

Patent-Infringement Injunctions' Scope

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Abstract

This article addresses a largely neglected issue: the scope of injunctions against patent infringement. First, the article uses an economic model for infringer incentives to show how concerns of injunction scope are substantially analogous to those of patent scope. Second, the article discusses existing U.S. law on patent-infringement injunctions and develops a taxonomy of injunction types. The article then reports results from a systematic study of patent-infringement injunctions issued by U.S. district courts in 2010. Startlingly, nearly 60% of 99 identified orders include “obey the law” language that apparently violates the United States’ Federal Rules of Civil Procedure, at least as those rules have been understood by the U.S. Court of Appeals for the Federal Circuit. The subset of actively opposed injunctions exhibits such error at a lower but still substantial rate of about 37%. On the other hand, only one of seventeen injunctions directed to biomedical-substance (BMS) technology features such error. The article considers potential explanations for high rates of error outside the BMS space. Finally, the article considers what the scope of patent-infringement injunctions should be and notes that courts currently can and do issue prophylactic injunctions that protect patent rights more or less than a more conventional “do not infringe” order would. Prophylactic injunctions might represent an underused way to balance concerns of notice, rights protection, rights limitation, and administrability.

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I. Introduction

Much recent debate on patent-infringement remedies has focused on two questions: (1) when injunctive relief should be available¹ and (2) how damages should be calculated.² This article addresses a comparatively neglected issue: what the scope of a patent-infringement injunction should be when it is granted. Neglect of this issue might help explain a startling fact that this article's empirical study reveals: the majority of patent-infringement injunctions issued by U.S. district courts in 2010 appear to violate the Federal Rules of Civil Procedure.

The fact that many injunctions take an improper form highlights the underlying capacity of injunctions to come in many different forms. Injunctions are more than mere "off switches" that enforce property rules.³ An injunction's scope can be contentious.⁴ Further, issuance of an injunction does not necessarily halt potentially infringing activity. As the current en banc case of

¹ See, e.g., John M. Golden, *Principles for Patent Remedies*, 88 TEX. L. REV. 505, 506-07 & n.5 (2010) (noting the existence of "conflicting answers from lower courts and academic commentators regarding how to decide when injunctions should issue" (footnotes omitted)); Peter Lee, *The Accession Insight and Patent Infringement Remedies*, 110 MICH. L. REV. (forthcoming 2011) ("propos[ing] applying accession doctrine to deny injunctive relief when an infringer substantially improves on some underlying patented invention"). Denials of patent-infringement injunctions have raised questions of when and how a court should award an "ongoing royalty" to compensate for expected activity that the court does not enjoin. See *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1314 (Fed. Cir. 2007) ("Under some circumstances, awarding an ongoing royalty for patent infringement in lieu of an injunction may be appropriate."); H. Tomás Gómez-Arostegui, *Prospective Compensation in Lieu of a Final Injunction in Patent and Copyright Cases*, 78 FORDHAM L. REV. 1661, 1664-65 (2010) (seeking "to demonstrate that federal courts have no authority to award compulsory prospective compensation ... for postjudgment copyright and patent infringements."). Exploration of the proper limits and form of "ongoing royalty" orders is outside the scope of this article.

² See, e.g., Golden, *supra* note 1, at 582-86; Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2017-35 (2007).

³ Mark A. Lemley & Philip J. Weiser, *Should Property or Liability Rules Govern Information?*, 85 TEX. L. REV. 783, 783 (2007) (observing "that law and economics scholars call injunctive relief a 'property rule'"); see also Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, (1972) (characterizing enforcement of a legal entitlement by an injunction as a form of "protect[ion] by a property rule").

⁴ See Supplemental Brief of Defendants-Appellants on Rehearing En Banc at 34, *TiVo Inc. v. Echostar Corp.*, 376 Fed. Appx. 21 (Fed. Cir. 2010) (en banc) (contending that, "at least for a first-time infringer, [an] injunction may not legally go further" than prohibiting infringing activity).

*TiVo Inc. v. EchoStar Corp.*⁵ illustrates, a rational actor can take deliberate action that risks a later holding of contempt.⁶ These possibilities point to fundamental questions about how a patent-infringement injunction should be crafted to optimally balance protection of patentee rights with protection of legitimate societal and infringer interests.

This article studies issues of injunction scope theoretically, empirically, and normatively. Part II takes a theoretical approach. It presents an economic model for an infringer's incentives that illustrates how concerns of injunction scope parallel concerns about the scope of underlying patent rights.⁷ Part III follows with a primer on U.S. law regarding patent-infringement injunctions' scope. Part III also presents a taxonomy of injunction types. Part IV uses this taxonomy in presenting and analyzing results from a systematic empirical study of patent-infringement injunctions issued by U.S. district courts in 2010. Part V then provides normative recommendations for how courts should craft injunctions in light of concerns of administrability, effective notice, patent-rights protection, and avoidance of undue chilling of infringer activity.

Part III's taxonomy and Part IV's empirical results warrant a fuller preview. Part III's five taxa are based on the express language of court orders. These taxa can be described as follows:

- “Type-0” injunctions explicitly forbid only future infringement that involves the exact products or processes already adjudged to infringe (e.g., “Do not make, use, offer to sell, sell, or import into the United States the SuperHypo1 widget held to infringe claims 1 through 5 of the ’777 patent.”).
- “Type-I” injunctions add to a Type-0 injunction an explicit prohibition of infringement that encompasses minor variations of the products or processes specified in the Type-0 injunction (e.g., “Do not make, use, offer to sell, sell, or import into the United States the SuperHypo1 widget or any widget no more than colorably different from the SuperHypo1 widget.”).⁸

⁵ 376 Fed. Appx. 21, 21 (Fed. Cir. 2010) (en banc) (granting petition for rehearing en banc).

⁶ *TiVo Inc. v. Echostar Corp.*, 94 U.S.P.Q.2d 1097, 1107 (Fed. Cir. 2010), *vacated by* 376 Fed. Appx. 21 (Fed. Cir. 2010) (“Given Echostar’s refusal to disable the DVR functionality in its existing devices and the fact that its original attempts to design-around TiVo’s patent were wholly unsuccessful, the district court had ample justification for its determination that court pre-approval of any new design-around effort was necessary to prevent further infringing activity.”), *available at* 2010 U.S. App. LEXIS 4543.

⁷ *Cf.* Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 916 (1990) (“[A] ‘strengthening’ of property rights will not always increase incentives to invent When a broad patent is granted or expanded via the doctrine of equivalents, its scope diminishes incentives for others to stay in the invention game”).

⁸ Because a Type-I injunction necessarily includes a foundational Type-0 injunction, this article will commonly refer to an order that has Type-0 and Type-I aspects simply as a “Type-I injunction.”

- “Type-II” injunctions take an “obey the law” form that, at least on its face, generally prohibits infringement of a patent or patent claim without tying the scope of the prohibition to products or processes already adjudged to infringe (e.g., “Do not infringe the ’777 patent”; alternatively, “Do not infringe claim 1 of the ’777 patent.”).
- “Type-III” injunctions are prophylactic in the sense that they (i) prohibit at least some activity that might be non-infringing; (ii) require action, such as destruction of infringing devices, that might not be absolutely required to prevent future infringement; or (iii) define their scope without reference either to patent rights or to matter already adjudged to infringe (e.g., “Destroy all SuperHypo1 widgets that are in the United States and under your control”; alternatively, “Do not make, use, offer to sell, sell, or import into the United States any widgets.”).
- “Type-IV” injunctions are purely reparative in the sense that their sole direct purpose is to correct for harm caused by past infringement (e.g., “Destroy all SuperHypo1 widgets manufactured in the United States that are now located abroad, even though there is no expectation that they will return to the United States.”⁹).

These five categories are non-exclusive. A single court order can feature injunctive language from multiple taxa. Indeed, a Type-I injunction essentially requires the simultaneous presence of a Type-0 injunction. The Type-0/Type-1 combination is commonly supplemented with a Type-II or Type-III injunction.

Not all of the five types are equal under U.S. law, however. The U.S. Court of Appeals for the Federal Circuit has held that the U.S. Patent Act does not authorize courts to grant purely reparative, Type-IV injunctions.¹⁰ Similarly, the Federal Circuit has held that the Federal Rules of Civil Procedure generally forbid Type-II, “obey the law” injunctions.¹¹

Strikingly, Part IV’s empirical analysis reveals vastly different rates of compliance with these bans. In a dataset of 99 patent-infringement injunctions issued in 2010, only one contains purely reparative, Type-IV language. In contrast, nearly 60% contain Type-II language.

With the sole major exception of injunctions directed to biomedical-substance inventions, Type-II error is rife. Active contestation of injunctions by an adversarial party seems to correlate with a reduced Type-II error rate. But the error rate for actively contested injunctions is still about 37%. Part IV provides potential explanations for such startlingly high error rates.

⁹ Because United States patent law generally does not forbid the use abroad of a product or process whose use in the United States would infringe a U.S. patent, a product located abroad would, generally speaking, not be expected to feature in future U.S. patent infringement unless there were reason to expect that the product would be brought to the United States. *See* 35 U.S.C. § 271 (describing forms of patent infringement); *cf.* *Microsoft Corp. v. AT&T*, 550 U.S. 437, 441 (2007) (“It is a general rule under United States patent law that no infringement occurs when a patented product is made or sold in another country.”).

¹⁰ *See infra* text accompanying notes 33-36.

¹¹ *See infra* text accompanying notes 24-27.

Part IV's empirical results also indicate that U.S. district courts issue prophylactic, Type-IV injunctions in nontrivial numbers. Moreover, observed Type-III injunctions come in a number of subtypes. With these subtypes in mind, Part V suggests that, although Type-I injunctions might provide an appropriate general default, Type-III injunctions can often enable a better balancing of patentee, infringer, and societal interests.

II. Comparability of Concerns with Patent Scope

Although problems of injunction scope have been much neglected compared to problems of patent scope, the normative issues involved overlap substantially. In both cases, there is concern with balancing the goal of providing incentives for innovation with the goal of ensuring that patent rights do not become excessive impediments to innovation's use or further development.¹²

For a rational, profit-maximizing party who has just been enjoined, concerns with patent scope and injunction scope are directly comparable. Options commonly available to the enjoined party include (1) paying the patentee for a license, (2) simply halting all activity potentially barred by the injunction, and (3) redesigning the infringing product or process. Patent and injunction scope affect the relative desirability of the redesign option. Greater patent scope increases the range of redesigns that are likely to infringe. Greater patent scope thus tends to raise the cost of redesign either by forcing the infringer to choose a more radical redesign or by raising the risk that a given redesign will infringe. Likewise, greater injunction scope increases the range of redesigns that will put the infringer at risk of contempt, with similar implications for the likely cost of redesign. If the probability of a contempt holding or the penalty for contempt is sufficiently small, a rational infringer might choose to implement a redesign that risks contempt, just as the infringer might originally have chosen a design that risked a holding of infringement.

To better understand an adjudged infringer's decisionmaking calculus, consider a situation where a product has been found to infringe and the infringing producer has three basic alternatives:

- (1) pay for a license, which for simplicity we assume will require payment of a lump-sum licensing fee F ;
- (2) implement an "ironclad" redesign that will cost D_1 to implement and that will be generally recognized, by the patentee as well as the courts, to be both injunction-compliant and non-infringing;
- (3) implement a more doubtful redesign that will cost a lower amount D_2 (i.e., $D_2 < D_1$) but that carries (i) a nonzero chance θ_{con} of resulting in a holding of contempt and (ii) a further nonzero chance θ_{inf} of resulting in a holding of infringement when no contempt is found.

¹² Merges & Nelson, *supra* note 7, at 843 (arguing that, "[w]ithout extensively reducing the pioneer's incentives, the law should attempt at the margin to favor a competitive environment for improvements").

Because the adjudged infringer's willingness to pay for a license—and the consequent reward to the patentee—will depend on the expected profitability of redesign options (2) and (3),¹³ I focus on the latter below.

To model the profitability of options (2) and (3), I use a variant of a model that Carl Shapiro developed with an eye to infringement concerns only.¹⁴ In particular, I suppose that, in the absence of additional threats of litigation, the product resulting from either redesign will generate a constant profit margin M per unit sold, with N units expected to be sold, and $MN \geq D_1$.¹⁵ I also assume that the patentee will not sue in response to the ironclad redesign but that, if the adjudged infringer implements the more doubtful redesign, the patentee will file a motion for contempt. The parties will not settle, and the probability that the patentee's motion will yield a holding of contempt is θ_{con} , where $0 \leq \theta_{\text{con}} \leq 1$. If contempt is not found, the patentee will file a new suit alleging patent infringement. Once again, the parties will not settle. The patentee's probability of success in the new infringement suit will be θ_{inf} , where $0 \leq \theta_{\text{inf}} \leq 1$.

Significantly, the probabilities θ_{con} and θ_{inf} should correlate with injunction scope and patent scope, respectively. Invalidity and enforceability of underlying patent claims are assumed not to be at issue in the proceedings contemplated, whether due to law of the case for contempt proceedings¹⁶ or estoppel in a subsequent suit for infringement.¹⁷ Thus, a broader injunction will

¹³ The adjudged infringer will rationally only pay for a license if the profitability of that course is at least as great as the more profitable of options (2) and (3). In terms of the model that follows, the rational infringer's willingness to license is thus capped by the lesser of D_1 and D_2 . Transaction costs of negotiating and complying with a license might lower the infringer's maximum licensing fee below the lesser of these amounts.

¹⁴ See Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties*, 12 AM. L. & ECON. REV. 280, 286-87 (2010) (developing a model to determine potential outcomes of royalty negotiations between a "downstream firm" and a "patent holder"); see also Lemley & Shapiro, *supra* note 2, at 1995-97 (using Shapiro's model).

¹⁵ For simplicity, I neglect time discounting for products sold after a period of time has elapsed.

¹⁶ See *KSM Fastening Sys., Inc. v. H.A. Jones Co.*, 776 F.2d 1522, 1529 (Fed. Cir. 1985) ("The validity of the patent is law of the case in [contempt] proceedings.").

