, "the court in the target country would want to award the same profits as did the issuing court, but to a different IP rights owner").

[199] Miles & Weiss, *supra* note 197, at 89 (emphasis added).

A. *Example 1*

Suppose, as in the initial hypothetical, that (1) Starchild owns a U.S. patent on a product; (2) it makes patented products in the United States; (3) it sells some of them in the United States and some in Canada; and (4) there is no corresponding Canadian patent. Big Bang infringes the U.S. patent by making the patented product in the United States, in violation of section 271(a), and then sells some of these products in Canada. Starchild argues that Big Bang's unlawful manufacture in the United States caused Starchild to lose 100 sales in Canada, from which it would have earned $1 million,[200] because there was no reasonable technological alternative, acceptable to the relevant class of consumers, to its patented technology. Assuming that Starchild is correct about there being no reasonable technological alternative, can Starchild recover the Canadian lost profits?

Under the analysis presented in Part II, the answer is yes, but only if the evidence also shows that Big Bang could not have avoided infringement by making the products somewhere else and that Starchild's asserted lost profits in Canada were proximately caused by the U.S. infringement.[201] If, on the other hand, Big Bang could have avoided infringement by outsourcing production, Starchild is entitled only to a reasonable royalty reflecting the value to Big Bang of not having had to employ that option.[202] For example, suppose that Big Bang's labor or other costs[203] would be higher in Canada than in the United States, such that Big Bang would expect to earn $1 million from selling 100 solar cells in Canada if it produced them in the United States, but only $800,000 if it produced them in Canada. On these facts, the expected incremental benefit of producing 100 cells in the United States is $200,000, which is the most Big Bang would be willing to pay Starchild for a license to produce those 100 cells for export.

Note that while U.S. law on the question of which party has the burden of coming forward with evidence on noninfringing alternatives is somewhat muddled,[204] it probably would make sense to allocate the burden of production on feasibility and cost of outsourcing to the defendant, who is likely to have better access to this information than is the plaintiff. Moreover, courts should not simply take the defendant's word for it that

[200] In this and all of the following examples, the reader should assume, for simplicity, that all dollar amounts are either rendered in, or correctly converted to, U.S. dollars.
[201] *See supra* notes 156–176 and accompanying text.
[202] *See supra* note 167 and accompanying text.
[203] There could be a wide variety of different costs (and benefits) of producing in Canada, particularly if the products are being sold in both countries. These may include transportation, tariffs, taxes, and so on.
[204] *See supra* note 167.

it could (and would) have profitably produced the product outside the United States, particularly in view of the fact that, perhaps for a variety of intangible reasons,[205] in the real world the defendant did not do so.

B. *Example 2*

Assume the same facts as in Example 1, except that Starchild has a corresponding patent in Canada.

In this case, it might initially seem that if (1) Starchild's Canadian patent is valid and infringed, and (2) there is no reasonable technological alternative to the patented invention, then absent the infringing U.S. manufacture Big Bang would have made no (lawful) sales in Canada; and that the U.S. court should award Starchild the profits it would have earned on the Canadian sales, but for the infringing manufacture in the United States. There are, however, some serious complicating factors.

First, as noted above, U.S. courts generally do not adjudicate claims of foreign patent infringement, much less determine whether foreign patent claims are valid.[206] It might therefore appear that a U.S. court could not make the initial determination that the Canadian patent is valid and infringed; and lacking that determination, it would have no basis for concluding that Starchild could have excluded Big Bang from selling the solar cells in Canada. To be sure, questions about adjudicating foreign patent rights typically arise when a patent owner files suit, in a domestic court, against someone it accuses of infringing its foreign patent; and the issue here would be less direct, in that Starchild would be asking a U.S. court only to consider what would happen in a hypothetical case in which it were to sue Big Bang for infringing the Canadian patent, so perhaps there would be some leeway.[207] Still and all, absent a major shift in attitude—and in view of the substantial costs (e.g., retaining and digesting conflicting expert testimony on foreign law) that the parties and the court would have to shoulder, if the court were to make this hypothetical determination—one might expect U.S. courts generally to resist calls for them do so. Assuming this is right, it leaves two options on the table.

