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Author

Golden, John

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Patent-Infringement Injunctions' Scope

John M. Golden*

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Patent-Infringement Injunctions' Scope

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 much more widely examined concerns 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 143 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 47%. On the other hand, only three of 25 injunctions directed to biomedical-substance (BMS) technology features such error. The article considers potential explanations for the high rates of error observed 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 specially tailored injunctions that protect patent rights more or less than a more conventional “do not infringe” order would. Prophylactic injunctions and other forms of specially tailored injunctions might constitute a currently underused way to balance concerns of notice, rights protection, rights limitation, and administrability.

Patent-Infringement Injunctions' Scope

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I. Introduction

Much recent debate on patent-infringement remedies has focused on two issues: when injunctive relief should be available¹ and how damages should be calculated.² This article addresses a comparatively neglected question: 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 as interpreted by the U.S. Court of Appeals for the Federal Circuit.

The fact that many injunctions take an improper form highlights the underlying capacity of injunctions to come in many different forms. Although much commentary treats injunctions as mere "off switches" that enforce property rules,³ injunctions can take any of a number of different shapes having differing degrees of effectiveness.⁴ Even if there is no debate over the

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 (discussing reform proposals relating to the calculation of damages); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2017-35 (2007) (discussing legal standards and practices regarding reasonable-royalty damages).

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"). But see Joshua P. Davis, *Taking Uncertainty Seriously: Revising Injunction Doctrine*, 34 RUTGERS L.J. 363, 397 (2003) ("The choice a judge makes regarding preliminary and final injunctive relief need not be dichotomous.").

⁴ See Doug Rendleman, *The Trial Judge's Equitable Discretion Following eBay v. MercExchange*, 27 REV. LITIG. 63, 74 (2007) ("The judge's decisions in drafting an injunction

timing and duration of an injunction,⁵ there can be debate over an injunction's scope—i.e., over the extent and nature of the matter and activities that an injunction forbids or requires.⁶ Further, issuance of an injunction does not necessarily halt potentially infringing activity. As the recent en banc case of *TiVo Inc. v. EchoStar Corp.*⁷ illustrates, a rational actor can take deliberate action that risks a later holding of contempt.⁸ 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 public and infringer interests.⁹

are contextual and discretionary: these are the details of what to forbid or require and the timing of whether or not to give the defendant a period to adjust and, if so, how long.”); *cf.* OWEN M. FISS, *THE CIVIL RIGHTS INJUNCTION* 7 (1978) (describing the law as having “long embraced a pluralism with regard to injunctions” and proposing a new scheme for classifying injunctions as “preventive,” “reparative,” or “structural”).

⁵ *Cf.* Orit Fischman Afori, *Flexible Remedies as a Means to Counteract Failures in Copyright Law*, 29 *CARDOZO ARTS & ENT. L.J.* 1, 29-30 (2011) (suggesting, in the copyright context, that “an injunction could be granted for a limited period of time only” in order to balance copyright-owner and free-speech interests).

⁶ *See, e.g.*, Supplemental Brief of Defendants-Appellants on Rehearing En Banc at 34, *TiVo Inc. v. Echostar Corp.*, 646 F.3d 869 (Fed. Cir. 2011) (en banc) (contending that, “at least for a first-time infringer, [an] injunction may not legally go further” than prohibiting infringing activity). For purposes of this article, “injunction scope” is not considered to be concerned with the nature and extent of the individuals or entities whose compliance with the injunction is ordered.

⁷ 646 F.3d 869 (Fed. Cir. 2011) (en banc).

⁸ *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.

⁹ With respect to concerns of potential patent “holdup” or “holdout,” crafting of injunctive language might be particularly effective in addressing concerns about the chilling of design-around activity from overly broad or vague injunctions. On the other hand, as long as injunctive language requires an infringer to abandon its existing course of activity, careful tailoring of injunctive language might do little to address holdup or holdout concerns that result from a lock-in effect under which any significant change in the infringer’s course will impose large costs that have essentially nothing to do with the merits of the patented invention. Consequently, consideration of problems of injunction scope might help disentangle holdout concerns that arise from two different causes: (1) an injunction so broadly written that all feasible design-arounds risk a holding of contempt, and (2) lock-in effects that mean that any design-around, no matter how legally permissible, entails high cost.

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 about injunction scope parallel concerns about the scope of underlying patent rights.¹⁰ Part III follows with a taxonomy of injunction types and a primer on U.S. law regulating patent-infringement injunctions' scope. Part IV uses Part III's taxonomy to present and analyze results from a systematic 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, notice, patent-right protection, and avoidance of undue chilling of potentially legitimate but also potentially infringing activity.

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

- Measure-zero “do not infringe” injunctions (also characterized as 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 SuperHypo widget held to infringe claims 1 through 5 of the '777 patent.”).¹¹
- Colorable-differences “do not infringe” injunctions (also characterized as Type-1 injunctions) add to a Type-0, measure-zero injunction an explicit prohibition of infringement that involves only relatively insignificant variations of the products or processes specified by accompanying Type-0 language (e.g., “Do not make, use, offer

¹⁰ 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 . . .”).