¹⁷ To the extent defenses of invalidity and unenforceability were available, the adjudged infringer will likely have challenged validity and enforceability in the original litigation. Cf. Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1502 (2001) ("Virtually every patent infringement lawsuit includes a claim that the patent is either invalid or unenforceable ... (or commonly both)."). Thus, the infringer might be precluded from making such challenges in later litigation. See, e.g., *Roche Palo Alto LLC v. Apotex, Inc.*, 531 F.3d 1372, 1381 (Fed. Cir. 2008) (affirming a district-court holding that "validity challenges ... were barred by the doctrine of claim preclusion"); *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, – F. Supp. 2d. – (D. Del. 2010), available at 2010 WL 5514363, at *5-*6 (holding that various arguments for invalidity were barred by issue preclusion); cf. *Foster v. Hallco Mfg. Co.*, 947 F.2d 469, 480-81 (Fed. Cir. 1991) ("[I]f a consent judgment, by its terms, indicates that the

likely generate a greater probability of patentee success θ_{con} , and a broader patent will likely generate a greater probability of patentee success θ_{inf} . Thus, at least to some degree, the values θ_{con} and θ_{inf} can be expected to act as proxies for injunction scope and patent scope, respectively. A model incorporating these values can therefore suggest how injunction and patent scope affect the incentive calculus of an adjudged infringer.

But there are additional variables to describe before the infringer's decisionmaking calculus is complete. Suppose that, by the time contempt proceedings are concluded, the adjudged infringer will have made and sold n_{con} units of the redesigned product, and will have incurred L_{con} in litigation costs. If the infringer is held not to be in contempt, the infringer will then sell an additional n_{lit} units and incur an additional L_{inf} in litigation costs before the conclusion of infringement proceedings. If the infringer is found in contempt, it will receive the equivalent of a monetary penalty P and will have its post-contempt expected profits reduced by δ_{con} from $M(N - n_{\text{con}})$ to π_{con} . If the infringer prevails in the contempt proceeding but the redesigned product is later found to infringe, the infringer will pay a damages award A and have its post-judgment expected profits reduced by δ_{inf} from $M(N - n_{\text{con}} - n_{\text{inf}})$ to π_{inf} .

Under these circumstances, the infringer's expected gains from the two redesigns are, respectively, as follows:

- (1) expected gain from pursuing the ironclad redesign:

$$G_1 = MN - D_1; \quad (\text{Eq. 1})$$

- (2) expected gain from pursuing the more doubtful redesign:

$$G_2 = Mn_{\text{con}} - D_2 - L_{\text{con}} + \theta_{\text{con}}(\pi_{\text{con}} - P) \\ + (1 - \theta_{\text{con}})\{Mn_{\text{inf}} - L_{\text{inf}} + \theta_{\text{inf}}(\pi_{\text{inf}} - A) + (1 - \theta_{\text{inf}})M(N - n_{\text{con}} - n_{\text{inf}})\}. \quad (\text{Eq. 2})$$

The formula for G_2 looks complicated but can be significantly simplified by (1) recognizing that $\delta_{\text{con}} = M(N - n_{\text{con}}) - \pi_{\text{con}}$ and $\delta_{\text{inf}} = M(N - n_{\text{con}} - n_{\text{inf}}) - \pi_{\text{inf}}$, and (2) defining new variables $\Delta_{\text{con}} = P + \delta_{\text{con}}$ and $\Delta_{\text{inf}} = A + \delta_{\text{inf}}$. These last variables, Δ_{con} and Δ_{inf} , represent sums of (a) the cost of a court-imposed penalty or damages award and (b) the decrease in post-judgment profits expected to result from an adverse court decision. Hence, in this relatively simple model, Δ_{con} and Δ_{inf} equal the total expected costs to the adjudged infringer of adverse judgments in contempt and infringement proceedings, respectively.

Use of the new variables leads to the following equation for G_2 :

$$G_2 = MN - D_2 \quad (\text{Eq. 3})$$

where the total effective cost of the more questionable redesign D_2 satisfies the formula

$$D_2 = D_2 + L_{\text{inf}} + \theta_{\text{inf}} \Delta_{\text{inf}} + L_{\text{con}} + \theta_{\text{con}} \Delta_{\text{con}} \quad (\text{Eq. 4})$$

with

$$\Delta_{\text{con}} = \Delta_{\text{con}} - L_{\text{inf}} - \theta_{\text{inf}} \Delta_{\text{inf}}. \quad (\text{Eq. 5})$$

parties thereto intend to preclude any challenge to the validity of a particular patent, even in subsequent litigation involving a new cause of action, then that issue can be precluded.”).

Equations 3 through 5 neatly illustrate the comparability of questions of patent scope and injunction scope. A rational economic actor will favor the ironclad redesign over the questionable redesign only when $G_1 \geq G_2$ or, equivalently, $D_1 \leq D_2$. Other than adding another source of foreseeable litigation costs, the prospect of contempt proceedings deters choice of the more questionable redesign by adding to D_2 a quantity that equals the product of the likelihood of a contempt finding θ_{con} and the total *effective* cost Δ_{con} of a finding of contempt. The prospect of an infringement suit similarly deters choice of the more questionable redesign by adding to D_2 a quantity that equals the product of the likelihood of an infringement finding θ_{inf} and the total effective cost Δ_{inf} of a finding of infringement.¹⁸ Moreover, in situations where the rational infringer prefers the questionable redesign to the ironclad redesign (i.e., where $D_2 < D_1$) and where $\Delta_{\text{con}} > 0$, higher values of θ_{con} and θ_{inf} correspond to higher values for the maximum licensing fee $F_{\text{max}} \leq D_2 < D_1$ that the rational infringer is willing to pay.¹⁹

Consequently, to the extent θ_{con} and θ_{inf} serve as proxies for injunction and patent scope, Equations 3 through 5 show injunction and patent scope to play fundamentally analogous roles in protecting patent value through deterrence and likely enhancement of licensing fees. Likewise, limitations on injunction and patent scope facilitate various kinds of post-injunction activity by discounting costs of potential infringement or contempt by the probabilities that infringement or contempt will actually be found. Conversely, broader scope and a corresponding increase in these probabilities generate greater protection of patent value but also a greater chilling effect on subsequent activity.

Patent law that seeks to optimize social welfare must try to strike a proper balance between these competing concerns of patent-value protection and subsequent-activity chilling.²⁰ Parts III and IV explore how courts currently strike the balance in determining injunction scope. Part V discusses how courts might best work to achieve a proper balance.

¹⁸ Facial lack of parallelism between Δ_{inf} and Δ_{con} can be explained as follows. The relevant effective cost of a contempt holding equals the quantity $\Delta_{\text{con}} = \Delta_{\text{con}} - L_{\text{inf}} - \theta_{\text{inf}} \Delta_{\text{inf}}$, rather than Δ_{con} , because, in the absence of a contempt finding, the infringer will face infringement proceedings having expected cost $L_{\text{inf}} + \theta_{\text{inf}} \Delta_{\text{inf}}$. The quantity Δ_{con} equals the extent to which Δ_{con} exceeds this alternative expected cost. As there is, by assumption, no alternative remedy for the patentee once contempt and infringement proceedings fail, Δ_{inf} by itself equals the extent to which Δ_{inf} exceeds the residual alternative expected cost—zero—of such nonexistent alternative remedies.

¹⁹ Regrouping terms on the righthand side of Equation 4 yields

$$D_2 = D_2 + L_{\text{con}} + \theta_{\text{con}} \Delta_{\text{con}} + (1 - \theta_{\text{con}})(L_{\text{inf}} + \theta_{\text{inf}} \Delta_{\text{inf}}).$$

The conclusion in the text follows from noting that $(1 - \theta_{\text{con}}) \geq 0$ and, by assumption, $\Delta_{\text{inf}} \geq 0$.

²⁰ In reality, the proper balance will likely reflect a variety of other concerns as well. *See, e.g.*, Golden, *supra* note 1, at 509-11 (discussing various goals and behaviors that patent law might seek to promote or affect).

III. U.S. Law and Types of Issued Injunctions

A. U.S. Law Regulating Patent-Infringement Injunctions

The U.S. Patent Act affirms that courts have power to “grant injunctions ... on such terms as [they] dee[m] reasonable.”²¹ Once a court finds that a defendant’s accused product or process infringes one or more claims of a plaintiff’s patent, a court frequently grants a permanent injunction against continued infringement.²² Consistent with due-process concerns of notice,²³ Federal Rule of Civil Procedure 65(d) demands that such an injunction “state its terms specifically” and “describe in reasonable detail—and not by reference to the complaint or other document—the act or acts restrained or required.”²⁴ Pursuant to this demand, the Federal Circuit has repeatedly “rejected as overly broad ... permanent injunction[s] that simply prohibi[t] future infringement of a patent.”²⁵

An injunction simply stating that further infringement of a specific patent or patent claim is prohibited would appear to require “reference to ... [an]other document” and thus, on that ground alone, to be contrary to the plain language of Rule 65(d).²⁶ But the Federal Circuit is

²¹ 35 U.S.C. § 283.

²² See, e.g., PETER S. MENELL ET AL., PATENT CASE MANAGEMENT JUDICIAL GUIDE 9-2 (2009) (“Courts will usually have little trouble ... issuing an injunction in cases between direct competitors.”); Stacy Streur, *The eBay Effect: Tougher Standards But Courts Return to the Prior Practice of Granting Injunctions for Patent Infringement*, 8 NW. J. TECH. & INTELL. PROP. 67, 67 (2009) (reporting that, in recent years, courts granted 52 out of 68 motions for permanent injunctions against patent infringement).

²³ *H.K. Porter Co. v. Nat’l Friction Prods. Corp.*, 568 F.2d 24, 27 (7th Cir. 1978) (“Because of the risks of contempt proceedings, civil or criminal, paramount interests of liberty and due process make it indispensable for the chancellor or his surrogate to speak clearly, explicitly, and specifically if violation of his direction is to subject a litigant ... to coercive or penal measures, as well as to payment of damages.”).

²⁴ Fed. R. Civ. Proc. 65(d)(1); see also 11A CHARLES ALAN WRIGHT, ARTHUR R. MILLER & MARY KAY KANE, FEDERAL PRACTICE AND PROCEDURE: CIVIL 2D §2955, at 308-09 (1995) (“The drafting standard established by Rule 65(d) is that an ordinary person reading the court’s order should be able to ascertain from the document itself exactly what conduct is proscribed.”).

²⁵ See, e.g., *Forest Labs., Inc. v. Ivax Pharms., Inc.*, 501 F.3d 1263, 1271 (Fed. Cir. 2007) (narrowing an injunction by “deleting the language ‘any products that infringe the ’712 patent, including’”); *Int’l Rectifier Corp. v. IXYS Corp.*, 383 F.3d 1312, 1316 (Fed. Cir. 2004) (vacating an injunction that “by its terms ... applies to ‘any device’ made or sold by IXYS that is within the scope of the patent claims”); cf. MENELL ET AL., *supra* note 22, at 3-25 (stating that an injunction “must ... specifically describe the infringing actions enjoined, with reference to particular products”).

²⁶ See *H.K. Porter*, 568 F.2d at 27 (“It is beyond cavil that when it merely incorporated by reference the Settlement Agreement, the April 15, 1968 order ignored that rule’s mandatory

obviously also worried about injunction scope. The circuit has indicated that a “do not infringe” injunction generally needs to “limit its prohibition to the manufacture, use, or sale of the specific infringing device, or to infringing devices no more than colorably different from the infringing device.”²⁷

Admittedly, the Federal Circuit has deviated from this requirement at least once. In 1999, a Federal Circuit panel upheld “a permanent injunction against [Signtech] for any further infringement of the ’522 patent.”²⁸ Despite Rule 65(d)’s language forbidding reliance on reference to other documents, the panel justified its decision by saying that “any danger of unwarranted contempt actions [was] minimal, if not completely non-existent, because of the detailed record on which this injunction was entered.”²⁹

But this 2009 panel decision appears to be an anomaly. In 2004 and 2007, the Federal Circuit reaffirmed its previous interpretation of Rule 65(d), holding:

[T]he only acts the injunction may prohibit are infringement of the patent by the adjudicated devices and infringement by devices not more than colorably different from the adjudicated devices. In order to comply with Rule 65(d), the injunction should explicitly proscribe only those specific acts.³⁰

The Federal Circuit has suggested that the 1999 decision might be distinguished as involving an exceptional set of facts, but has also indicated that the 1999 decision might simply be wrong and not controlling “to the extent [it] is inconsistent with the rule pronounced [earlier].”³¹

On the other hand, at least as a matter of formal law, the error involved in issuing a Rule-65(d)-violative injunction has limited significance. The Federal Circuit has instructed that, if a forbidden “do not infringe” injunction is not challenged on direct appeal, the injunction should not be treated as void but should instead be narrowly construed to apply only to products or processes “previously admitted or adjudged to infringe, and to other devices which are no more than colorably different therefrom and which clearly are infringements.”³² In other words, when

requirement that an injunction ‘shall describe in reasonable detail, and not by reference to the complaint or other document, the act or acts sought to be restrained.’”).

²⁷ *Additive Controls & Measurement Sys., Inc. v. Flowdata, Inc.*, 986 F.2d 476, 479-80 (Fed. Cir. 1993).

²⁸ *Signtech USA, Ltd. v. Vutek, Inc.*, 174 F.3d 1352, 1359 (Fed. Cir. 1999).

²⁹ *Id.*

³⁰ *Int’l Rectifier*, 383 F.3d at 1316; *accord Forest Labs.*, 501 F.3d at 1271 (quoting *Int’l Rectifier*).

³¹ *Int’l Rectifier*, 383 F.3d at 1317.

³² *KSM Fastening Sys., Inc. v. H.A. Jones Co.*, 776 F.2d 1522, 1526 (Fed. Cir. 1985) (noting that “[t]he unreasonableness of a decree incorporating a vague or broad prohibition against ‘infringement’ of a ‘patent’ is alleviated because of the universal rule ... that contempt proceedings, civil or criminal, are available only with respect to devices previously admitted or

presiding over contempt proceedings, a judge should effectively reform the forbidden “obey the law” injunction, effectively adopting a saving construction that restricts the injunction to cover only previously adjudicated matter and “no more than colorable” variants.