The first is that the U.S. court could simply presume, without deciding, that Starchild's counterpart Canadian patent is valid and infringed under Canadian law (subject, perhaps, to some preliminary showing that

[205] *See supra* note 167.
[206] *See supra* note 2.
[207] The American Law Institute's *Principles of Law Governing Jurisdiction, Choice of Law, and Judgments in Transnational Disputes*, for example, recommends that "[a]n action to declare the invalidity of the rights registered in two or more States may be brought in the State or States in which the defendant is resident, but the judgment will be effective only to resolve the dispute between or among the parties to the action." INTELLECTUAL PROPERTY: PRINCIPLES OF LAW GOVERNING JURISDICTION, CHOICE OF LAW, AND JUDGMENTS IN TRANSNATIONAL DISPUTES § 213(4) (AM. L. INST. 2008); *see also* Dinwoodie, *supra* note 2, at 792–93.

the claims are comparable to the claims of the U.S. patent)[208] and award Starchild its lost profit on the Canadian sales, subject to the single recovery rule as discussed below.[209] The obvious problem with this option, however, is that it can result in overcompensation, if the Canadian patent later *is* found to be invalid or noninfringed.[210] The reason is that, in such a case, Starchild would not have been able to exclude Big Bang from selling in Canada—and thus, as in Example 1, unless it would have been infeasible for Big Bang to outsource manufacture to Canada (or some other non-patent country), Starchild ultimately should recover only a reasonable royalty reflecting some portion of Big Bang's lower cost of U.S. manufacture, if any.

The second, and arguably preferable, option would be for the court simply to ignore Starchild's Canadian patent, which in effect brings us back within the fact pattern of Example 1 (no patent in Canada). As in Example 1, Starchild still could recover its lost profit on lost Canadian sales, though only if the evidence shows that Big Bang could have not have outsourced production to Canada or some other country; otherwise Starchild would be entitled only to a reasonable royalty reflecting the benefit, if any, to Big Bang of not having outsourced. This option seems superior to the first, in that Starchild can still file suit against Big Bang in Canada, if it wishes to do so, for the infringement of the Canadian patent. If the Canadian court then finds the Canadian patent to be valid and infringed, it can award Starchild either its lost profit or (under Canadian law) Big Bang's profit—minus, in accordance with the single recovery rule, whatever amount already has been awarded in the United States for those same Canadian sales. If, on the other hand, the Canadian court finds the Canadian patent invalid or not infringed, Starchild recovers nothing

[208] The claims of both patents might have originated in a common international application under the Patent Cooperation Treaty, for example. Patent Cooperation Treaty, June 19, 1970, 28 U.S.T. 7645, 1160 U.N.T.S. 231 (entered into force Apr. 1, 2002). On the other hand, it could be that Starchild owns two different patents in the United States and Canada, each covering a different aspect of Starchild's end product.

[209] This would be similar to what the Federal Circuit did in *Rite-Hite*, where the majority appears to have assumed that the defendant had no noninfringing alternative, because any competing product it would have sold would have infringed either the patent in suit or some other patent Rite-Hite owned but was not asserting. *See* Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1573 (Fed. Cir. 1995) (Nies, J., dissenting in part) (noting that these other patents "were never asserted against Kelley, and the validity of those patents is untested"). For discussion, see Cotter, *supra* note 109, at 191–92 (noting that presuming these other patents were valid and infringed may seem dubious, though having to prove their validity and infringement might substantially increase the cost of adjudication); Seaman et al., *supra* note 33, at 62.

[210] *See* Siebrasse & Cotter, *supra* note 164, at 991–92 (discussing whether, in a case in which the defendant begins infringing before a patent that appears to cover an alternative technology is invalidated, the court should calculate the reasonable royalty on the fictional assumption that the bargaining parties were aware that that patent was invalid). Of course, if the defendant were willing to concede the validity and infringement of the Canadian patent, the overcompensation problem would go away; but it is hard to imagine why the defendant would do that, if it is contesting the validity and infringement of a counterpart U.S. patent.

in Canada, but U.S. law still has vindicated a legitimate U.S. interest in compensating Starchild for the unauthorized domestic manufacture of its patented invention.