¹¹ In mathematics, a measure “is a rule that assigns a non-negative number (or $+\infty$) . . . to each set in [a] collection” of sets. 2 PAUL BAMBERG & SHLOMO STERNBERG, *A COURSE IN MATHEMATICS FOR STUDENTS OF PHYSICS 801* (1990). The assigned number is generally representative of the size of the set with which it is associated. Cf. *id.* (observing that one axiom of measure theory is that the measure of a “countable union of disjoint sets” equals the sum of the measures of the individual disjoint sets included in the union). Hence, according to one standard convention, the measure of an interval from a to b along the line of real numbers (a straight line stretching from $-\infty$ to $+\infty$) equals the magnitude of the difference between a and b . *Id.* Thus, the measure of the interval from 5 to 9 is 4. On the other hand, the measure of a single real number such as 5 equals the magnitude of the difference between 5 and 5—namely, zero. Under this convention, the number 5 is a set of measure zero along the line of real numbers.

to sell, sell, or import into the United States the SuperHypo widget or any widget no more than colorably different from the SuperHypo widget.”¹²

- “Obey the law” injunctions (also characterized as Type-2 injunctions) use language 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.”).
- Purely reparative injunctions have as their sole direct purpose the correction of harm caused by past infringement (e.g., “Destroy all SuperHypo 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.”¹³).
- Specially tailored injunctions do at least one of the following: (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; (iii) define their scope without reference either to underlying patent rights or to matter already adjudged to infringe; or (iv) include an explicit carve-out for infringing (or likely infringing) behavior (e.g., “Do not display SuperHypo widgets on a website”; “Destroy all SuperHypo widgets that are in the United States and under your control”; “Do not make, use, offer to sell, sell, or import into the United States any widgets”; or “Do not use, offer to sell, sell, or import any SuperHypo widget, although you are not prohibited by this order from making one or more SuperHypo widgets”).

These five categories of injunctions—Types 0 through 2, purely reparative, and specially tailored—are non-exclusive. A single court order can feature injunctive language from multiple taxa. Indeed, a Type-1, colorable-differences “do not infringe” injunction essentially requires the simultaneous existence of a Type-0, measure-zero injunction. In practice, such a Type-0/Type-1 combination is commonly supplemented by a Type-2, “obey the law” injunction or a specially tailored injunction.

Nonetheless, the five injunction types are not equal under U.S. law. The Federal Circuit has held that the U.S. Patent Act does not authorize courts to grant purely reparative

¹² Because a Type-1, colorable-differences injunction generally includes a foundational Type-0, measure-zero injunction, this article will commonly refer to an order that has Type-0 and Type-1 aspects simply as a “Type-1 injunction.”

¹³ 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.”).

injunctions.¹⁴ Similarly, the Federal Circuit has held that the Federal Rules of Civil Procedure generally forbid Type-2, “obey the law” injunctions.¹⁵

Strikingly, Part IV’s empirical analysis reveals vastly different rates of compliance with these bans. In a dataset of 143 patent-infringement injunctions issued in 2010, only one contains purely reparative language. In contrast, nearly 60% contain Type-2, “obey the law” language. Although active contestation of injunctions by an adversarial party seems to correlate with a reduced percentage of injunctions containing forbidden Type-2 language, the error rate for actively contested injunctions is still about 47%. Part IV provides potential explanations for the high error rates.

Part IV also discusses empirical results indicating that U.S. district courts issue specially tailored injunctions in nontrivial numbers and in a number of subtypes. With these subtypes in mind, Part V suggests that, although Type-1, colorable-differences injunctions might provide an appropriate general default, specially tailored injunctions might often enable a better balancing and promotion of patentee, infringer, and societal interests.

II. Comparability of Concerns with Patent Scope

Problems of patent scope have figured much in the minds of patent commentators and practitioners.¹⁶ Problems of injunction scope have been comparatively neglected despite involving substantially overlapping normative concerns. Most centrally, patent and injunction scope both implicate a fundamental interest in balancing the goals of rewarding innovative patentees and ensuring that patent rights do not excessively impede innovations’ use or further development.¹⁷

To fully understand how these goals interact to generate difficult line-drawing problems, one needs to appreciate how the malleability of technology can complicate the task of defining the proper scope of patent rights. Consider, for example, a selection of the language from claim 1 of U.S. Patent No. 4,963,736 (“the ’736 patent”):

1. A mass spectrometer ... comprising:
 - (a) first and second vacuum chambers separated by a wall ..., ...

¹⁴ See *infra* text accompanying notes 68-72.

¹⁵ See *infra* text accompanying notes 59-61.

¹⁶ See, e.g., 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, 322 (2008) (“Determination of the scope of a patented invention is one of the most contentious and difficult tasks of modern patent law.”).

¹⁷ Merges & Nelson, *supra* note 10, 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”).