“Obey the law” injunctions are not the only forbidden type of patent-infringement order. The Federal Circuit has held that district courts lack authority to issue purely reparative injunctions that seek to correct for harm caused by past infringement.³³ Although reparative injunctions are commonly available in other areas of U.S. law,³⁴ the Federal Circuit has held that they are not available under the U.S. Patent Act. The basis for this holding is § 283 of the Act, which states:

The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.³⁵

The Federal Circuit has held that § 283’s authorization of injunctions to “prevent the violation” of patent rights establishes an exclusive purpose for injunctions intended to enforce a judgment of patent infringement. In the circuit’s words, such “[a]n injunction is only proper to prevent future infringement of a patent, not to remedy past infringement.”³⁶

The pending, en banc case of *TiVo Inc. v. EchoStar Corp.*³⁷ exhibits an additional type of patent-infringement injunction. This is the category of prophylactic injunctions requiring action or cessation of action beyond what is absolutely necessary to avoid infringement.³⁸ In *TiVo*, the

adjudged to infringe, and to other devices which are no more than colorably different therefrom and which clearly are infringements of the patent”); *cf.* 11A WRIGHT, MILLER & KANE, *supra* note 24, § 2955, at 311 (“A court’s failure to comply with the prerequisites of Rule 65(d) as to the proper scope or form of an injunction or restraining order does not deprive it of jurisdiction or render its order void.”).

³³ Tracy A. Thomas, *The Continued Vitality of Prophylactic Relief*, 27 REV. LITIG. 99, 102 (2007) (“Reparative injunctions repair the ongoing consequences of past harm, and might order the reinstatement of an employee fired because of discrimination.”).

³⁴ 1 DAN B. DOBBS, DOBBS LAW OF REMEDIES § 2.9, at 225 (2d ed. 1993) (“The reparative injunction goes when the evidence shows that an existing right has been violated but can be repaired or restored effectively.”).

³⁵ 35 U.S.C. § 283.

³⁶ *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1320 (Fed. Cir. 2010); *see also* *Johns Hopkins Univ. v. Cellpro, Inc.*, 152 F.3d 1342, 1365 (Fed. Cir. 1998) (“In accordance with the clear wording of [§ 283], an injunction is only proper to the extent it is ‘to prevent the violation of any right secured by patent.’” (some internal quotation marks omitted)).

³⁷ 376 Fed. Appx. 21, 21 (Fed. Cir. 2010) (per curiam) (granting petition for rehearing en banc).

³⁸ *See, e.g.*, *Proveris Corp. v. InnovaSystems Inc.*, No. 05-12424-WGY, slip op. at 3 (D. Mass. May 11, 2007) (requiring the defendant to “destroy all inventory of its OSA product”).

district court issued an order for injunctive relief requiring that the adjudged infringer “disable the DVR functionality (i.e., disable all storage to and playback from a hard disk drive of television data) in all but 192,708 units of the Infringing Products.”³⁹ A variant of such a prophylactic injunction would call for the destruction, rather than partial disablement, of infringing devices. Such a destruction-or-disablement order tends to require more than the mere cessation of infringement because there might turn out to be a redesign that can alter a device to avoid infringement without a need for destruction or disablement.

But a prophylactic injunction need not be “overprotective” in the manner of a destruction-or-disablement order. Under this article’s definition of “prophylactic,”⁴⁰ a prophylactic injunction can “underprotect” patent rights relative to conventional “do not infringe” injunctions. A prophylactic injunction might, for example, fail to encompass all merely colorable variants of subject matter already adjudged to infringe. Whereas a “do not infringe” injunction might forbid use of “no more than colorable” variants of an adjudged-to-infringe purification process running at a pH of 5.0, a prophylactic injunction might only forbid use of purification processes running at a pH of between 4.6 and 5.4. The latter could underprotect patent rights relative to the former because a process running at a pH of 4.5 might in fact be a “no more than colorable” variant of the original infringing process.⁴¹

How can an underprotective injunction be considered prophylactic? Recall that, in issuing an injunction, a court needs to consider not only patentee interests but also legitimate interests of the adjudged infringer and society at large. An injunction can be prophylactic in the sense that it errs on the side of protecting the latter just as well as it can be prophylactic by erring on the side of protecting the former. An underprotective injunction from the patentee’s perspective can thus be an overprotective injunction from the perspective of the infringer or society. For example, such an injunction might be viewed as providing prophylactic protection

³⁹ *TiVo Inc. v. Dish Network Corp.*, No. 2:04-cv-000001, slip op. at 2 (E.D. Tex. June 2, 2009).

⁴⁰ In the constitutional-law context, the term “prophylactic rule” has inspired “a wealth of sometimes widely divergent definitions.” Mitchell N. Berman, *Constitutional Decision Rules*, 90 VA. L. REV. 1, 30 (2004). Sometimes commentators view only overprotective rules as prophylactic rules. *See, e.g., id.* at 30 (describing a prophylactic rule as “that sort of extraconstitutional rule that overenforces what the Constitution, as judicially interpreted, would itself require”); *id.* at 40-42 (distinguishing prophylactic rules from ““underenforcement rule[s]” and hybrid ““overlapping rule[s]””). But at least one prior commentator has characterized both underprotective and overprotective legal rules as prophylactic, using reasoning like that presented in this article’s text. David A. Strauss, *The Ubiquity of Prophylactic Rules*, 55 U. CHI. L. REV. 190, 204-06 (1988) (characterizing both rules of “strict scrutiny” and “rational basis review” as prophylactic rules although the former is likely overprotective and the latter is likely underprotective of the constitutional interests most centrally at issue).

⁴¹ The example is inspired by the fact pattern associated with *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997), in which the courts considered whether a purification process running at a pH of 5.0 could infringe a patent claim under the doctrine of equivalents. *Id.* at 23 (describing the case’s underlying facts).

to a legitimate infringer interest in being able to pursue good-faith redesigns without fear of contempt.

A well-crafted prophylactic injunction can substantially ease the tasks of determining an injunction's bounds and identifying violations. Because of improvements in notice and enforceability, substitution of such injunctions for conventional "do not infringe" orders can both increase compliance and reduce chilling of socially desirable redesigns. In short, even to the extent a prophylactic injunction's relative underprotection or overprotection of underlying rights is undesirable when considered in isolation, that underprotection or overprotection might be more than "paid for" by improvements to notice, enforceability, and administrability.

Although prophylactic orders are not the norm in U.S. patent practice, they are far from unknown.⁴² Moreover, they have a substantial foundation in courts' traditional equity powers. The overprotective variant reflects recognition that "sometimes the chancellor can assure plaintiffs their rights only by giving them more than they are entitled to."⁴³ As Tracy Thomas has argued, a prophylactic injunction can "develo[p] almost instinctively" from the demand for remedies that amount to no more than "empty commands simply to stop [certain] behavior."⁴⁴ High-profile support for the notion that prophylactic injunctions can be an acceptable form of relief has come through anti-abortion protest cases in which the U.S. Supreme upheld injunctions requiring that protestors keep a certain distance from clinic entrances.⁴⁵ Such injunctions illustrate the capacity for prophylactic relief to balance competing interests—rights to free speech, rights "to seek lawful medical or counseling services," and concerns with public safety, order, property rights, and privacy.⁴⁶ The injunctions also illustrate the potential value of

⁴² See *infra* text accompanying notes 101-102.

⁴³ 1 DOBBS, *supra* note 34, §2.4(7), at 121; see also *Russian Media Group, LLC v. Cable Am., Inc.*, 598 F.3d 302, 307 (7th Cir. 2010) ("The district court may even enjoin certain otherwise lawful conduct when the defendant's conduct has demonstrated that prohibiting only unlawful conduct would not effectively protect the plaintiff's right against future encroachment."); cf. 11A WRIGHT, MILLER & KANE, *supra* note 24, § 2955, at 327 (indicating that a "broad decree" might be justified as "the only way to prevent a statutory violation" or because "it can be drafted by the court more easily than a narrow decree").

⁴⁴ Tracy A. Thomas, *The Continued Vitality of Prophylactic Relief*, 27 REV. LITIG. 99, 104 (2007).

⁴⁵ See *Schenck v. Pro-Choice Network of Western New York*, 519 U.S. 357 (1997) (upholding "fixed buffer zones around the doorways, driveways, and driveway entrances" of clinics); *Madsen v. Women's Health Ctr., Inc.*, 512 U.S. 753, 776 (1994) (upholding "noise restrictions and the 36-foot buffer zone around the clinic entrances and driveway because they burden no more speech than necessary to eliminate the unlawful conduct targeted by the state court's injunction").

⁴⁶ *Madsen*, 512 U.S. at 767-68.

prophylactic relief's capacity to generate relatively clear lines that can help private parties and public officials know what constitutes compliance and when non-compliance has occurred.⁴⁷

Indeed, prophylactic injunctions might be viewed as a subset of a larger family of prophylactic measures that U.S. law frequently uses to implement and enforce legal norms. At least since 1988, various scholars have contended that "'prophylactic' rules are, in an important sense, the norm, not the exception."⁴⁸ Whether in the context of requiring *Miranda* protection against self-incrimination,⁴⁹ strictly limiting content-based restrictions on speech,⁵⁰ or applying strict scrutiny to suspect forms of legal classification,⁵¹ courts frequently enforce legal norms through prophylactic rules that, by avoiding the need for fully individualized assessment of rights' exact bounds, help limit uncertainty and improve compliance, enforceability, and administrability.⁵² Consistent with the sense that prophylactic rules can render difficult or contentious legal problems more manageable, prophylactic injunctions often issue in difficult

⁴⁷ Cf. DOUGLAS LAYCOCK, MODERN AMERICAN REMEDIES: CASES AND MATERIALS 290 (2002) ("Conflict and misunderstanding, testing of limits and overreaching, emotional reactions, inconsistent perceptions and accounts of what happened—all these are inevitable. The judicial need for bright-line rules can be overwhelming.").

⁴⁸ Strauss, *supra* note 40, at 195; *see also* Berman, *supra* note 40, at 13-14 (observing that, by the year 2000, "many constitutional theorists had become persuaded by David Strauss's careful and powerful argument that prophylactic rules indistinguishable from *Miranda* are ubiquitous and legitimate"); cf. RICHARD H. FALLON, JR., IMPLEMENTING THE CONSTITUTION 5 (2001) ("Rather than picturing the Justices as pervasively engaged in a search for the Constitution's one true meaning, I argue in this book that we should understand the Supreme Court's role as a more multifaceted one of 'implementing' constitutional norms."); Lawrence Gene Sager, *Fair Measure: The Legal Status of Underenforced Constitutional Norms*, 91 HARV. L. REV. 1212, 1213 (1978) ("[T]here is an important distinction between a statement that describes an ideal which is embodied in the Constitution and a statement which attempts to translate such an ideal into a workable standard for the decision of concrete issues.").

⁴⁹ Strauss, *supra* note 40, at 190 (discussing the "'prophylactic' character [of] the *Miranda* rule").

⁵⁰ *See id.* at 198 (discussing how significant aspects of First-Amendment doctrine, such as "a nearly conclusive presumption against [the] constitutionality" of most "content-based" restrictions on speech, might be viewed as prophylactic).

⁵¹ *Id.* at 204 (discussing how equal protection doctrine might be viewed as embodying prophylactic rules).

⁵² *Id.* at 200 (describing the courts' "categorical approach to content-based [speech] restrictions and the *Miranda* rules [as] relatively rigid doctrines designed to reduce the likelihood that the authorities ... will violate the law, and designed to improve a reviewing court's chances of identifying violations where they occur").

public law cases “involving schools, prisons, and sexual harassment.”⁵³ In such cases, courts commonly require reporting or monitoring, new institutional policies and procedures, or additional personnel training to try to transform violation-fostering cultures.⁵⁴

But prophylactic injunctions also issue in cases that are more narrowly focused on commercial interests. Prophylactic injunctions have a well-established place in antitrust law, where structural injunctions can require the break-up of an offending firm in order to protect against future monopolization.⁵⁵ Less dramatic antitrust decrees can also have prophylactic aspects. In *United States v. Microsoft Corp.*,⁵⁶ the district court approved a consent decree that the court acknowledged to include a requirement that “plainly exceed[ed] the scope of [Microsoft’s] liability”⁵⁷—the requirement “that Microsoft license . . . any communications protocol installed on a Windows client which is used to interoperate or communicate with a Microsoft server operating system product without the addition of software code to the client.”⁵⁸ The court reasoned that this requirement was justified because it was “closely connected with the theory of liability . . . and further[ed] efforts to ensure that there remain no practices likely to result in monopolization in the future.”⁵⁹

Use of prophylactic relief in commercial cases extends well beyond antitrust law. In a leading casebook, Douglas Laycock illustrates such relief through a case in which a court protected “PepsiCo trade secrets and confidential information” by ordering a former PepsiCo

⁵³ Thomas, *supra* note 44, at 100 (describing prophylactic injunctions as tending to “reac[h] the facilitators of harm in order to prevent continued illegality”).

⁵⁴ *Id.* at 101-02 (describing potential prophylactic measures).

⁵⁵ HERBERT HOVENKAMP, *THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION* 300 (2005) (“Early in the history of antitrust enforcement courts tended to favor ‘structural’ remedies in cases involving significant §2 violations.”); *cf.* Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1, 15-16 (2001) (describing “structural remedies” as “redistributing competitive assets” either “by breaking the defendant company into two or more pieces” or “by requiring the defendant to sell or otherwise make available to its competitors some input, right, or facility”).

⁵⁶ 231 F. Supp. 2d 144 (D.D.C. 2002), *aff’d in relevant part sub nom.* *Mass. v. Microsoft*, 373 F.3d 1199 (D.C. Cir. 2004).

⁵⁷ *Id.* at 190.

⁵⁸ *Id.* at 189.