To be sure, there is *some* risk that the second option could undermine U.S. policy in some cases—though that risk seems minimal (and, in any event, is outweighed by the countervailing risk of overcompensation noted above). To illustrate, suppose that (1) Starchild would have earned, and that Big Bang did earn, $1 million from the Canadian sales; (2) ignoring Starchild's Canadian patent, Big Bang could have made the product in Canada at only slightly higher cost, e.g., $100,000; and (3) the U.S. court concludes that a reasonable royalty for Big Bang's domestic infringement is half that amount ($50,000). Suppose further that the U.S. court concludes that Big Bang willfully infringed, and therefore awards treble damages amounting to $150,000. The Canadian court thereafter finds for Starchild and awards $1 million in lost profits, minus the $150,000 already awarded in the U.S. litigation. Starchild's aggregate recovery is therefore $1 million. If the U.S. court had followed option one instead, however, it would have awarded $3 million ($1 million trebled). The Canadian court, in turn, likely would have awarded Starchild nothing for the Canadian infringement, since enhanced damages awards in Canada are rare, and Canadian courts follow the single recovery rule. Starchild's overall compensation therefore would have been $3 million had the U.S. court followed the first option, so perhaps one could argue that the second option to some degree undercuts U.S. policy (though no more so than if the U.S. court had awarded nothing at all for the infringing manufacture for export).[211] And perhaps there could be other cases in which the damages rules of the two countries at issue are so vastly different—maybe awards in the country of importation are, on average, grossly undercompensatory, for example—that, under option two, patent owners in the exporting country often would be left substantially worse off than they otherwise would have been under option one. But no system is perfect, and in view of the existing evidence on patentee win rates and patent invalidation rates around the world,[212] the option that avoids predictably overcompensating domestic patent owners probably is to be preferred.

A further caveat is that if a Canadian court *already* has awarded Starchild compensation for the Canadian sales, the U.S. court should deduct that compensation from whatever it otherwise would award for those sales (so long as the award does not fall below zero). To illustrate, suppose that Starchild sues in both countries, but that the Canadian litigation

[211] *See supra* note 152 (noting the conceptual difficulty of calculating damages for an infringing manufacture only).
[212] *See supra* note 127.

ends first, with the court awarding Starchild its lost profit (equal to $1 million U.S. dollars) on 100 sales that it would have made in Canada but for the infringement. In the U.S. litigation, the single recovery rule should preclude Starchild from recovering any lost profit on those same lost sales.[213] Moreover, even if the Canadian and the U.S. courts award different amounts for the same sales, this should pose no problem as long as the second court makes an appropriate adjustment. For example, suppose that (1) the Canadian court goes first; (2) it awards Starchild Big Bang's own profit on the Canadian sales, in accordance with Canadian law, instead of Starchild's lost profits; (3) because Big Bang is a more efficient producer of solar cells, Big Bang's profit on the Canadian sales amounts to $2 million U.S. dollars; and (4) the U.S. court assesses lost profits or a reasonable royalty,[214] in accordance with U.S. principles, in the amount of $1 million for the Canadian sales. In such a case, the U.S. court should reduce its own award for the Canadian sales to zero.[215] Note, however, that the damages awarded for Starchild's lost *U.S.* sales should remain unaffected, regardless of whether the Canadian court's award for the Canadian sales is more or less than the amount the U.S. court would have awarded for the Canadian sales; the $2 million Canadian award is deducted only from the latter, not from the overall U.S. award. Alternatively, suppose that (1) the U.S. court goes first and awards Starchild $3 million, that is, treble damages for Big Bang's willful infringement; and (2) the Canadian court goes second and awards the equivalent of $1 million U.S. dollars. Under these circumstances, the Canadian court should reduce its award to zero, to avoid a duplicative recovery.

To sum up, courts should treat Example 2 cases the same as Example 1 cases—subject only to the qualification that if litigation proceeds in both countries, the country that is the second to award relief for sales made in the importing country should subtract from that award the amount already awarded in the first country for those same sales.

[213] Starchild may still recover its lost profit on sales it would have made in the United States, but for infringement, as noted in the text above; and if the Canadian patent expires before its U.S. counterpart, it is possible that the U.S. award could include profits on additional sales Big Bang makes in Canada post-expiration (though only if it is not feasible for Big Bang to make the product in Canada, notwithstanding patent expiration there).

[214] If Big Bang really is a more efficient producer, economic logic suggests that Starchild would have licensed Big Bang rather than excluded it, but for the infringement. *See* Cotter, *supra* note 109, at 173.

[215] Unless, that is, the U.S. court were to conclude that the U.S. infringement was willful, in which case it could award as much as $3 million minus the $2 million already awarded in Canada, for a net of $1 million. *See supra* note 123.

C. *Example 3*

Now assume the same facts as in Example 2, except that it is Big Bang that owns the corresponding patent in Canada.[216] On these facts—and again assuming that U.S. courts would be reluctant to decide, even hypothetically, the scope and validity of the Canadian patent—there are again two options, neither of them ideal.