(c) a first rod set in said first vacuum chamber ... and a second rod set in said second vacuum chamber¹⁸

For patent claim language, this selection might be thought remarkably clear. But suppose an adjudged infringer of claim 1 redesigns its mass spectrometer so that it has an additional vacuum chamber that does not contain any rods and that is located between the only two vacuum chambers containing rod sets. What chamber should now be considered to be the “second vacuum chamber”? If the second vacuum chamber is the newly added middle chamber, claim 1 is no longer literally infringed because there is no rod set in this chamber. If, instead, one of the outside vacuum chambers is considered to be the second vacuum chamber and the other outside vacuum chamber is considered to be the first vacuum chamber, then there will be an argument that the “first and second vacuum chambers” are no longer “separated by a wall.” Instead, they are separated by an entire additional vacuum chamber. A frustrated patentee might respond that the claim language does not say “separated *only* by a wall” and thus that the inclusion of an additional separating wall and some space between the two separating walls does not take the redesigned device outside the scope of the claim. The adjudged infringer might counter that the patentee’s response renders the “separated by a wall” language superfluous: even without this language, we would know that the “first and second vacuum chambers” are separated by at least one wall or wall equivalent; otherwise, they could not be distinct first and second chambers.

Moreover, the “first,” “second,” and “separated by a wall” language is not the only potential basis for dispute. What, for example, is meant by the term “rod”? The term might have been thought so clear in an initial round of litigation that it was not even construed: that appears to have been the case in an actual case that involved the ’736 patent. Faced with the problem of construing “rod” for the first time in contempt proceedings, a court might think that it was defining the term reasonably and even quite broadly by viewing “rod” as signifying “a continuous solid structure having a length along a substantially straight longitudinal axis that is significantly greater than its maximum width transverse to that axis.”¹⁹ But this definition’s use of the adjective “continuous” could leave a significant technological loophole: it would appear to exclude from literal infringement a structure that consists of a series of cubes that are arrayed in a straight line with small spaces between them. Should the use of such an array of cubes make impossible a holding of contempt? Regardless of how one answers this question, the main point is the potential existence of significant, latent ambiguity even in patent claims whose meaning has already been litigated.

Such ambiguity is potentially significant and problematic because of the competing interests in ensuring compliance with already once-infringed rights and, at the same time, allowing the continuation of legitimate design-around activity. Design-around activity is commonly considered to be socially beneficial because it can contribute to a number of apparently desirable ends: maintaining a competitive technological marketplace, ensuring

¹⁸ U.S. Patent No. 4,963,736, col. 14, ll. 24-35 (issued October 16, 1990).

¹⁹ Cf. Merriam-Webster, Inc., Rod—Definition and More from the Free Merriam-Webster Dictionary, <http://www.merriam-webster.com/dictionary/rod> (last visited on Oct. 16, 2011) (defining “rod” as “a slender bar (as of wood or metal)”).

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exploration of a variety of technological options before large sectors of society become locked into potentially suboptimal standards, and curbing the potential for patentee holdout or other causes of patent-rights overvaluation. Indeed, commentators sometimes argue that a positive justification for a patent system is “the incentive to design around” that patent rights provide.²⁰ Mindful of Fritz Machlup’s arguments for a counter-view that design-around activity tends to be socially wasteful,²¹ I tend to think of design-around activity primarily as a means to mitigate the patent system’s costs. If one can tolerate an analogy between patent law and roadwork, one might similarly recognize that roadwork often produces temporary blockages or slowdowns that can cause drivers to experiment with new ways to travel.²² The likelihood of causing some such experimentation is unlikely to be considered a positive justification to undertake the roadwork in the first instance, but such design-around activity can reduce the social costs of the work and therefore make its cost-benefit calculus more favorable.

In any event, if one accepts at least such a weak-form argument for the desirability of design-around activity, one is then likely to face a special concern with injunctions. An injunction of unclear scope can generate a special risk that socially desirable design-around activity will be chilled. This is largely because of the stronger and quicker sanctions that proceedings to enforce an injunction can make available. Generally speaking, injunctions are *in personam* orders that are enforced through comparatively summary proceedings invoking a

²⁰ See F. SCOTT KIEFF, PAULINE NEWMAN, HERBERT F. SCHWARTZ & HENRY E. SMITH, *PRINCIPLES OF PATENT LAW* 71 (4th ed. 2008) (arguing that, “[w]hile at first blush [designing around] may seem wasteful, as redundant, it becomes immediately apparent that such secondary activity is usually a very good thing” because “[o]ften, a second-generation product is better than the first”); ROGER E. SCHECHTER & JOHN R. THOMAS, *INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS AND TRADEMARKS* § 13.4.1, at 289 (2003) (“The Patent Act is also thought to stimulate technological advancement by inducing individuals to ‘invent around’ patented technology.”); see also FRITZ MACHLUP, *AN ECONOMIC REVIEW OF THE PATENT SYSTEM: STUDY OF THE SUBCOMMITTEE ON PATENTS, TRADEMARKS, AND COPYRIGHTS OF THE COMMITTEE ON THE JUDICIARY OF THE UNITED STATES SENATE* 51 (1958) (“[F]rom merely defending the need of ‘inventing around a patent’ as a minor item of waste, the discussion has recently proceeded to eulogize it as one of the advantages of the system, indeed as one of its ‘justifications.’” (citations omitted)).