⁵⁹ *Id.* at 190 (internal quotation marks omitted). The district court’s reasoning substantially parroted the D.C. Circuit’s earlier instruction that insurance against future monopolization was one of the necessary goals of an antitrust decree. *United States v. Microsoft Corp.*, 253 F.3d 34, 103 (D.C. Cir. 2001). (stating “that a remedies decree in an antitrust case must seek to . . . ensure that there remain no practices likely to result in monopolization in the future” (internal quotation marks and citations omitted)).

employee to delay starting work for a competitor.⁶⁰ This decree required more than the nondisclosure or nonuse of confidential information that the law formally forbade.

Such examples support Tracy Thomas's notion that prophylactic injunctions are particularly likely to be warranted when two conditions apply: (1) the underlying principles of substantive law are difficult to enforce or articulate with precision, and (2) otherwise lawful conduct appears likely to facilitate, accompany, or be difficult to distinguish from an oft-associated offense.⁶¹

At least as of this writing, the Federal Circuit has not insisted on a contrary view. The circuit has repeatedly upheld prophylactic injunctions in situations where an adjudged patent infringer has violated a prior court order.⁶² For example, in *Additive Controls & Measurement Systems, Inc. v. Flowdata, Inc.*,⁶³ the Federal Circuit upheld a broad injunction forbidding a contemnor "from undertaking any activities with respect to positive displacement flowmeters without first obtaining leave of court."⁶⁴ The Federal Circuit held that this ban from an entire sphere of commercial activity reflected a "reasonabl[e] conclu[sion] that such measures were necessary ... to compel compliance with the court's orders."⁶⁵

On the other hand, the Federal Circuit has also indicated that broad prophylactic orders like that in *Additive Controls* "should be used only in exceptional cases."⁶⁶ What the Federal Circuit thinks of narrower prophylactic orders issued in less exceptional circumstances is something that *TiVo* might make clear.

B. A Taxonomy of Injunction Types

To a large extent, existing U.S. law on patent-infringement injunctions suggests a taxonomy that informs much of the discussion in this article. This taxonomy consists of the five

⁶⁰ LAYCOCK, *supra* note 47, at 284-85 (internal quotation marks omitted) (reproducing portions of *PepsiCo, Inc. v. Redmond*, 54 F.3d 1262 (7th Cir. 1995)).

⁶¹ Thomas, *supra* note 44, at 99 (describing prophylactic injunctions as tending to "reac[h] the facilitators of harm in order to prevent continued illegality").

⁶² See, e.g., *Spindelfabrik Suessen-Schurr v. Shubert & Salzer Maschinenfabrik Aktiengesellschaft*, 903 F.2d 1568, 1577 (Fed. Cir. 1990) (holding that "repeated and 'flagrant' violations of the district court's earlier injunction fully justified these broad provisions" against "'directly or indirectly engaging in any activity which in any way relates to the manufacture, sale, use, servicing, exhibition, demonstration, promotion or commercialization of any automated rotor spinning machines'"); see also KIMBERLY A. MOORE, PAUL R. MICHEL & TIMOTHY R. HOLBROOK, *PATENT LITIGATION AND STRATEGY* 715 (3d ed. 2008) (discussing *Spindelfabrik*).

⁶³ 154 F.3d 1345 (Fed. Cir. 1998).

⁶⁴ *Id.* at 1356.

⁶⁵ *Id.*

⁶⁶ *Id.*

injunction types—Type-0 through Type-IV—that Part I has already described. I now discuss these taxa in more detail and relate the types to problems of injunction scope.

The five taxa feature three types of “do not infringe” injunction. The simplest of these is what I term a Type-0 injunction. Such an injunction explicitly prohibits only infringement that involves the specific devices or processes already adjudged to infringe. For example, if manufacture or sale of Energizer Holdings’ Schick Quattro razor were held to infringe patent rights associated with the blade arrangement in Gillette’s Mach3,⁶⁷ a Type-0 injunction might have declared Energizer Holdings to be “permanently enjoined from making, using, selling, offering to sell, or importing Schick Quattro razors.”

From the patentee’s standpoint, potential problems with such an order are obvious. What if Energizer takes its Schick Quattro, alters the design of the handle so that it is arguably more ergonomic, and markets the resulting “new and improved” product as the Schick Quarto? If such minor or irrelevant design-arounds can avoid the force of a Type-0 injunction, that injunction will often have little real-world significance. In a mathematician’s terms, the Type-0 injunction will effectively be of “measure zero,” a practical nullity in any effort to vindicate a patentee’s substantive rights.

Courts have taken two primary approaches to dealing with this Type-0 problem. First, they commonly issue Type-I injunctions that explicitly prohibit infringement not only via the precise products or processes already adjudged to infringe, but also via products or processes “no more than colorably different” from them.⁶⁸ Second, courts generally recognize that Type-0 injunctions have Type-I effect. The Federal Circuit itself has explained:

[W]here an injunction is written narrowly against a particular infringing device, contempt may, nevertheless, be found on the basis of a modified infringing device. An enjoined party under a narrow decree will not be permitted to escape [its force] on a purely ‘in rem’ theory that only a particular device is prohibited, where it is evident that the modifications do not avoid infringement and were made for purposes of evasion of the court’s order. Again, the standard is whether the differences between the two devices are merely colorable.⁶⁹

Another way by which a court might guard against the fragility of a Type-0 injunction is by issuing a Type-II injunction that generally prohibits continued infringement of a particular

⁶⁷ *Cf.* *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1368 (Fed. Cir. 2005) (“Gillette sued Energizer Holdings, Inc. ... alleging Energizer’s QUATTRO®, a four-bladed wet-shave safety razor, infringes certain claims of the ’777 patent.”).

⁶⁸ *See, e.g.*, *Ariba, Inc. v. Emptoris, Inc.*, No. 9:07-CV-90, slip op. at 1-2 (E.D. Tex. Jan. 22, 2009) (prohibiting activities involving “1. the Emptoris software (versions 5.2, 6.0, 6.1 and 7.0) heretofore marketed by Emptoris; and 2. all other software not more than colorably different therefrom”); *Callaway Golf Co. v. Acushnet Co.*, No. 06-091-SLR, slip op. at 2 (D. Del. Nov. 10, 2008) (prohibiting activity involving “any of the Pro V1® line of golf balls ... or any variations thereof not more than colorably different”).

⁶⁹ *KSM Fastening Sys., Inc. v. H.A. Jones Co.*, 776 F.2d 1522, 1526 (Fed. Cir. 1985).

patent or claim.⁷⁰ Even if such a Type-II injunction were enforced as written, it would generally not make all forms of subsequent infringement subject to a finding of contempt. This is at least in part because of the high burden of “clear and convincing evidence” required to show contempt:⁷¹ such evidence will likely not be available in all situations involving later infringement. Nonetheless, a Type-II injunction that is enforced as written could sweep much more broadly than a corresponding Type-I injunction. Sometimes clear and convincing evidence will exist for non-Type-I infringement.

Resulting uncertainty about a Type-II injunction’s effective breadth explains much of the U.S. legal system’s formal discomfort with Type-II orders. As discussed earlier, these orders are a form of “obey the law” injunction that the Federal Circuit has held to be prohibited.⁷²

The final two types of injunction in my taxonomy lie outside the genus of “do not infringe” injunctions. Type-III injunctions are prophylactic injunctions that, although directly concerned with preventing infringement, either (a) explicitly feature prohibitions or requirements that extend beyond what is formally necessary to prevent infringement, or (b) define their bounds without reference either to patent rights or to matter already adjudged to infringe. A hypothetical injunction of subtype (a) might require the destruction of all Schick Quattro products in Energizer’s possession. This injunction is formally overprotective of Gillette’s patent rights because there might be ways for Energizer to modify or otherwise to continue possessing an already-manufactured Quattro without infringing Gillette’s patent for a three-blade razor. Likewise, a subtype-(b) injunction that forbids Energizer Holdings from further activity involving multiblade razors would be formally overprotective in that it would forbid activity involving two-blade razors that do not seem even arguably covered by Gillette’s patent.

The last entry in my taxonomy is the purely reparative, Type-IV injunction. Such an injunction does not appear to be directly concerned with preventing infringement at all. Consequently, the Federal Circuit has held that district courts lack authority to issue Type-IV injunctions.⁷³

⁷⁰ See, e.g., *Retractable Techs. Inc. v. Becton, Dickinson & Co.*, No. 2:07-CV-250, slip op. at 2 (E.D. Tex. May 19, 2010) (prohibiting activity involving products found specifically to infringe or products “only colorably different therefrom,” and further prohibiting “otherwise infringing or inducing others to infringe the Infringed Claims”); *Nomadix, Inc. v. Second Rule LLC*, No. CV07-1946 DDP, slip op. at 2 (C.D. Cal. Mar. 31, 2009) (prohibiting “directly or indirectly infringing any of [five] U.S. Patents ... in any way”).

⁷¹ *Abbott Labs. v. TorPharm, Inc.*, 503 F.3d 1372, 1382 (Fed. Cir. 2007) (“There must be clear and convincing evidence of patent infringement to support a district court’s finding of contempt.”).

⁷² See *supra* text accompanying notes 24-31.

⁷³ See *supra* text accompanying notes 33-36.

An example of a Type-IV order would be an order that Energizer destroy all Schick Quattros manufactured in the United States that are now in Argentina, even though the court knows that the Argentinian Quattros will never make their way back to the United States. Such an order works to limit the harm to Gillette—as well as the gain to Energizer—from Energizer's past infringing manufacture. But the order does nothing directly to help prevent infringement.

Distinction between a reparative Type-IV injunction and a prophylactic Type-III injunction can be subtle. Many Type-III injunctions, such as a hypothetical order to destroy all Schick Quattros in Energizer's possession in the United States can be viewed as at least partly reparative. Destruction prevents further infringement with the destroyed Quattros but also helps nullify the effects of past infringing manufacture. The key point is that, regardless of any additional reparative effect or purpose, a Type-III injunction has the former, direct connection to the goal of preventing future infringement.

IV. District-Court Practice in Issuing Patent-Infringement Injunctions

To what extent do section III.B's injunction types appear in practice? To answer such questions, I used the Lex Machina database to search for patent-infringement injunctions issued by U.S. district courts in 2010. Through systematic review of injunction-related orders, I identified 99 patent-infringement injunctions. I obtained the text of the 99 orders via Lex Machina or PACER.⁷⁴

The 99 orders were coded for various characteristics, including (a) whether the order was a permanent injunction, preliminary injunction, or temporary restraining order; (b) whether the parties agreed to the injunction prior to its issue; (c) whether a patent that formed part of the basis for the order was a utility patent, as opposed to a design or plant patent; (d) whether patent rights at issue focused on a biomedical substance ("BMS") or another form of subject matter ("non-BMS"); and (e) whether at least a portion of the order explicitly incorporated Type-0, Type-I, Type-II, Type-III, and/or Type-IV language.

⁷⁴ Four orders for injunctive relief were excluded from the ultimate dataset because their text leaves unclear whether they were motivated by concern with patent infringement, as opposed to infringement of other rights, such as those of trademark or trade dress. *Bon-Aire Indus., Inc. v. Mitchell Prods.*, No. 3:10-1602 (D.N.J. Apr. 26, 2010) (permanently enjoining various acts involving "any hose nozzle having a trade dress that is identical to, substantially similar to, or a colorable imitation of the appearance of the ULTIMATE® hose nozzle"); *Bon-Aire Indus., Inc. v. Mitchell Prods.*, No. 3:10-1602 (D.N.J. Apr. 13, 2010) (preliminary enjoining, in the same case, various acts involving such a nozzle); *ICON Health & Fitness, Inc. v. Solo Sports Group, Inc.*, No. 1:10-cv-00020 (D. Utah Mar. 4, 2010) (permanently enjoining activities involving "the Elite Fitness Dual Action Upright Exercise Bike Model EB275, and any other product that incorporates the same or substantially the same features of ICON's trade dress design contained in its Weslo Pursuit E28 bike"); *Metraflex Co. v. Flex-Hose Co.*, No. 1:10-cv-00302 (N.D. Ill. Feb. 16, 2010) (preliminarily enjoining "utilizing, displaying, or distributing [the] Seismic Movement Brochure," statements about whether certain products "meet building code requirements or specifications," and reproduction of "drawings and/or photographs of U-shaped or V-shaped flexible loops that are original to and/or the copyrighted property of Metraflex").

Arguably, there is double-counting in the 99-order dataset because some of the orders were issued in the same case and even on the same day. In a single case, *Reah v. Resource, Inc.*, a district court issued nine different permanent injunctions directed at nine different defendants over a little over two months.⁷⁵ For purposes here, I have counted separately such same-case orders because, although many of the orders use substantially identical language, this is not true of all of them.⁷⁶ Observed differences suggest that parties or judges might be properly understood to have given separate consideration to each individual order's scope. In any event, same-case orders from a total of five different cases accounted for only 20 orders total. Thus, the general impressionistic significance of the results from the 99-order dataset appears unlikely to be dominated by how this counting problem is resolved.

A. Systematic Violation of Federal Rule of Civil Procedure 65(d)

The most striking empirical result is that a substantial majority of the 99 orders appear to violate Federal Rule of Civil Procedure 65(d).⁷⁷ Fifty-six injunctions, about 57% of the total, contain Type-II language. This figure is striking, if not shocking. It has long been suspected that, despite Rule 65(d), "obey the law" injunctions are relatively common in patent law⁷⁸ and elsewhere.⁷⁹ But I do not know of any prior indication that courts commit Type-II error in the majority of any significant subset of cases.

1. Consented-to, Uncontested, and Actively Opposed Orders

The prevalence of Type-II error does not simply reflect a large number of consent judgments. One might posit that, although courts are supposed to be attentive to the proper

⁷⁵ *Reah v. Resource, Inc.*, No. 2:09-cv-00601 (D. Utah Mar. 25, 2010) (issuing three consent orders directed at three different defendants); *Reah v. Resource, Inc.*, No. 2:09-cv-00601 (D. Utah Feb. 23, 2010) (issuing a consent order directed at Datavision Computer Video, Inc.); *Reah v. Resource, Inc.*, No. 2:09-cv-00601 (D. Utah Jan. 20, 2010) (issuing five separate consent orders directed at five different defendants).