First, the court could assume that the Canadian patent is valid and that it reads on Starchild's solar cells. Under this scenario, Starchild could not have lawfully sold its products in Canada and would not be entitled to any lost profits on the sales Big Bang made in Canada. The U.S. court should instead award only a reasonable royalty reflecting some portion of the benefit, if any, to Big Bang of manufacturing its products in the United States instead of Canada (or somewhere else). This option may undercompensate Starchild, however, if in reality the Canadian patent is invalid or does not read on Starchild's products; and, unlike the fact pattern in Example 2, there will be no subsequent Canadian infringement suit to bring matters into balance, since Starchild does not have a patent in Canada.

Alternatively, the court could ignore the Canadian patent, in which case the fact pattern is the same as in Example 1. The U.S. court would award either lost profits, if outsourcing was not feasible, or a reasonable royalty, if it was. Unfortunately, this option might overcompensate Starchild if Big Bang's Canadian patent *is* valid and *does* read on Starchild's product.

Probably the better choice is the first option, since the second would, for purposes of the U.S. proceeding, effectively render Big Bang's Canadian patent a nullity. Moreover, Starchild would at least have the option of trying to defuse the issue in advance, by initiating an action in Canada to invalidate Big Bang's Canadian patent.[217]

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216 It may be unlikely that each firm would have a patent claiming the identical subject matter, one in the U.S. and one in Canada, particularly now that the United States (like every other country in the world) follows a version of the first-inventor-to-file rule. *See* COTTER, PATENT WARS, *supra* note 105, at 17–19. Perhaps more likely is that Big Bang owns a Canadian, but not a U.S., patent that covers some feature of the product, and that Starchild owns a U.S., but not a Canadian, patent on some other feature.

217 *See* COTTER, COMPARATIVE PATENT REMEDIES, *supra* note 108, at 213–14. Most countries provide opportunities, through post-grant oppositions, invalidity proceedings, or declaratory judgment actions, for persons to challenge the validity of issued patents, though the details vary considerably from one jurisdiction to another. *See id.* (passim). Of course, if Starchild was actually selling products in Canada in competition with Big Bang, Big Bang could sue Starchild for infringement in Canada (and Starchild might assert invalidity as a defense). In this instance, if the Canadian litigation terminates before the U.S. litigation, the U.S. court would know whether the Canadian patent was valid and infringed. It would then award Starchild a reasonable royalty only, if the Canadian patent was valid and infringed, and lost profits or a reasonable royalty otherwise. Alternatively, if the U.S. case ends first and the court applies option one, as recommended in the text above, a loss for Big Bang in Canada would mean that Starchild was undercompensated in the

D. *Example 4*

Assume the same facts as in Example 2, except that a third party *T* owns the corresponding patent in Canada.

Although it seems unlikely that either party would have an incentive to call the court's attention to *T*,[218] should *T*'s existence come to light the court would face the same choices posed in Example 3. It could either ignore the patent and award Starchild damages in accordance with Example 1, or assume that *T*'s patent is valid and infringed—but in this case, under the second option it would award no damages for the Canadian sales, not even a reasonable royalty, since the value to Big Bang of making the product in the United States for unlawful sales in Canada should be presumed, as a matter of law, to be zero. As in Example 3, neither option seems very appealing, since the first risks overcompensating, and the latter undercompensating, Starchild, and Starchild cannot rectify the situation by suing Big Bang in Canada. Nonetheless, as in Example 3, the better choice probably is to assume the validity and infringement of *T*'s patent and award no damages.

E. *Example 5*

In all of the four preceding examples, Starchild claimed that, but for the domestic infringement, Starchild would have sold products embodying the patented technology outside the United States, and that Big Bang's domestic infringement caused it to lose the profit it would have earned on those foreign sales. In this example, by contrast, suppose that Starchild is willing to license the use of its patented technology but does not itself intend to make, use, or sell products embodying that technology. More specifically, suppose that Starchild owns a U.S. patent on a method of producing some unpatented product, *X*; without Starchild's authorization, Big Bang demonstrates the use of the method at a trade show in the United States attended by *C*, a Canadian citizen; and that, as a result, Big

U.S. litigation; whether Starchild could successfully petition to reopen the U.S. judgment is a question beyond the scope of this Article. A win for Big Bang in Canada would mean that the Canadian court would have to address the effect, if any, of Big Bang's infringing manufacture in the United States on the amount of its Canadian lost profit award. If it could not have manufactured anywhere else, perhaps that award should be reduced to zero? *But see* Norman Siebrasse, Ex Turpi Causa *Not Relevant to Patent Litigation*, SUFFICIENT DESCRIPTION BLOG (Nov. 3, 2014), http://www.sufficientdescription.com/2014/11/ex-turpi-causa-not-relevant-to-patent.html [https://perma.cc/CS5N-WU8C] (arguing that, in a case involving analogous facts, if the remedy granted the plaintiff in the exporting country does not fully offset the remedy extended to the other party in the importing country, "this simply reflects the territorial nature of patent law").