²¹ See MACHLUP, *supra* note 20, at 51 (“The production of the knowledge of how to do in a somewhat different way what we have already learned to do in a satisfactory way would hardly be given highest priority in a rational allocation of resources.”).

²² *Cf. id.* at 52 (“The continental blockade in the Napoleonic War led to the development of beet sugar; the blockade in World War I led to the process of obtaining nitrogen from air; the U-boat blockade in World War II led to the invention of atabrine as a substitute for quinine; etc., etc. Does it follow that it would be a good idea to institute more blockades?”).

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court's contempt power.²³ Such proceedings can be criminal or civil in nature.²⁴ If an enjoined party is found guilty of criminal contempt, a court may order determinate sanctions, such as an unconditional fine or jail term, to punish the contemnor and "vindicat[e] the court's authority."²⁵ Criminal contempt proceedings need to comply with rules of criminal procedure,²⁶ however, presumably including a requirement for proof beyond a reasonable doubt that violation of the injunction was intentional.²⁷ Perhaps in substantial part because of this, criminal contempt for violation of a patent-infringement injunction appears to be so rare in U.S. patent practice that its possibility is likely to be negligible for most practical purposes.²⁸

²³ 1 DAN B. DOBBS, *DOBBS LAW OF REMEDIES* § 2.8(1), at 186 (2d ed. 1993) ("Because ['equitable decrees'] are personal orders, they are often enforced coercively, through the contempt power.").

²⁴ *Id.* § 2.8(1), at 187 (discussing the possibility of civil or criminal contempt proceedings); *see also* *KSM Fastening Sys., Inc. v. H.A. Jones Co., Inc.*, 776 F.2d 1522, 1524 & n.2 (Fed. Cir. 1985) (noting the possibility of "civil and criminal contempt proceedings"), *overruled in irrelevant part by* *TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869 (Fed. Cir. 2011) (en banc); James C. Nemmers, *Enforcement of Injunctive Orders and Decrees in Patent Cases*, 7 *IND. L. REV.* 287, 291 (1973) (discussing use of civil and criminal contempt in patent cases).

²⁵ *Id.* § 2.8(3), at 196-97; *see also* *Spindelfabrik Suessen-Schurr v. Schubert & Salzer Maschinenfabrik Aktiengesellschaft*, 903 F.2d 1568, 1578 (Fed. Cir. 1990) ("A civil contempt sanction is remedial, and for the benefit of the complainant[,] while a criminal contempt sentence is punitive, to vindicate the authority of the court." (internal quotation marks omitted)).

²⁶ 1 DOBBS, *supra* note 23, § 2.8(1), at 187 (observing that, for purposes of imposing "a criminal sanction," "the incidents of trial must comport with all the relevant rules of criminal procedure, including the constitutional protections afforded to those charged with crime" and possibly including a right to a jury trial and a requirement of "proof beyond a reasonable doubt"); *see also* *FED. R. CRIM. P.* 42 (providing notice and other procedural requirements for criminal contempt proceedings); *Victor Stanley, Inc. v. Creative Pipe, Inc.*, 269 F.R.D. 497, 537-38 (D. Md. 2010) (noting that, in criminal contempt proceedings, "the court must refer the matter to the United States Attorney for prosecution," "appoint a private prosecutor" if the U.S. Attorney declines "(a highly probable outcome in most instances)," demand proof "beyond a reasonable doubt," and provide for "a jury trial if the sentence will be longer than six months");

²⁷ *See* *TWM Mfg. Co. v. Dura Corp.*, 722 F.2d 1261, 1272 (6th Cir. 1983) (stating, in reviewing a holding of criminal contempt for violation of a patent-infringement injunction, that, "[i]n criminal contempt, willful disobedience must be proved beyond a reasonable doubt" and that "[w]illfulness, for this purpose, implies a deliberate or intended violation, as distinguished from an accidental, inadvertent or negligent violation"); Nemmers, *supra* note 24, at 295 ("A criminal contempt proceeding is a crime in the ordinary sense, and therefore the acts of the accused must be shown beyond a reasonable doubt to have been willful and deliberate.").