⁷⁶ *Compare, e.g., Reah v. Resource, Inc.*, No. 2:09-cv-00601 (D. Utah Mar. 25, 2010) (prohibiting LBM Corp. from "making, using, selling, offering for sale, or importing products that come within one or more claims of U.S. Patent No. 6,982,542, or otherwise infringing ... U.S. Patent No. 6,982,542, including without limitation the Power Station and Power Traveller"), *with Reah v. Resource, Inc.*, No. 2:09-cv-00601 (D. Utah Mar. 25, 2010) (prohibiting Electronicshowplace.com "making, using, offering for sale, and/or importing charging valets and/or charging stations that come within one or more claims of U.S. Patent No. 6,982,542, or otherwise infring[ing] ... U.S. Patent No. 6,982,542").

⁷⁷ *Supra* text accompanying notes 22-32.

⁷⁸ *See KSM*, 776 F.2d at 1526 (observing "that injunctions are frequently drafted or approved by the courts in general terms, broadly enjoining 'further infringement' of the 'patent,' despite the language of Rule 65(d)").

⁷⁹ *See LAYCOCK, supra* note 47, at 245 (saying that "obey-the-law clauses are common").

limits of injunctions even when issuing consent decrees,⁸⁰ courts might be less rigorous in enforcing Rule 65(d) when parties have agreed on the form of relief. At the very least, a trial judge might rightly suspect that a stipulated-to injunction is substantially less likely to be subjected to appellate scrutiny than an injunction issued over party opposition or in the wake of default.

In the 2010 dataset, the percentage of consented-to injunctions featuring Type-II error is higher than the percentage of unconsented-to injunctions featuring Type-II error. But both percentages are still high: nearly 63% (37 out of 59) of consented-to injunctions and over 47% of unconsented-to injunctions (19 out of 40) feature Type-II error. These high error rates do not appear to be statistical flukes. According to a standard t-test, the distinction between the nearly 63% error rate observed for consented-to injunctions and a lower 45% error rate is statistically significant at a 99% confidence level.⁸¹ The smaller sample and smaller observed error rate for unconsented-to injunctions render the result there less robust, but the difference between the approximately 47% error rate for unconsented-to injunctions and a lower but still significant 30% error rate appears to be statistically significant at a 95% confidence level.⁸² Further, the differences between the error rates for consented-to and unconsented-to injunctions do not appear to be statistically significant even at a relatively low 90% confidence level.⁸³

Perhaps a tripartite division between consented-to injunctions, unconsented-to but uncontested injunctions, and actively opposed injunctions should be expected to be more illuminating. Truly adversarial proceedings at the district-court level might help to weed out improper draft orders. Given the existence of default judgments, the question of whether an injunction is actively opposed might be more crucial than whether it is agreed to.

⁸⁰ *See, e.g.*, *Harris v. City of Philadelphia*, 47 F.3d 1342, 1349 (3d Cir. 1995) (stating that Rule 65(d) is “also applicable to consent decrees”); *Converse Inc. v. Reebok Int’l Ltd.*, 328 F. Supp. 2d 166, 176 (D. Mass. 2004) (“[T]he Court must ensure that the consent decree conforms to the strictures of Federal Rule of Civil Procedure 65(d) . . .”). *See generally* LAYCOCK, *supra* note 47, at 345 (discussing the principle that parties cannot contract for an injunction otherwise beyond a court’s power to grant).

⁸¹ More specifically, according to a one-sample, two-tailed t-test applied to the sample of fifty-nine consented-to injunctions, the difference between the nearly 63% Type-II error rate observed and a 45% error rate is statistically significant at a 99% confidence level, $t(58) = 2.79$, $p = 0.007$.

⁸² According to a one-sample, two-tailed t-test applied to the sample of fifty-nine consented-to injunctions, the difference between the approximately 47% observed error rate for unconsented-to injunctions and a 30% error rate is statistically significant at a 95% confidence level, $t(39) = 2.19$, $p = 0.035$.

⁸³ Two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances both yielded $t = 1.5$ (with 97 and 82 degrees of freedom, respectively) and $p = 0.14$. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 0.93$, $p = 0.40$).

Indeed, the difference between Type-II error rates for consented-to and actively opposed injunctions appears to be statistically significant. I identified ten unconsented-to injunctions in the dataset that resulted from default judgments or were otherwise unopposed. Eight of these ten, or about 80%, feature Type-II error. Of the thirty remaining unconsented-to and actively opposed injunctions, about 37% (11 out of 30) feature Type-II error. This error rate is substantially lower than the nearly 63% error rate for consented-to injunctions, as well as the 80% error rate for unconsented-to but uncontested injunctions. Indeed, t-tests indicate that the difference between the lower error rate for actively opposed injunctions and either of the error rates for unopposed injunctions is statistically significant at a 95% confidence level.⁸⁴ On the other hand, the difference between the observed error rates for consented-to injunctions and for unconsented-to but uncontested injunctions does not appear to be statistically significant even at a 90% confidence level.⁸⁵ Thus, the 2010 dataset suggests that truly adversarial proceedings can help courts avoid Type-II error.

Nonetheless, litigators should probably not congratulate themselves too much for this evidence of gain from adversarial process. The 37% error rate for actively opposed injunctions still seems high given that compliance with the ban on Type-II injunctions does not seem particularly difficult. Because just over 73% (41 of 56) of orders containing Type-II language also contain Type-I or Type-0 language, reformation of a Type-II order would commonly have required no more than striking offending Type-II language while leaving the rest of the order intact.

Moreover, even if legal compliance were not so easy, a 37% error rate would still seem high. A reversal rate of about 35% or so on questions of claim construction is often thought to signal serious problems.⁸⁶ This is true even though claim construction is often difficult and

⁸⁴ When the results for consented-to injunctions and actively opposed injunctions were compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances both yielded $t(87) = -2.4$ and $t(58) = -2.4$, respectively, and $p = 0.02$ in both cases. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 1.0$, $p = 0.47$). Likewise, when the results for unconsented-to but uncontested injunctions and actively opposed injunctions were compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yielded $t(38) = 2.5$ and $t(18) = 2.7$, respectively, and $p = 0.017$ and $p = 0.015$, respectively. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 0.74$, $p = 0.33$).

⁸⁵ Two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yielded $t(67) = 1.1$ and $t(13) = 1.2$, respectively, and $p = 0.30$ and $p = 0.26$, respectively. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 0.75$, $p = 0.34$).

⁸⁶ See, e.g., John M. Golden, *Construing Patent Claims According to Their "Interpretive Community"*, 21 HARV. J.L. & TECH. 321, 324 (2008) (noting that "claim construction jurisprudence continues to bear hallmarks of unpredictability," and that "[r]eversal rates of district court claim constructions stand at roughly 34%").

might be assumed to be unusually tricky, at least on average, in the select group of cases that parties appeal.

2. Preliminary v. Permanent Injunctions

The 2000 dataset can be used to test another potential hypothesis. This is that judges or parties will likely be less susceptible to Type-II error in the preliminary-relief context. Because preliminary injunctions are rarer and likely more disruptive, on average, than permanent injunctions, courts and parties might be expected to be more careful in policing their form.

Consistent with this hypothesis, the percentage of permanent injunctions featuring Type-II language is substantially higher than the percentage of preliminary injunctions or temporary restraining orders doing the same. Just over 60% of permanent injunctions (52 out of 86) and about 31% of preliminary injunctions or temporary restraining orders (4 out of 13) feature Type-II language.

But the difference between the error rates for preliminary and permanent injunctions might not be attributable to any differences in salience. Almost 85% of the preliminary injunctions (11 out of 13) appear to have been actively opposed, whereas this was true of only about 22% of the permanent injunctions (19 out of 86). Hence, the difference in Type-II error rates might be primarily attributable to lower Type-II error rates for injunctions that are actively opposed.

If we make a fairer comparison between actively opposed preliminary injunctions and actively opposed permanent injunctions, we find that about 27% of actively opposed preliminary injunctions (3 out of 11) feature Type-II error, whereas about 42% of actively opposed permanent injunctions (8 out of 19) do. Unsurprisingly given the small sizes of these data subsets, the difference between these error rates does not appear to be statistically significant even at a 90% confidence level.⁸⁷ Thus, the present dataset does not appear to provide substantial support for a hypothesis that there is a significant difference in Type-II error rates for preliminary and permanent relief.

3. Subject-Matter Specificity of Error Rates

On the other hand, study of the 99-order dataset reinforces a common impression that the practical operation of patent law can be very technology-specific.⁸⁸ Only one substantial subset of orders leaps out as one in which the observed Type-II error rate is really low. This is the subset of orders focused on biomedical-substance (“BMS”) technology (e.g., pharmaceuticals).

⁸⁷ Two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yielded $t(28) = -0.79$ and $t(22) = -0.81$, respectively, and $p = 0.43$ in both cases. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 0.85$, $p = 0.41$).

⁸⁸ See, e.g., John M. Golden, *Innovation Dynamics, Patents, and Dynamic-Elasticity Tests for the Promotion of Progress*, 24 HARV. J.L. & TECH. 47, 105 (2010) (noting further reason to believe “that a policy mechanism like patent law will have disparate effects for different technologies and industries”).

Only one out of seventeen BMS orders in the dataset uses Type-II language. The Type-II error rate for BMS orders is thus only about 6%. Further, the BMS order involving type-II error was not even one of the seven consented-to injunctions in the BMS subset.

General lack of Type-II language is merely one aspect of BMS orders' idiosyncrasy. Remarkably, only two of the seventeen BMS orders (less than 12%) even bother to include Type-I language. The overwhelming majority of BMS orders are simple Type-0 orders lacking explicit extension even just to matter "no more than colorably different" than that expressly described. Such noteworthy avoidance of hazy language comports with notions that—whether because of the nature of the subject matter, heavy government regulation, or other causes—BMS technology lends itself to a peculiarly high degree of precision in rights definition and enforcement.⁸⁹

Indeed, outside BMS orders, Type-II error is rife. About 65% of utility-patent orders coded as not involving BMS technology (50 out of 77) contain Type-II language. For orders relating to design patents and no utility patents, Type-II language is ubiquitous: all five of the five such orders contain Type-II language.

4. Geographic Ubiquity of Error

Type-II error exhibits substantial geographic ubiquity as well as substantial technologic ubiquity. Among districts that issued at least two non-BMS injunctions in 2010, only one—the Northern District of Ohio—avoided Type-II error. Among districts issuing three or more non-BMS injunctions, the Southern District of California had the best batting percentage: its five non-BMS injunctions feature only one that contains Type-II language. The Districts of Delaware and New Jersey avoided Type-II error in their four and seven orders, respectively, but all of their orders involved BMS patents. Thus, their success in complying with Rule 65(d) might be more attributable to the subject matter of their orders than any special legal acumen.

5. Potential Explanations for High Type-II Error Rates

What explains the district courts' mass violation of Rule 65(d)? Limitation of the expected consequences of a violation provides one plausible explanation. As discussed earlier, if Type-II error is not corrected on direct appeal, the general result is simply that Type-II language will be enforced as if it were Type-I language.⁹⁰ Particularly as Type-0 or Type-I language often accompanies Type-II language, courts and parties might commonly view Type-II error as essentially harmless.⁹¹

⁸⁹ See generally JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* (2008).

⁹⁰ See *supra* text accompanying notes 24-32.

⁹¹ Of course, attorneys and their clients still need to consider the risk that, whether through error or a legal course change, courts will later either enforce Type-II language as written (a risk for the adjudged infringer and its attorneys) or refuse to enforce the injunction at all (a risk for the patentee and its attorneys). Given the apparent ease of avoiding such risks, the prevalence of Type-II language still seems surprising.

An alternative explanation is that the very prevalence of Type-II error generates non-corrective inertia. The familiarity of Type-II language might result in its being perceived as unsuspecting boilerplate. Such a perception is likely encouraged by the fact that Type-II orders⁹² and even Type-II orders in combination with Type-0 orders⁹³ have pedigrees that stretch back well over a century.⁹⁴

A further contributor to error could be patent-limited Type-II orders' partial specificity. Typical Type-II orders are not "obey the law" injunctions in the sense that they generally forbid future violations of 35 U.S.C. § 271 or of the U.S. Patent Act as a whole. Instead, Type-II orders ordinarily forbid future infringement of only specific patents or claims that the enjoined party has already infringed. Such partial specificity could nurture an uninformed confidence that the orders comply with Rule 65(d).

Indeed, courts in other common-law jurisdictions have indicated that patent-limited injunctions are sufficiently detailed to provide proper notice of bases for finding contempt. Canadian courts have indicated that an order prohibiting future infringement of a particular patent or claim is adequately instructive.⁹⁵ Likewise, courts in the United Kingdom (U.K.) have

⁹² See *Cal. Artificial Stone Paving Co. v. Molitor*, 113 U.S. 609, 613 (1885) (refusing to determine the scope of an injunction against "making, selling, or using, or in any manner disposing of, any artificial stone-block pavements embracing the invention and improvements described in the said reissued letters patent"); *Corning v. Troy Iron & Nail Factory*, 56 U.S. 451, 456 (1853) (reporting the trial court's grant of an injunction against "in any manner infringing or violating any of the rights or privileges granted or secured by said patent").

⁹³ See *Barnard v. Gibson*, 48 U.S. 650, 653 (1849) (reporting the trial court's grant of an injunction against "any further constructing or using in any manner ... of the two planing machines mentioned in said bill ... and [against] infringing upon or violating the said patent in any way whatsoever").

⁹⁴ The practice of limiting the effective scope of injunctions to matter judged to be infringing and only colorable variants thereof appears to have comparable lineage. See, e.g., *Crown Cork & Seal Co. of Baltimore City v. Am. Cork Specialty Co.*, 211 F. 650, (2d Cir. 1914) ("It has been the practice of this circuit ... not to deal with modifications of a machine held to be an infringement, on motions to punish for contempt, unless the change was plainly a mere colorable equivalent ..."); *Onderdonk v. Fanning*, 2 F. 568, 568 (E.D.N.Y. 1880) (concluding that a difference from a device previously adjudged to infringe "was not so plainly colorable as to entitle the plaintiff to an attachment against him for contempt"); cf. ALBERT H. WALKER, *TEXT-BOOK OF THE PATENT LAWS OF THE UNITED STATES OF AMERICA* § 708, at 555 (4th ed. 1904) ("And an attachment will not issue where the character of the defendant's doings, after the injunction, is doubtful.").