[218] If *T*'s patent is valid and infringed, Big Bang is infringing in Canada, but Starchild could not lawfully sell its product there either absent a license from *T*. Alternatively, if *T*'s patent is neither valid nor infringed, Big Bang is not infringing in Canada, but would be on the hook for damages in the United States. Even so, Starchild would have an incentive to bring *T*'s patent to the court's attention only if it could also convince the court that the patent is invalid or not infringed, but as noted a U.S. court is unlikely to entertain this line of argument.

Bang and *C* thereafter enter into a contract in Canada, under which Big Bang will use the method to make *X* in Canada for *C*, in exchange for a lump sum of $10 million. Starchild sues Big Bang for engaging in the infringing use of the method in the United States, and demands a reasonable royalty reflecting some portion of Big Bang's anticipated profit from exploiting the method in Canada—the theory being that a "willing licensee" would have agreed to pay a royalty that would have reflected the anticipated benefit it would earn from foreign sales derived from the initial U.S. use.

This example, which is similar to *Carnegie Mellon*, is analytically straightforward. Whether Starchild, Big Bang, a third party, or no one owns a corresponding patent in Canada will affect Big Bang's expected profit from the subsequent use of the method on behalf of *C* in Canada, and thus will affect how much Big Bang would be willing to pay for the initial U.S. use that enabled it to garner C's business. All the court has to do is determine what that value is; and while this may be a factually complex undertaking, it is not necessarily any more complex than similar determinations for awarding reasonable royalties in other complex product cases. Of course, to the extent Big Bang could have attracted the same business by demonstrating the use of the method outside the United States, the U.S. royalty should reflect only the value, if any, of engaging in that initial use here rather than somewhere else. Moreover, any claim that the subsequent use of the method in Canada in turn would have attracted further customers—and thus even greater royalties for the initial U.S. use—would have to be evaluated on its facts. In this regard, the "hypothetical bargain" and proximate causes analyses would seem to merge, to the extent the bargain for the initial use of the method in the United States probably would not have been premised on unforeseeable or fortuitous consequences many steps removed from the initial U.S. use. Finally, one would expect courts to apply the single recovery rule to exclude duplicative compensation for identical foreign uses. That said, if the Starchild can prove that the foreign sales were caused in fact and proximately caused by the predicate U.S. infringement, the analysis presented herein would lead to the conclusion that Starchild should recover a reasonable royalty for its domestic use, reflecting the anticipated value to Big Bang of those foreign sales.[219]

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[219] Note that the question of whether a court may award a royalty for the domestic manufacture, use, or sale of a patented invention that reflects some portion of the benefit the licensee expects to derive from further exploitation of the invention outside the United States is distinct from whether a court may award a global license for the use of patented technologies. The latter question is one that courts and policymakers around the world are currently facing in connection with standard-essential patents subject to commitments to license on "fair, reasonable, and nondiscriminatory" (FRAND) terms. For discussion*, see, e.g.*, Thomas F. Cotter, *Is Global FRAND Litigation Spinning*

F. *Example 6*

In conformity with the TRIPS Agreement,[220] U.S. patent owners enjoy the exclusive right to, among other things, "offer to sell" their patented technologies within the United States.[221] Exactly what this means, however, is debatable: in order to infringe, is it the offer that has to be made in the United States, the contemplated sale, or both?[222] In a series of recent cases, the Federal Circuit has held that an offer made anywhere in the world infringes the U.S. patent owner's rights, *if* the contemplated sale would occur in the United States, whereas an offer made in the United States does not infringe the U.S. patent owner's rights, if the contemplated sale would occur abroad.[223] If this interpretation is correct, the issues presented in this Article are unlikely to arise in connection with the offer-to-sell right, since the loss-generating event (the sale) occurs in the United States. On the other hand, if this interpretation is wrong, such that a domestic offer to sell infringes even if the sale itself takes place elsewhere,[224] it is not clear how a court would evaluate the damages resulting from the domestic offer without taking into account the value of the resulting foreign sales.[225] Without attempting to resolve the interpretive question here, this Article will note only that, should the Supreme Court ever overturn the Federal Circuit's current interpretation, this might provide further reason to believe that extraterritorial losses resulting from domestic infringement (here, offers to sell) are cognizable harms.