²⁸ An electronic search of all federal court opinions in the Westlaw database since 1970 that used "criminal contempt" and "patent" in the same paragraph turned up no case in which a district

In contrast, civil contempt can loom as a very real threat for an adjudged infringer. Civil contempt sanctions may be coercive or compensatory—i.e., designed “coercively to induce compliance with the court’s decree or remedially to obtain for the plaintiff a substitute for the defendant’s compliance.”²⁹ A coercive civil contempt decree may order imprisonment or payment of a fine unless or until the contemnor complies with the underlying injunction.³⁰ Alternatively or additionally, such a decree may order payment of regular and enhanced damages,³¹ disgorgement of the contemnor’s profits attributable to contempt,³² and payment of

court made a holding of criminal contempt that was not reversed on appeal, although there were two cases in which such holdings were reversed. *See Spindelfabrik*, 903 F.3d at 1580 (holding that a “\$2 million fine” “constituted punishment for criminal contempt, and cannot stand because it was imposed without following the requisite procedures for criminal contempt”); *TWM*, 722 F.2d at 1272 (“hold[ing] that the evidence does not support a finding of criminal contempt”). In 1973, James Nemmers reported that he was able to identify only two reported cases “in which criminal contempt was clearly charged for violation of an injunction in a patent case”: one from 1970 and another from 1911. Nemmers, *supra* note 24, at 291 n.20. More generally, Nemmers reported that courts have historically tended to find criminal contempt principally in situations involving “‘direct’ contempt”—i.e., contemptuous behavior “committed in the presence of the court.” Nemmers, *supra* note 24, at 289; *cf.* FED. R. CRIM. P. 42 (“Notwithstanding any other provision of these rules, the court (other than a magistrate judge) may summarily punish a person who commits criminal contempt in its presence if the judge saw or heard the contemptuous conduct and so certifies; a magistrate judge may summarily punish a person as provided in 28 U.S.C. § 636(e).”). Violation of patent-infringement injunctions can be expected rarely, if ever, to constitute such direct contempt. *See id.* at 289-90 (“Since violations of injunctive relief in patent cases do not occur in the presence of the court, contempts considered hereinafter will be in the category of ‘indirect’ contempts . . .”).

²⁹ 1 DOBBS, *supra* note 23, § 2.8(3), at 197; *see also Spindelfabrik*, 903 F.2d at 1578 (“Judicial sanctions in civil contempt proceedings may, in a proper case, be employed for either or both of two purposes: to coerce the defendant into compliance with the court’s order, and to compensate the complainant for losses sustained.” (internal quotation marks omitted)).

³⁰ 1 DOBBS, *supra* note 23, § 2.8(3), at 197; *cf. Spindelfabrik*, 903 F.2d at 1578-79 (“The ability of the contemnor to avoid the sanction by complying with the court order is an important factor in determining whether a contempt adjudication is civil or criminal.”).

³¹ *See Spindelfabrik*, 903 F.2d at 1578 (holding that a “district court did not abuse its discretion in trebling the damages and awarding attorney fees” in a civil contempt proceeding). *But see* Nemmers, *supra* note 24, at 306 (“The increased damages provisions of [35 U.S.C. §] 284 for a deliberate infringement are punitive; and although the contemnor may lose his profits, he cannot be assessed punitive damages in a civil contempt proceeding.”).

³² Nemmers, *supra* note 24, at 305 (observing that “[i]t appears settled that the complainant is entitled to the contemnor’s profits” “even though ‘profits’ of the infringer are not recoverable in the ordinary patent infringement action”).

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right holder's court costs and attorney fees.³³ A district court may also modify the initial injunctive decree, perhaps expanding its scope in hopes that the resulting amplified injunction will provide greater protection of a patentee's legitimate interests.³⁴ Such contempt sanctions can result from proceedings that "are generally summary in nature and may be decided by the court on affidavits and exhibits without the formalities of a full trial, although the movant bears the heavy burden of proving violation by clear and convincing evidence."³⁵ Further, "lack of intent to violate an injunction alone cannot save an infringer from a finding of [civil] contempt," although "diligence and good faith efforts ... may be considered in assessing penalties."³⁶

Nonetheless, despite the potential procedural speed of contempt proceedings and the heavier sanctions that they can make available, there is a good chance that an adjudged infringer made subject to a patent-infringement injunction will find concerns with patent scope and injunction scope to be directly comparable. The threat of contempt—particularly when it is realistically limited to a threat of civil contempt—can leave the infringer with significant choices that are analogous to those when facing a threat of an infringement suit alone. Options commonly available to such an enjoined party include (1) paying the patentee for a license, (2) 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 previously have chosen an original 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 a rational, profit-maximizing infringer has three basic alternatives:

- (1) pay for a license, which for simplicity we assume will require payment of a lump-sum licensing fee F ;

³³ Nemmers, *supra* note 24, at 307 (noting a contempt complainant's ability "to recover his attorney's fees and costs and expenses incurred in conducting the civil contempt proceeding," subject to the trial court's discretion); *cf.* Stryker Corp. v. Davol Inc., 234 F.3d 1252, 1260 (Fed. Cir. 2000) (holding that the district "court did not abuse its discretion in awarding treble the compensatory royalty damages, attorney fees, and costs").

³⁴ See *Spindelfabrik*, 903 F.2d at 1577 (holding that, in contempt proceedings, "[t]he district court did not abuse its discretion in broadening the injunction to cover 'any automated rotor spinning machine,' without the qualifying word 'infringing'").

³⁵ *KSM*, 776 F.2d at 1524.

³⁶ *TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869, 881 (Fed. Cir. 2011) (en banc).

- (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 even when no contempt is found.