⁹⁵ *Weatherford Canada Ltd. v. Corlac Inc.*, [2010] F.C. 667 (Fed. Ct.) (observing that an injunction against "infringing [patent] claims as interpreted whether [via] the named products or not" was "consistent with other orders of this Court, as affirmed by the Court of Appeal, restraining sale and distribution of infringing products generally"); see also *Merck & Co. v. Apotex Inc.*, [1999] 293 N.R. 316 (Fed. Ct. App.) (rejecting request for narrowing of an

viewed “the standard form of injunction” in patent cases as one that “restrain[s] the defendant from infringing the patent.”⁹⁶ To the extent the scope of such an injunction is not entirely clear, the U.K.’s Court of Appeal has indicated that “it is the infringer who should seek guidance from the court if he wishes to sail close to the wind.”⁹⁷ Courts in Australia have taken a similar position. The Federal Court of Australia has stated, “Particularly when the validity of the patent has been an issue, the patentee is entitled to an injunction restraining all infringement, and not just the particular form of infringement which was the subject of evidence at trial.”⁹⁸

Courts in these common-law jurisdictions are, like U.S. courts, sensitive to the need for injunctions to have clear scope. Their acceptance of Type-II injunctions thus lends support to a notion that, at least as interpreted by the Federal Circuit, Rule 65(d)’s requirements are not entirely intuitive.⁹⁹

injunction prohibiting infringement of a specified patent so that adjudged infringer might participate in “the market in using and selling ... newly developed compounds” not available at the time of the trial judgment).

⁹⁶ *Coflexip S.A. v. Stolt Comex Seaway M.S. Ltd.*, [2001] R.P.C. 9 (Ct. App.) (Aldous, L.J.); *see also id.* (“The draft order contained an injunction in the usual form which restrained the defendants from ‘infringing European Patent (U.K.) No. 0478742.’”); *Nutrinova Nutrition Specialties & Food Ingredients GmbH v. Scanchem UK Ltd.*, [2001] F.S.R. 43 (Patents Ct.) (characterizing “a general injunction against infringing [an intellectual property] right” as the “hitherto customary” “wide form”). *See generally* *Microsoft Corp. v. Plato Tech. Ltd.*, [1999] Masons C.L.R. 370 (Ct. App.) (Nourse, L.J.) (agreeing that cited authorities “undoubtedly support ... as a general proposition” “that in the case of infringement of intellectual property rights ... it is well established ... that, once the claimant has established any infringements of his rights at all, he is entitled as of right to an injunction in the usual wide form to restrain all future infringements”).

⁹⁷ *Coflexip*, *supra* note 96.

⁹⁸ *Welcome Real-Time SA v. Catuity Inc.*, [2001] F.C.A. 785 (Fed. Ct. Australia), at ¶ 9; *see also id.* at ¶ 11 (“The invariable practice in the High Court has been to grant an injunction which simply restrained infringing the patent.”).

⁹⁹ Nonetheless, I can cite two instances where district courts appear to have actively corrected a party’s attempt to obtain a Type-II injunction. In one, a court denied an injunction altogether. *Plastic Tubing Indus., Inc. v. Blue Diamond Indus., LLC*, No. 6:10-cv-1227 (M.D. Fla. Dec. 28, 2010) (denying parties’ “Joint Motion for Entry of Consent Final Judgment and Permanent Injunction” because “[t]he proposed consent judgment is essentially an extremely broad ‘obey the law’ injunction”). In the other, the court blacklined Type-II language in a party’s draft order. *Proveris Scientific Corp. v. InnovaSystems, Inc.*, No. 05-12424 (D. Mass. May 11, 2007) (striking language that would have prohibited activities involving “any other product that embodies the patented inventions recited in claims 3-10 and 13” of U.S. Patent No. 6,785,400, and striking language requiring the destruction of “any other infringing products”).

B. Reparative Injunctions in U.S. Practice

In stark contrast to the mass violation of Federal Circuit precedent against Type-II injunctions, district courts appear generally to heed Federal Circuit precedent holding that injunctions to enforce patent rights cannot be purely reparative.¹⁰⁰ Among the 99 orders in the dataset, I identified only one that contained a purely reparative injunction. This was a consented-to order commanding an infringer to “provide a written letter of apology ... that recognizes [the] infringement of the patents-in-suit, and apologizes for it.”¹⁰¹ The only observed violation of Federal Circuit precedent forbidding Type-IV reparative injunctions appears to have been this demand for an apology.

C. Prophylactic Injunctions in U.S. Practice

The situation with respect to prophylactic, Type-III injunctions is more complex, in part because such orders come in many different forms. Among the orders issued in 2010, I have identified three basic subcategories of Type-III injunctions: (a) correlated-activity injunctions (“Type-III-C”); (b) destruction, disablement, or delivery injunctions (“Type-III-D”); and (c) “reformulated metes and bounds” injunctions (“Type-III-R”). Overall, injunctions having one or more of these prophylactic forms appear in about a quarter of the 99 orders in the dataset.

1. Correlated-Activity Injunctions

In about a dozen orders, courts issued a Type-III-C order prohibiting activities that overlap significantly, but not entirely, with activities that by themselves can constitute infringement. Thus, for example, one district court prohibited not only “directly or indirectly infring[ing],” but also “causing, inducing or contributing to ... infringement ... by others.”¹⁰² As only specific forms of causation of others’ infringement, such as active inducement or contributory infringement, constitute infringement under the U.S. Patent Act,¹⁰³ the court’s prohibition can be viewed as at least somewhat prophylactic. The prophylactic language might have been intended to protect against situations where required elements of indirect infringement are difficult to prove but indirect infringement is justifiably suspected.

Prohibition of certain types of non-infringing activity might reflect bleed-over from other legal regimes. The U.S. Patent Act lists five kinds of acts that form bases for the most typical claims of direct infringement: “mak[ing], us[ing], offer[ing] to sell, or sell[ing] ... within the United States,” or “import[ing] into the United States.”¹⁰⁴ District courts commonly enjoin these five kinds of activity. But in the 99-order dataset, district courts also repeatedly forbade

¹⁰⁰ *Supra* text accompanying notes 34-36.

¹⁰¹ *Batesville Services, Inc. v. Southern Rain Casket and Funeral Supply*, No. 2:09-CV-257, at 5 (N.D. Ind. July 15, 2010).

¹⁰² *Seiko Epson Corp. v. Abacus 24-7 LLC*, No. 09-477, at 8 (D. Or. July 8, 2010) (emphasis added).

¹⁰³ *See* 35 U.S.C. § 271 (setting out different forms of infringement).

¹⁰⁴ *Id.* § 271(a).

activities such as “distributing” or “shipping” infringing items, or even merely “displaying” images of these items.¹⁰⁵ Such language might be a carry-over from other forms of intellectual-property protection, like trademark or copyright. U.S. copyright law explicitly gives copyright owners an exclusive distribution right with respect to “copies or phonorecords of the copyrighted work.”¹⁰⁶

On the other hand, prohibition of non-infringing activities such as shipping infringing items might have independent roots in a district court’s desire to prevent future infringement. Such an activity, although potentially non-infringing by itself, can be highly correlated with infringing activities such as use or sale, and might in fact enable those directly infringing activities to occur. Thus, prohibition of a correlated activity like shipping might provide a patentee with more effective and easily enforceable protection without chilling too much legitimate activity by an adjudged infringer.

Type-III-C injunctions directed at correlated activity need not be negative injunctions. In *Polytree (H.K.) Co. v. Forests Manufacturing, Ltd.*, the court commanded the U.S. Customs and Border Control to prevent importation into the United States of “any Christmas tree stand imported by Defendant marked with” a number from either of two patents owned by the plaintiff.¹⁰⁷ This order facilitated prevention of infringement by releasing the patentee and customs officers from any need to prove or to confirm that tree stands so marked in fact incorporated the indicated inventions. The district court in *O2 Micro International Ltd. v. Beyond Innovation Technology Co.* likewise facilitated protection of patent rights by requiring that an adjudged infringer label specified products as “Not for Sale in, Use in, or Importation into the United States.”¹⁰⁸

2. *Destruction, Disablement, or Delivery Injunctions*

Another subtype of Type-III injunctions is the Type-III-D injunction requiring the destruction, disablement, or delivery of specified material.¹⁰⁹ There were a half dozen Type-III-D orders in the dataset.

¹⁰⁵ *E.g.*, *Silverlit Toys Manufactory Ltd. v. JP Commerce, LLC*, No. 2:09-CV-08959 (C.D. Cal. Apr. 23, 2010) (enjoining, inter alia, “marketing, reproducing, distributing, receiving, forwarding, shipping, displaying (on their websites or otherwise), or in any way commercially exploiting ... any toy helicopters that infringe one or more claims of” two specified patents); *Innovation U.S.A., Inc. v. Ido Furniture (U.S.A.) Corp.*, No. 1:09-cv-01727 (E.D.N.Y. Mar. 31, 2010) (enjoining “referencing or depicting on their website or in any future catalog, brochure, and any other form of marketing literature, a reclining sofa bed that infringes” either or both of two specified design patents).

¹⁰⁶ 17 U.S.C. § 106(3) (emphasis added).

¹⁰⁷ No. 1:09-cv-03377, at 39 (N.D. Ga. Dec. 20, 2010).

¹⁰⁸ No. 2:04-cv-00032, at 2 (E.D. Tex. Sept. 27, 2010).

¹⁰⁹ *See, e.g.*, *Caught Fish Enters., LLC v. Metal Roof Innovations, Ltd.*, No. 09-cv-02878 (D. Colo. Feb. 24, 2010) (requiring that the adjudged infringer “ship to Caught Fish at their own cost

As with certain Type-III-C orders, repeated appearance of Type-III-D orders might reflect the influence of legal regimes such as copyright and trademark. Unlike the U.S. Patent Act, federal copyright and trademark acts expressly provide remedies of impoundment, destruction, or other court-ordered disposition of preexisting goods.¹¹⁰

Again, however, a bleed-over hypothesis is not the only available explanation. Although the Federal Circuit has held that “ordering the repatriation and destruction of [already] *exported*” matter can be too remote from any aim of preventing infringement to be authorized by the U.S. Patent Act,¹¹¹ court-ordered destruction of goods located in the United States might well be understood to be a permissible sort of prophylactic order that helps prevent further infringement.

3. “*Reformulated Metes and Bounds*” Injunctions

In a few orders in the dataset, courts issued what I term “reformulated metes and bounds” or Type-III-R injunctions. Such an injunction is distinctive in that it defines the scope of technologies that it encompasses without reference to something else—i.e., without reference to the adjudged infringing products or processes, a patent or patent claim, or a description appearing elsewhere, such as an Abbreviated New Drug Application (ANDA).¹¹² A Type-III-R injunction provides its own, substantially unique formulation of the subject matter that it encompasses.

and for destruction ... all Accused Clamps in their possession, custody, or control”); *St.-Gobain Technical Fabrics Am., Inc. v. Checkmate Geosynthetics, Inc.*, No. 6:09-cv-557 (M.D. Fla. Oct. 26, 2010) (ordering defendant to “deliver, at its expense, to Saint-Gobain’s counsel all of its infringing products and all literature, advertisements and other materials related to [the] infringing products”).

¹¹⁰ 15 U.S.C. § 1118 (empowering courts in federal-trademark actions to “order that all labels, signs, prints, packages, wrappers, receptacles, and advertisements in the possession of the defendant, bearing the registered mark ... or any reproduction, counterfeit, copy or colorable imitation thereof, and all plates, olds, matrices, and other means of making the same, shall be delivered up and destroyed”); 17 U.S.C. § 503(b) (“As part of a final judgment or decree [in a copyright-infringement case], the court may order the destruction or other reasonable disposition of all copies or phonorecords found to have been made or used in violation of the copyright owner’s exclusive rights, and of all plates, molds, matrices, masters, tapes, film negatives, or other articles by means of which such copies or phonorecords may be reproduced.”).

¹¹¹ *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1366 (Fed. Cir. 1998) (emphasis added).

¹¹² So-called ANDA litigation that tends to result in injunctions making such a reference is enabled by § 271(e) of the U.S. Patent Act, 35 U.S.C. § 271(e), which, roughly speaking, provides patentees with “the ability to sue [generic drug manufacturers] for merely filing an application (known as an Abbreviated New Drug Application, or ANDA) with the [Food and Drug Administration].” Timothy R. Holbrook, *Possession in Patent Law*, 59 SMU L. Rev. 123, 142 (2006).

Some consented-to orders illustrate Type-III-R injunctions in short form. In *Tristar Metals, Inc. v. Edemco Dryers, Inc.*, the district court issued a consented-to order forbidding the defendant from engaging in commercial activities related to “any pet tub having a swing ramp.”¹¹³ The injunction covered any such tub even though the relevant patent’s claims were more specific: the claims apparently reached only pet tubs having “a plurality of leg elements.”¹¹⁴

Likewise, in *ExitExchange Corp. v. Casale Media Inc.*, the district court issued a consented-to order that broadly prohibited “making, using, importing, selling, or offering to sell pop-under advertisements”¹¹⁵—Internet advertisements that “appear underneath the active window” on a computer screen and thus tend “not to be seen until some or all other browser windows are closed or minimized.”¹¹⁶ The issued injunction omits specific limitations appearing in the corresponding patent’s claims, such as a limitation involving “a time interval beginning incrementally before said advertisement has completely finished loading.”¹¹⁷

Consequently, in both *Tristar* and *ExitExchange*, the issued injunction’s scope appears to depart substantially from that of the more detailed patent claims.¹¹⁸ At least facially, the claims appear directed to more particular forms of pet tubs or pop-under advertisements than the corresponding injunction forbids.¹¹⁹ Apparently, therefore, each of these injunctions prohibits some spectrum of non-infringing activity.