G. *Further Examples*

One could imagine other variations on the preceding six examples involving other rights provided under the Patent Act—including section 271(b) and section 271(c), which deal, respectively, with induced and

Out of Control?, 2021 PATENTLY-O L.J. 1 (2021), https://patentlyo.com/patent/2021/01/patentlyo-litigation-spinning.html [https://perma.cc/Z6JD-S9YU].

[220] *See* TRIPS Agreement, *supra* note 128, art. 28(1)(a).

[221] *See* 35 U.S.C. § 271(a) (2018).

[222] For discussion of various possible interpretations, see Dennis Crouch, *Infringing?: Offers (Made in the US) to Sell (Abroad)*, PATENTLY-O (Nov. 9, 2018), https://patentlyo.com/patent/2018/11/infringing-offers-abroad.html [https://perma.cc/KA7N-VW8X]; Timothy R. Holbrook, *Territoriality and Tangibility After* Transocean, 61 EMORY L.J. 1087, 1100–05 (2012).

[223] *See* Tex. Advanced Optoelecs. Sols., Inc. v. Renesas, Elecs. Am., Inc., 895 F.3d 1304, 1330 n.12 (Fed. Cir. 2018); Halo Elecs., Inc. v. Pulse Elecs., Inc., 831 F.3d 1369, 1380 (Fed. Cir. 2016).

[224] For discussion of various possible interpretations, see Crouch, *supra* note 222; Holbrook, *supra* note 222.

[225] Unless the domestic offer to sell indirectly impacts price levels in the United States. *See* Timothy R. Holbrook, *Liability for the "Threat of a Sale": Assessing Patent Infringement for Offering to Sell an Invention and Implications for the On-Sale Patentability Bar and Other Forms of Infringement*, 43 SANTA CLARA L. REV. 751, 790–97 (2003).

contributory infringement;[226] section 271(f);[227] or section 271(g), which prohibits the importation, use, offer to sell, and sale of (even unpatented) products within the United States, if those products were made abroad by means of a process patented in the United States.[228] It is unlikely that a lengthy discussion of these other provisions would add anything to the mix, however, because the same general principles should apply: if the defendant could have achieved the same end result by engaging in conduct outside the United States, the domestic conduct at issue is not the cause-in-fact of that result. Alternatively, if the end result is a remote, unforeseeable, indirect, or speculative consequence of the domestic conduct, or if awarding monetary compensation would enable the patent owner to recover twice for the same loss, the court should deny the requested relief. Only claims for extraterritorial damages that satisfy these three screening conditions will remain, whatever the specific right infringed happens to be.

CONCLUSION

The question of whether U.S. patent owners may recover extraterritorial damages resulting from an act of domestic patent infringement is one that the lower courts are now having to rethink, following the Supreme Court's decision in *WesternGeco*. This Article argues that the answer is, generally, yes—that such damages are, and should be, cognizable harms under U.S. patent law, but only subject to three important limiting doctrines, namely cause-in-fact, proximate cause, and the single recovery rule. This Article also provides several examples to guide courts, in the United States and elsewhere, in deciding whether such damages are appropriate in specific cases.

[226] *See* 35 U.S.C. §§ 271(b)–(c) (2018). Contrary to the general presumption against extraterritoriality, the Federal Circuit has held that when a person outside the United States induces another inside the United States to infringe a U.S. patent, the person acting outside the United States *is* liable under section 271(b). *See* Merial Ltd. v. Cipla Ltd., 681 F.3d 1283, 1303 (Fed. Cir. 2012). Whether *Merial*'s extraterritorial application of U.S. law remains valid under the *WesternGeco* framework is debatable. *See* Robert H. Stier, Jr., *Extraterritoriality and the Active Inducement of Infringement*, 19 UIC REV. INTELL. PROP. L. 204 (2020). On the difficulties of determining appropriate damages for induced or contributory infringement, see Dmitry Karshtedt, *Damages for Indirect Patent Infringement*, 91 WASH. U. L. REV. 911 (2014).

[227] Recall that the Supreme Court expressly left open the question of whether WesternGeco's lost profits were proximately caused by ION's violation of section 271(f)(2) and did not address cause-in-fact and double recovery issues at all. *See supra* note 82 and accompanying text (discussing *WesternGeco*).

[228] *See* 35 U.S.C. § 271(g) (2018). There is also a general right against the importation of infringing products. *See id.* § 271(a).