Because the adjudged infringer’s willingness to pay for a license will depend on the expected profitability of redesign options (2) and (3),³⁷ I focus on these options 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.³⁸ 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 $MN \geq D_1$.³⁹ 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. By assumption, 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 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 proceedings⁴⁰ or estoppel in a subsequent suit for infringement.⁴¹ Thus, a broader injunction will

³⁷ 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 a licensing cost equaling the lesser of D_1 and D_2 . Transaction costs of negotiating and complying with a license will likely mean that the rational infringer’s maximum licensing fee is lower than this maximum acceptable licensing cost.

³⁸ 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).

³⁹ For simplicity, I neglect time discounting for products sold after a period of time has elapsed.

⁴⁰ See *KSM*, 776 F.2d at 1529 (“The validity of the patent is law of the case in [contempt] proceedings.”).

⁴¹ 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)

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} . A model incorporating the values θ_{con} and θ_{inf} can therefore suggest how injunction and patent scope affect the decisionmaking calculus of an adjudged infringer.

But there are additional variables that enter this calculus. 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 also have incurred L_{con} in contempt-proceeding 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. On the other hand, if the infringer is held in contempt, the infringer will have to pay 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} . Finally, if the infringer prevails in the contempt proceeding but the redesigned product is later held 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 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 Δ_x variables leads to the following equation for G_2 :

("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.*, 763 F. Supp. 2d 671, 678-79 (D. Del. 2010) (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 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.").

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

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

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

Subtraction of $L_{\text{inf}} + \theta_{\text{inf}} \Delta_{\text{inf}}$ from Δ_{con} to give the value of Δ_{con} reflects the fact that, if an adjudged infringer is found in contempt, it at least “saves” on the expected costs of facing subsequent infringement litigation.

Equations 3 through 5 neatly illustrate the comparability of questions of patent scope and injunction scope. Further, they put mathematical emphasis on a point made at the very beginning of this article: injunctions are not mere “off switches” for infringement. An injunction’s relative capacity to bring a halt to infringement is influenced by the scope of the injunction, the cost of compliance with the injunction, and the backstop penalties or remedies for a finding of contempt. Despite the issuance of an injunction, an adjudged infringer can continue to have a multiplicity of plausible options, perhaps particularly when violation of an injunction is unlikely to lead to proceedings for criminal contempt.⁴² As Doug Rendleman has observed, instead of complying straightforwardly with an injunction, an adjudged infringer “may dissemble, may claim that the injunction is vague and impossible or difficult to understand, may seek delay, may search for loopholes, and may change as little as possible to ‘obey.’”⁴³

In particular, under the model presented here, 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.⁴⁴ 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.⁴⁵

⁴² DOUGLAS LAYCOCK, MODERN AMERICAN REMEDIES: CASES AND MATERIALS 766-769 (4th ed. 2010) (discussing the categories of “criminal contempt, coercive civil contempt, and compensatory civil contempt,” and describing a potential three-step process in which a court first “issues the injunction,” second “adjudicates the first violations and threatens specific fines for further violations,” and third “adjudicates further violations and collects the fines”).

⁴³ DOUG RENDLEMAN, COMPLEX LITIGATION: INJUNCTIONS, STRUCTURAL REMEDIES, AND CONTEMPT 425 (2010).

⁴⁴ *Id.* (stating that an adjudicated infringer’s “intuitive calculation considers his gain from [an] activity, reduced by the probability and severity of a sanction”).

⁴⁵ 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

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.⁴⁶

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. Conversely, limitations on injunction and patent scope facilitate various kinds of post-injunction activity by discounting costs of potential infringement or contempt by the less-than-100% probabilities that infringement or contempt will actually be found. Patent law that seeks to optimize social welfare must try to tune injunction and patent scope—and thus quantities such as θ_{con} and θ_{inf} —to strike a proper balance between competing concerns of protecting patent value and optimizing productive activity by others.⁴⁷

III. U.S. Law and 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 injunction types—Types 0 through 2, purely reparative, and specially tailored—that Part I has already described. I first discuss the taxonomy's three types of “do not infringe” injunctions and then discuss purely reparative and specially tailored injunctions.⁴⁸

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.

⁴⁶ 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, $\Delta_{\text{inf}} \geq 0$.

⁴⁷ 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).

⁴⁸ The three “super-categories” of (a) “do not infringe” injunctions, (b) purely reparative injunctions, and (c) prophylactic injunctions might be viewed as at least somewhat parallel to the three classifications proposed by Owen Fiss in 1978: (a’) “the preventive injunction, which seeks to prohibit some discrete act or series of acts from occurring in the future”; (b’) “the reparative injunction, which compels the defendant to engage in a course of action that seeks to correct the effects of a past warning”; and (c’) “the structural injunction, which seeks to effectuate the reorganization of an ongoing social institution.” FISS, *supra* note 4, at 7.

A. Type-0 through Type-2 “Do Not Infringe” Injunctions

The simplest of the taxonomy’s “do not infringe” injunctions is what I term a Type-0, measure-zero 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 razor,⁴⁹ an injunction permanently enjoining Energizer Holdings “from making, using, selling, offering to sell, or importing Schick Quattro razors” would be a Type-0, measure-zero injunction.