¹¹³ No. 4:10-cv-044, at 2 (N.D. Tex. May 20, 2010).

¹¹⁴ U.S. Patent No. 6,516,752, at col. 4, ll. 45-47 (issued Feb. 11, 2003); *id.* at col. 5, ll. 22-23.

¹¹⁵ No. 2:10-cv-297, at 2 (E.D. Tex. Nov. 2, 2010).

¹¹⁶ Jennifer Yannone, Comment, *The Future of Unauthorized Pop-Up Advertisements Remains Uncertain as Courts Reach Conflicting Outcomes*, 7 TUL. J. TECH. & INTELL. PROP. 281, 282 (2005).

¹¹⁷ U.S. Patent No. 7,386,555, at col. 15, ll. 28-30 (issued June 10, 2008).

¹¹⁸ *Cf. also* *Vertical Doors, Inc. v. Howitt*, No. 2:09-cv-04685, at 2 (C.D. Cal. Jan. 5, 2010) (forbidding activities involving “any vertical door conversion kits or vertical door hinges intended to allow opening of a vehicle door outward (i.e., in a horizontal motion like typical car doors), and then upward (i.e., in a vertical motion), and that are designed to be bolted on to the vehicle frame and door, as opposed to welded”).

¹¹⁹ *See, e.g.*, U.S. Patent No. 7,386,555, at col. 14, l. 64, to col. 15, l. 35 (issued June 10, 2008) (claiming a “system for Internet advertising” comprising “a media that interacts with a display device to display to a user at least one browser,” “a script handler that invokes a post-session procedure” that “open[s] a second browser in a . . . background window,” and “an event handler that . . . loads [an] advertisement into said second browser”); U.S. Patent No. 6,845,547, at col. 12, ll. 46-64 (issued Jan. 25, 2005) (claiming a “vehicle door hinge for a vehicle door and frame, the hinge comprising: a chassis mounting plate securely fastened to such vehicle frame,” “a swingarm securely fastened to such vehicle door,” and other elements).

A court issued a linguistically more dramatic example of a Type-III-R injunction in *Stone Strong, LLC v. Del Zotto Products of Florida, Inc.*¹²⁰ In this case, the court issued an unconsented-to order that defined the scope of its prohibition through extensive description of the physical characteristics of forbidden concrete blocks.¹²¹ Specifically, the court enjoined the defendant from the following:

making, using, offering to sell, selling within the United States or importing into the United States a precast concrete block with a front surface, first and second side surfaces, a top surface, a bottom surface and a back surface that contains a lifting device protruding from the top surface and a recess or notch in the bottom surface:

- i. where at least one recess or notch can be positioned to receive within it at least one lifting device from another block; and
- ii. where the width (“w”) of the recess or notch ... is less than or equal to either:
 1. the distance from the front of the block to the back end of the lifting device (“a”) ...; or
 2. the distance from the back of the block to the front end of the lifting device (“b”)¹²²

This injunction’s descriptive language does not track precisely the language of any actual patent claim.¹²³ For example, claim 1 of plaintiff Stone Strong’s U.S. Patent No. 6,796,098 covers:

1. A block comprising:
 - a front surface;
 - first and second side surfaces coupled to the front surface;
 - a top surface coupled to the front surface and to the first and second side surfaces, wherein the top surface includes at least one alignment device, each alignment device comprising a device for lifting the block when the block is being placed;
 - a bottom surface coupled to the front surface and to the first and second side surfaces, the bottom surface including at least one recess positioned to receive at least one alignment device of a previously-placed block to align the block with respect to the previously-placed block; and

¹²⁰ No. 5:08-cv-503 (M.D. Fla. Nov. 19, 2010).

¹²¹ *Id.* at 1-2 (forbidding various activities involving “a precast concrete block” having various specified features).

¹²² *Id.* (emphasis omitted).

¹²³ *Compare id. with* U.S. Patent No. 7,073,304, at col. 17, l. 35, to col. 20, l. 65 (issued July 11, 2006) (listing claims); U.S. Patent No. 6,796,098, at col. 13, l. 41, to col. 16, l. 43 (issued Sept. 28, 2004) (same).

a back surface coupled to the first and second side surfaces, to the top surface, and to the bottom surface.¹²⁴

Comparison of the injunction's language with claim 1 reveals a number of differences. For example, claim 1 includes limiting language, such as the requirement of an "alignment device," that the injunction facially lacks. On the other hand, the injunction's requirement of a specific relationship between the width of a block's "recess or notch" and other dimensions is missing from claim 1's explicit language.

Such differences might reflect a deliberate tradeoff. The dimensional constraints of the injunction might be viewed as a way of capturing, in comparatively unambiguous terms, at least a subset of situations in which the "lifting device" in combination with the "recess or notch" will tend to operate as an "alignment device."

Stone Strong's dimensional language thus demonstrates how a Type-III injunction can effectively replace claim language with substitute language that at least arguably increases the clarity of an injunction's scope. Such increased clarity might be advantageous for both parties, as well as the courts. Gains from increased clarity can compensate a party for the broader or narrower scope of the injunction relative to that of a conventional Type-I order. The fact that *ExitExchange* and *Vertical Doors* both involve consent decrees appears to confirm that adverse parties can prefer the apparently clearer boundaries of a Type-III-R injunction to a Type-I injunction's "no more than colorable differences" haziness.¹²⁵

V. Shaping the Optimal Injunction

We now come to a basic normative question: How, from a policy standpoint, does one determine the optimal scope and form of a patent-infringement injunction? Response to this question is complicated by the fact that a policymaker must balance concerns with (1) the likely effects of injunctions on adverse parties' behaviors and (2) courts' limitations in issuing and enforcing injunctive relief. Most fundamentally, the question of patent-infringement injunctions' scope raises concerns of overdeterrence and underdeterrence that are pervasive in law. Part II has indicated how a narrow injunction can leave a rational infringer with substantial reason to pursue a course of action that, though unlikely to constitute contempt, will likely be determined to constitute infringement. On the other hand, a broad injunction can combine with the potential severity of contempt sanctions to deter future activity that is unlikely to result in a finding of either infringement or contempt.

One could argue, however, that, with respect to an adjudged infringer, concerns with future overdeterrence are generally ill-founded. A judgment of infringement means that a patent claim has been held not invalid and not unenforceable despite whatever challenges an adjudged

¹²⁴ U.S. Patent No. 6,796,098, at col. 13, ll. 41-57.

¹²⁵ Parties routinely agree on contract terms that set bounds for authorized or unauthorized behavior that do not precisely align with intellectual property rights. See Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719, 748-49 (2009) (describing such practice by copyright owners). Consequently, reflection of such behavior in consent decrees that result from agreements between parties should probably not be surprising.

infringer chose to make. The claim's scope has been clarified at least to the extent necessary to support a holding of infringement. Moreover, the adjudged infringer cannot justifiably claim that it remains unaware of the patent or its potential relevance to the infringer's activities.¹²⁶ Thus, various concerns of notice, clarity, and uncertainty¹²⁷ have been addressed. Especially if an infringer's past conduct suggests a substantial probability of future violations, why not follow foreign common-law jurisdictions and favor issuance of a patent-limited Type-II order—i.e., an injunction against further infringement of a specific patent or claim?

One reason “why not” is that, under current law and practice, notice of the existence and potential relevance of a specific patent or claim does not equate to clear notice of the scope of associated patent rights. A patent-limited Type-II order is commonly less instructive than an order not to trespass further on Blackacre. An individual patent claim can encompass a great variety of dissimilar-looking embodiments of the claimed invention. Moreover, claim limitations are frequently less crystal clear. Even seemingly simple questions of patent scope can be surprisingly difficult to answer. In an actual suit alleging infringement of a Gillette patent by the four-blade Schick Quattro, much initial argument centered on an apparently simple question—whether Gillette's patent could cover a razor having more than three blades as well as a razor having three and only three blades.¹²⁸ The distribution of judicial “votes” on the issue indicates that the question was far from easy: the district court judge and one Federal Circuit judge believed that Gillette's patent could not cover a four-blade razor, but two Federal Circuit judges thought otherwise.¹²⁹

Even if prior litigation has clarified—and perhaps even nailed down—the scope of patent claims along a number of dimensions, not all dimensions of a claim will necessarily have been addressed. The selection of claim terms subjected to judicial interpretation will reflect particular characteristics of accused matter and the specific bases for any challenges to validity or enforceability. Unaddressed questions of claim validity and scope can involve uncertainty comparable to that which existed before prior litigation. Hence, for example, if Energizer

¹²⁶ Cf. Omri Ben-Shahar, *Damages for Unlicensed Use*, John M. Olin Law & Economics Working Paper No. 534, at 23 (2010) (indicating an argument that “already-licensed parties” should “face harsher remedies for unlicensed use than the ones strangers face” because already-licensed parties can be expected, generally speaking, to have lower transaction costs for additional licensing), available at <http://ssrn.com/abstract=1677667>.

¹²⁷ Herbert Hovenkamp, *Notice and Patent Remedies*, 88 TEX. L. REV. *SEE ALSO* (forthcoming) (emphasizing the importance of notice concerns in patent law), available at <http://ssrn.com/abstract=1596789>; see also BESSEN & MEURER, *supra* note 89.

¹²⁸ *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1368 (Fed. Cir. 2005) (“The district court denied Gillette's motion for a preliminary injunction because it found that the claims ... covered only a three-bladed razor”).

¹²⁹ See *id.* (holding that “the district court erred in construing the claims”); *id.* at 1382 (Archer, J., dissenting) (“[T]he specification makes abundantly clear that the invention ... was a razor having three blades, no more”).

Holdings, the defendant in the Gillette suit, had previously produced a razor with exactly three blades, prior infringement litigation relating to that three-blade razor might have done nothing to clarify whether the Gillette patent could cover the four-blade Quattro.

Consequently, to the extent patent-law policymakers wish to ensure that market actors, including adjudged infringers, feel free to develop and disseminate innovations that might infringe another's patent rights, those policymakers should worry about the possibility of overdeterrent injunctions. The potential severity of contempt sanctions and possibly broad-based uncertainty about the scope of a Type-II injunction can form a potent combination that deters good-faith, socially productive activity in which an infringer would have otherwise engaged.¹³⁰ Courts might wisely seek to ensure that, generally speaking, patent-infringement injunctions do not stray too far from the immediate environs of matter already adjudged to infringe—matter for which relevant questions of patent-claim scope have been addressed. Thus, Type-I injunctions arguably represent an appropriate default.

An advocate for Type-II injunctions might counter that an adjudged infringer is not without recourse to limit continuing uncertainty. If the infringer is in doubt about whether later-contemplated activity is at risk, the infringer can petition for clarification or modification of the original order.¹³¹ Alternatively, the infringer can contract for a blanket license for activities that might otherwise violate the patentee's previously infringed patents or claims.

But such solutions are neither always feasible nor even always socially desirable. Whether because of information costs, developed distrust between parties, strategic behavior, or conditions that provide a basis for "holdup" or "holdout,"¹³² reasonable licenses do not always occur. Uncertainty about an injunction's scope can exacerbate difficulties in coming to a satisfactory agreement, and the cost of clarifying that scope through new judicial process might be unjustifiably great for resource-strapped courts and private parties alike. In short, possibilities for private contracting or judicial clarification dilute but do not eliminate bases for believing that Type-I injunctions are likely to provide a sensible default.

Moreover, there appears to be good reason for demanding that the Type-I *effective scope* of a Type-II injunction be indicated on the face of an order itself, rather than being imposed

¹³⁰ Cf. Earl C. Dudley, Jr., *Getting beyond the Civil/Criminal Distinction: A New Approach to the Regulation of Indirect Contempts*, 79 VA. L. REV. 1025, 1026-28 (1993) (describing exercises of contempt power as lacking meaningful constraint).

¹³¹ See, e.g., *Smith-Corona Corp. v. Pelikan, Inc.*, 784 F. Supp. 452, 486 (M.D. Tenn. 1992) ("Pelikan's motion to clarify injunction is granted.").

¹³² Cf. Lemley & Shapiro, *supra* note 2, at 1993 ("Injunction threats often involve a strong element of *holdup* in the common circumstance in which the defendant has already invested heavily to design, manufacture, market, and sell the product with the allegedly infringing feature."). See generally Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1107 (1972) (describing "moving from a property rule to a liability rule" as a potential solution to a "holdout problem").

through later, narrowing interpretation or application. Use of the general language of prohibition characteristic of Type-II orders might encourage unsophisticated parties to believe that the effective scope of an injunction is broader than it is. Likewise, broad Type-II language might invite error by a district court, encouraging it to believe that valid grounds for finding contempt extend substantially beyond activities explicitly prohibited by a Type-I order. Even assuming that a district court later recognizes that there are Type-I limitations on grounds for finding contempt, Type-II language might subtly distort how a district court understands those limitations. In the shadow of Type-II language, limitation of an order's effective scope might seem more a response to concerns with limiting false positives—improper holdings of contempt—than a response to Rule 65(d) concerns with notice. A court that has persuaded itself that an enjoined party's new course of action is infringing might be quicker to discount worries about false positives than concerns about adequate notice. The latter concerns more firmly require a court to consider how things looked to the infringer when the injunction issued, not merely how things look to the court now.

On the other hand, Type-I injunctions fall far short of providing a complete answer to problems of injunction scope. Most obviously, they fall short because their “no more than merely colorable differences” language explicitly incorporates a continuing reason for uncertainty—the question of whether a difference is merely colorable. Even if this phrase could be precisely defined in the abstract, its meaning in actual practice would often be unclear. This follows from the fact that determination of what is merely colorable commonly requires reference to associated patent claims. But the claims themselves likely contain latent ambiguity. Would addition of a fourth blade to a previously infringing three-blade razor constitute a colorable change? The answer presumably depends on whether one believes that the fourth blade is somehow relevant to the Gillette patent's claims. Resulting uncertainty about what constitutes a “merely colorable difference” can leave an uncomfortable degree of uncertainty about a Type-I injunction's scope.

What alternatives might enable a court to avoid such uncertainty?

A court might decline to issue any injunction at all. Although this might seem so flawed a response that it is scarcely worth mentioning, the district court in *eBay Inc. v. MercExchange, L.L.C.*,¹³³ seems originally to have followed this course. A substantial cause for the district court's initial denial of an injunction was its fear that such an order would simply be no more than a prelude to “contempt hearing after contempt hearing.”¹³⁴

¹³³ 547 U.S. 388 (2006).

¹³⁴ *MercExchange, L.L.C. v. eBay, Inc.*, 275 F. Supp. 2d 695, 714 (E.D. Va. 2003), *aff'd in part, rev'd in part, vacated in part*, 401 F.3d 1323 (Fed. Cir. 2005), *vacated*, 547 U.S. 388 (2006). More fully, the district court judge in the *eBay* case stated:

If the court did enjoin the defendants here, the court would essentially be opening a Pandora's box of new problems. This case has been one of the more, if not the most, contentious cases that this court has ever presided over.... The court predicts that if it granted the plaintiff's request for a permanent injunction, the battle would continue to

A problem with the no-injunction solution to fears of later contempt proceedings is that this solution seems disproportionately likely to lead to denials of injunctions in precisely those situations where an injunction is most needed: situations where an adjudged infringer will foreseeably engage in activity likely to raise related concerns of infringement. Even if circumstances exist where an injunction will lead to more rather than less wasteful litigation, there is an externality concern with respect to correct judicial identification of those circumstances. Denial of an injunction will likely shift the burden of further foreseeable litigation to another judge, whereas grant of an injunction will likely require the granting judge to shoulder at least a portion of that burden in a later contempt proceeding. Thus, to the extent a judge wishes to limit his or her involvement in vexatious contempt proceedings, a judge trying to decide whether foreseeable future litigation justifies denying, rather than granting, an injunction might have self-interested cause to favor denial over a grant.

Compared to denying an injunction altogether, a less extreme alternative is to issue a “true” Type-0 order. Such an order would specify that it is not to be enforced against anything but the exact products or processes already held to infringe.

As already discussed, however, the true-Type-0 alternative is often not much of an alternative at all.¹³⁵ Outside relatively idiosyncratic fields such as pharmaceuticals, there will often be a virtually limitless pool of minor variations that can distinguish new products or processes without significant change in functionality. Under such circumstances, a true Type-0 order is likely to be essentially worthless. Permitting the possibility of contempt to be averted by, for example, offering three-blade razors that are gray, rather than black, could make the whole process of awarding injunctive relief a fundamentally empty gesture.

Type-III injunctions provide courts with a potential way to escape the Type-0-versus-Type-I dilemma. By crafting injunction-specific language, a court can avoid the haziness of a Type-I injunction’s “no more than colorable differences” language while also providing relief that forbids a substantial range of conduct. As seen with the dimensional limitations in the *Stone Strong* injunction,¹³⁶ a successfully drafted Type-III injunction can possess comparatively clear limits that provide safe havens for a broad range of potential future activities. These havens can reduce the possibility that a combination of uncertainty and infringer risk aversion will cause an injunction’s deterrent effect to overshoot its mark.

For those worried that Type-III orders will tend to favor patentee interests at excessive expense to society, it bears emphasizing that a Type-III injunction can be broader, narrower, or simultaneously broader or narrower than alternatives such as a Type-I injunction. An order to destroy certain already-existing articles or to label certain future articles as “Not to Be Sold in

be as contentious as ever.... The court envisions contempt hearing after contempt hearing This will result in extraordinary costs to the parties, as well as considerable judicial resources.

Id.

¹³⁵ See *supra* text accompanying notes 67-68.

¹³⁶ See *supra* text accompanying notes 121-125.

the United States” can require more but also provide less than patent rights abstractly demand. By reformulating metes and bounds for purposes of injunctive relief, a Type-III-R injunction can provide an independent description of forbidden products or processes that is simultaneously overprotective and underprotective relative to a Type-I injunction.¹³⁷ If these gains or losses in breadth are appropriately supplemented by increased clarity, the resulting order can be easier for a court to enforce and perhaps even preferable for all parties concerned. One way for a court in the position of the *eBay* district court to try to resolve a contentious situation is thus to devise a Type-III injunction that protects vital patentee interests while also placing relatively clear limits on what the adjudged infringer must or must not do.

To the extent a court worries that a Type-III injunction will nonetheless prove to be overreaching, the court can take corrective steps. First, the court can include a sunset provision, a specific time limit on the injunction’s effectiveness absent further court action.¹³⁸ The court can also signal a special willingness to reconsider the injunction in light of changed circumstances.¹³⁹ Finally, the court can opt for a narrower Type-III injunction, perhaps in combination with a Type-I injunction that the court plans to construe narrowly.

Indeed, judicious combination of Type-III injunctions with Type-I injunctions might have the added benefit of aiding development of a more principled and predictable jurisprudence regarding the scope of the latter. Inclusion of Type-III injunctive language could provide greater assurance that the patentee has gotten *some* advantage from prior successful litigation, even if the court later denies a motion for contempt and thus requires the patentee to launch a wholly new suit against the previously adjudged infringer. Judges might thus be better insulated from fears that, without a relatively broad understanding of “no more than colorable differences,” their orders will be too easily circumvented.

Still, can we really expect courts to craft Type-III injunctions are “no more burdensome ... than necessary to provide complete relief”?¹⁴⁰ There is undoubtedly risk that a Type-III injunction will overreach or underreach relative to what is necessary to achieve optimal enforcement of a patentee’s rights. But this risk is also present with respect to Type-I injunctions, whose hazy “no more than colorable differences” language leads not only to

¹³⁷ See *supra* text accompanying notes 120-121.

¹³⁸ See LAYCOCK, *supra* note 47, at 287 (discussing a six-month limit on an injunction against a former employee joining a competitor).

¹³⁹ Cf., Fed. R. Civ. Proc. 60(b) (“On motion and just terms, the court may relieve a party or its legal representative from a final judgment, order, or proceeding for the ... reason[that] ... applying it prospectively is no longer equitable ...”). See generally DAVID I. LEVINE, DAVID J. JUNG & TRACY A. THOMAS, REMEDIES: PUBLIC AND PRIVATE 244 (5th ed. 2009) (discussing “[t]he uncertainty of when to apply [a] rigid standard ... to modifications of injunctions and consent decrees and when a more flexible standard is appropriate”).

¹⁴⁰ *Califano v. Yamasaki*, 442 U.S. 682, 702 (1979); see also *Madsen v. Women’s Health Ctr., Inc.*, 512 U.S. 753, 765 (1994) (describing *Califano* as stating a “general rule, quite apart from First Amendment considerations”).

immediate uncertainty, but also the possibility of an undesirably broad or narrow reading in later contempt proceedings.

Problems in choosing injunction form thus bear substantial analogy to problems in deciding the extent to which patent scope should be determined through central claims, peripheral claims, or some combination of the two. Like Type-I injunctions, central claims describe embodiments to which infringing matter needs to be substantially related.¹⁴¹ Like some Type-III injunctions, peripheral claims seek to use language to mark the perimeter of matter that legal entitlements encompass.¹⁴²

True, judicial gatekeepers for Type-III injunctions have substantial advantages over patent examiners responsible for allowing peripheral claims. Type-III injunctions are directed at particular parties who have already engaged in specific forms of infringing behavior. Further, the judicial gatekeeper, unlike the examiner, will likely oversee enforcement or modification of the legal claims that the gatekeeper's action creates.

But these advantages might not be decisive. The common roots and consequences of problems in defining claim and injunction scope run deep. They appear to be grounded in familiar difficulties associated with choosing between relatively rigid rules and comparatively flexible standards.¹⁴³ The fundamental nature of these difficulties suggests that, with respect to efforts to resolve problems of claim and injunction scope, common problems might dominate over differential advantages. Hence, we might justifiably suspect that decades-long debates over the merits of central claiming and peripheral claiming¹⁴⁴—as well as the merits of Type-I-like

¹⁴¹ Golden, *supra* note 86, at 348-49 (“In central claiming, claims describe or point to representative embodiments of the inventive idea.”).

¹⁴² *Id.* at 349 (“In peripheral claiming, claims indicate the literal boundaries of patent rights.”).

¹⁴³ See, e.g., Daniel A. Crane, *Rules Versus Standards in Antitrust Adjudication*, 64 WASH. & LEE L. REV. 49, 51 (2007) (suggesting that an existing tendency to shift toward standards-based adjudication in antitrust law will likely be followed by a “swing back toward rules”); Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 560 (1992) (assuming, for purposes of analysis, that “the only distinction between rules and standards is the extent to which efforts to give content to the law are undertaken before or after individuals act” (emphasis omitted)).

¹⁴⁴ See, e.g., Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1746 (2009) (suggesting that U.S. patent law might improve through a return to central claiming, under which “the patentee discloses the central features of the invention . . . and the courts determine how much protection the patent is entitled to”); Fromer, *supra* note 125, at 772 (arguing that patent law should “incorporate further aspects of central claiming”). See generally John M. Golden, *Construing Patent Claims According to Their “Interpretive Community”: A Call for an Attorney-Plus-Artisan Perspective*, 21 HARV. J.L. & TECH. 321, 349 (2008) (describing a protracted historical shift from central to peripheral claiming).

doctrines of equivalents¹⁴⁵—suggest that analogous concerns of injunction scope will lack easy universal answers.

We can console ourselves, however, by noting that questions of what type of injunction a court should issue are really just a subset of questions that courts encounter all the time in trying to provide well-tailored yet effective remedies in individual cases. As compared with a Type-I injunction, a Type-III injunction tends to frontload questions about an injunction's effective scope. Thus, particularly when Type-III language is not a product of consent, a court should probably take special care to ensure that the injunction is properly tailored. To this end, the court should be required to articulate a justification for the injunction's scope that enables the trial court's reasoning to be scrutinized on appeal. The court's justification should explain why a Type-III injunction's specific language is likely to advance interests such as notice, compliance, enforceability, and administrability, and why these advantages outweigh risks of overreach or underreach relative to a conventional Type-I order.¹⁴⁶ The burden of articulating such reasoning should remind district courts of the need for circumspection in the crafting of injunctive relief and thereby help prevent abuse of Type-III injunctions' multifariously malleable form.

In any event, the key point is that district courts have an additional arrow—the capacity to craft a Type-III injunction—in their remedial quiver. An individual court in an individual case will have to do the best it can to determine whether a Type-I or Type-III injunction will better place the parties and society in an appropriate “rightful position.”¹⁴⁷ Concerns of overdeterrence and undeterrence can justify viewing a Type-I injunction as the default. But particular circumstances, perhaps including a party's willingness to draft a sensible Type-III order, can

¹⁴⁵ See, e.g., Michael J. Meurer & Craig Allen Nard, *Invention, Refinement and Patent Claim Scope: A New Perspective on the Doctrine of Equivalents*, 93 GEO. L.J. 1947, 2010 (2005) (calling for “balance[ing] refinement cost savings and innovative incentives created by the [doctrine of equivalents] against the harm to competition and rent-seeking costs created by the doctrine.”); Doug Lichtman, *Substitutes for the Doctrine of Equivalents: A Response to Meurer and Nard*, 93 GEO. L.J. 2013, 2030 (2005) (arguing that “the doctrine of equivalents should play a significant role in patent interpretation”).

¹⁴⁶ See Tracy A. Thomas, *The Prophylactic Remedy: Normative Principles and Definitional Principles of Broad Injunctive Relief*, 52 BUFF. L. REV. 301, 369 (2004) (discussing how in deciding on an appropriate remedy a “court uses traditional decisionmaking tools such as cost-benefit analysis or balancing of the equities . . . to select from among the possible alternatives”); cf. *id.* at 332 (arguing that prophylactic remedies should be “narrowly targeted at redressing the proven harm” and have “a sufficient causal nexus to the established harm”).

¹⁴⁷ David S. Schoenbrod, *The Measure of an Injunction: A Principle to Replace Balancing the Equities and Tailoring the Remedy*, 72 MINN. L. REV. 627, 678 (1988) (“The injunction's aim must be the plaintiff's rightful position, but to achieve that aim, its terms may impose conditions . . . that require actions going beyond the plaintiff's rightful position.”); see also Tracy A. Thomas, *Understanding Prophylactic Remedies Through the Looking Glass of Bush v. Gore*, 11 WM. & MARY BILL RTS. J. 343, 389 (2002) (“The right level of protection commonly accepted for injunctive remedies is the return of the plaintiff to her rightful position.”).

mean that a Type-III injunction will better balance concerns of rights protection and limitation, notice, enforceability, and administrability.

VI. Conclusion

The scope of patent-infringement injunctions is a crucial aspect of the United States' system of patent remedies. Concerns of notice, effective rights enforcement, efficient legal administration, and avoidance of patent overreach combine to generate difficult legal and policy questions. As Part II illustrates, these questions parallel similar questions relating to patent scope.

But questions of patent-infringement injunction scope have not previously attracted significant attention. One result of this neglect might be district courts' startlingly common issuance of "obey the law" injunctions that defy Federal Circuit precedent.

The district courts' failure to follow this precedent aside, U.S. law has adopted a reasonable default form for patent-infringement injunctions—namely, Type-I injunctions that forbid infringement in ways already adjudged to infringe or "no more than colorably different" from them. Nonetheless, courts and parties should take notice that prophylactic, Type-III injunctions can enable improved tailoring of relief. Type-III injunctions can replace or supplement conventional "do not infringe" orders by (1) making affirmative or negative commands regarding correlated activities; (2) requiring destruction, disablement, or delivery of specified materials; or (3) providing a unique linguistic formulation of injunction scope. Type-III injunctions' flexibility can allow courts to better balance interests in notice, administrability, rights enforcement, and rights limitation.¹⁴⁸ The result can be a relative win for all concerned. Type-III injunctions can thus provide a means to square some of the circles that patent law creates.

¹⁴⁸ *Cf.* Thomas, *supra* note 146, at 372 (arguing that compliance, notice, and enforcement advantages "make [prophylactic remedies] particularly effective ... to enforce intangible rights").