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 minor or irrelevant design-arounds can avoid the force of a Type-0 injunction, that injunction will often have little real-world significance. In mathematical terms, the Type-0 injunction will effectively be of “measure zero,” a practical nullity in any effort to vindicate a patentee’s substantive rights.⁵⁰

Courts have taken two primary approaches to dealing with this Type-0 problem. First, they commonly issue Type-1, colorable-differences 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.⁵¹ Second, courts generally recognize that, despite Type-0 injunctions’ measure-zero language, Type-0 injunctions should be understood to have Type-1 effect. The Federal Circuit 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.⁵²

⁴⁹ *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.”).

⁵⁰ *See supra* note 11.

⁵¹ *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”).

⁵² *KSM Fastening Sys., Inc. v. H.A. Jones Co.*, 776 F.2d 1522, 1526 (Fed. Cir. 1985), *overruled in part*, *TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869 (Fed. Cir. 2011) (en banc).

At least in principle, the third category of “do not infringe” injunctions—Type-2, “obey the law” injunctions—offers another way to protect against the facial narrowness of a Type-0 order. A Type-2 injunction generally prohibits continued infringement of a particular patent or claim.⁵³ In contempt proceedings, however, Type-2 language will not be read to have such broad, “obey the law” effect. The requirement of “clear and convincing” evidence for a holding of contempt,⁵⁴ as opposed to the normal preponderance-of-the-evidence standard for proof of infringement,⁵⁵ provides one reason why such language generally does not make all forms of subsequent infringement subject to contempt. More to the point, however, the U.S. Court of Appeals for the Federal Circuit has held that, in contempt proceedings, a Type-2, “obey the law” injunction should 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.”⁵⁶ In other words, when presiding over contempt proceedings, a judge should effectively reform a Type-2, “obey the law” injunction so that its effective scope is no greater than that of a Type-1, colorable-differences order.

Authority for such judicial reformation derives at least partially from the Federal Circuit’s separate conclusion that Type-2, “obey the law” injunctions are technically prohibited and thus subject to vacatur on direct appeal. The U.S. Patent Act gives district courts power to “grant injunctions ... on such terms as [they] dee[m] reasonable.”⁵⁷ But consistent with due-

⁵³ 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”).

⁵⁴ *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.”).

⁵⁵ *Creative Compounds, LLC v. Starmark Labs.*, – F.3d –, – (Fed. Cir. 2011) (“The patentee bears the burden of proving infringement by a preponderance of the evidence.” (quoting *SRI Int’l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1123 (Fed. Cir. 1985))), available at 2011 WL 2519513, at *9.

⁵⁶ *KSM*, 776 F.2d at 1526 (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 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 CHARLES ALAN WRIGHT, ARTHUR R. MILLER & MARY KAY KANE, FEDERAL PRACTICE AND PROCEDURE: CIVIL 2D § 2955, at 311 (1995) (“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.”).

⁵⁷ 35 U.S.C. § 283.

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process concerns of notice,⁵⁸ Federal Rule of Civil Procedure 65(d) demands that any such 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.”⁵⁹ 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.”⁶⁰ 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.”⁶¹ In other words, a “do not infringe” injunction generally must have a Type-0, measure-zero or Type-1, colorable-differences form.

⁵⁸ *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.”).

⁵⁹ Fed. R. Civ. Proc. 65(d)(1); *see also* 11A WRIGHT, MILLER & KANE, *supra* note 56, § 2955, at 308-09 (“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.”).

⁶⁰ *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”); *see also* Marketa Trimble, *Cross-Border Injunctions in U.S. Patent Cases and Their Enforcement Abroad*, 13 MARQ. INTELL. PROP. L. REV. 331, 340 (2009) (noting the Federal Circuit’s indication that injunctions broadly prohibiting infringement of a patent violate Rule 65(d)); *cf.* PETER S. MENELL ET AL., *PATENT CASE MANAGEMENT JUDICIAL GUIDE* 3-25 (2009) (stating that an injunction “must ... specifically describe the infringing actions enjoined, with reference to particular products”). 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 at least technically contrary to the plain language of Rule 65(d). *See Dupuy v. Samuels*, 465 F.3d 757, 758 (7th Cir. 2006) (arguing for and applying a relatively strict, “literal interpretation” of Rule 65(d)’s requirement “that an injunction be a self-contained document rather than [one] incorporat[ing] by reference materials in other documents”); *cf. 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 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.’”). *But cf.* *Landmark Legal Found. v. Envtl. Protection Agency*, 272 F. Supp. 2d 70, 74 (D.D.C. 2003) (“Courts are split on whether Rule 65(d) requires a strict interpretation.”).

⁶¹ *Additive Controls & Measurement Sys., Inc. v. Flowdata, Inc.*, 986 F.2d 476, 479-80 (Fed. Cir. 1993).

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True, in at least one instance, the Federal Circuit has tolerated violation of the general prohibition against Type-2, “obey the law” injunctions. In 1999, a Federal Circuit panel upheld a permanent injunction forbidding “any further infringement of the ’522 patent.”⁶² The panel essentially found that, under the circumstances, use of Type-2 language constituted only harmless error. According to the panel, “any danger of unwarranted contempt actions [was] minimal, if not completely non-existent, because of the detailed record on which this injunction was entered.”⁶³

In any event, this 1999 panel decision appears to be anomalous. In both 2004 and 2007, the Federal Circuit reaffirmed its prior 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.⁶⁴

In 2004, the circuit further suggested that the 1999 decision should be viewed either as correct but limited to a relatively exceptional set of facts, or as incorrect and not controlling “to the extent [it] is inconsistent with the rule [previously] pronounced.”⁶⁵

Thus, under currently controlling precedent, Type-2, “obey the law” injunctions appear to remain a generally prohibited form of injunctive relief. On the other hand, as appears commonly to be the case with violations of Rule 65(d) in U.S. law generally,⁶⁶ the practical significance of this prohibition is limited because the Federal Circuit has instructed that, if a forbidden, Type-2 injunction is not challenged on direct appeal, the injunction should not be treated as void in contempt proceedings but should instead be understood to have the effective scope of a Type-1, colorable-differences order.⁶⁷

⁶² *Signtech USA, Ltd. v. Vutek, Inc.*, 174 F.3d 1352, 1359 (Fed. Cir. 1999).

⁶³ *Id.*

⁶⁴ *Int’l Rectifier*, 383 F.3d at 1316; *accord Forest Labs.*, 501 F.3d at 1271 (quoting *Int’l Rectifier*).

⁶⁵ *Int’l Rectifier*, 383 F.3d at 1317.

⁶⁶ *See* 11A WRIGHT, MILLER & KANE, *supra* note 56, § 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.”).

⁶⁷ *KSM*, 776 F.2d at 1526 (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 adjudged to infringe, and to other devices which are no more than colorably different therefrom and which clearly are infringements of the patent”).

B. Purely Reparative Injunctions

Type-2, “obey the law” injunctions are not the only kind of patent-infringement order that existing law forbids. The Federal Circuit has held that district courts lack authority to issue purely reparative injunctions that appear to be directly concerned only with correcting for harm caused by past infringement.⁶⁸

An example of a purely reparative 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.⁶⁹ 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.

Although reparative injunctions are commonly available in other areas of U.S. law,⁷⁰ 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.⁷¹

The Federal Circuit has held that § 283’s authorization of injunctions to “prevent the violation” of patent rights establishes an exclusive purpose for the permitted exercise of injunctive power. In the circuit’s words, “[a]n injunction is only proper to prevent future infringement of a patent, not to remedy past infringement.”⁷² Although the Federal Circuit’s conclusion that § 283 forbids purely reparative injunctions might be contestable,⁷³ this article

⁶⁸ 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.”).

⁶⁹ *See Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1320 (Fed. Cir. 2010) (holding that, because overseas sales “cannot infringe any U.S. patent, and there is little risk that the infringing devices will be imported,” the district court “abused its discretion in imposing ... extraterritorial restraints”).

⁷⁰ 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.”).

⁷¹ 35 U.S.C. § 283.

⁷² *Spine Solutions*, 620 F.3d at 1320; *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)).

⁷³ One might argue that the prospect of a reparative order can have a deterrent effect that can help prevent infringement in general, even if it is too late to prevent infringement in the case at

will leave to another day potential debate over this issue. For present purposes, what matters is that purely reparative injunctions are, like Type-2, “obey-the-law” injunctions, generally forbidden under existing law. District courts’ rate of compliance with the ban on purely reparative injunctions can therefore provide a reference point for study of district courts’ rate of compliance with the ban on Type-2 injunctions.

C. Specially Tailored Injunctions

1. Characteristics of Specially Tailored Injunctions

The en banc case of *TiVo Inc. v. EchoStar Corp.*⁷⁴ featured an additional type of patent-infringement injunction. This is the category of specially tailored injunctions. Although directly concerned with preventing infringement,⁷⁵ such injunctions either (a) explicitly feature prohibitions or requirements that extend beyond what is formally necessary to prevent infringement, (b) define their bounds without reference either to patent rights or to matter already adjudged to infringe, or (c) include an explicit carve-out for infringing (or likely infringing) behavior. A hypothetical injunction of subtype (a) might require the destruction of all Schick Quattro products in Energizer’s possession.⁷⁶ This injunction is formally extra-protective of

hand. Further, one might note that the case to which the Federal Circuit’s ban on reparative orders tends to be traced involved a situation in which matter abroad had been produced in the U.S. prior to issuance of the relevant patent and thus was never directly involved in infringement. *See Johns Hopkins*, 152 F.3d at 1366 (“An injunction requiring return of [an] exported machine, which was never made, used, or sold during the term of the patent in the United States, is beyond the scope of Section 283 and hence an abuse of discretion.”). Only later did the Federal Circuit apply language from that case to justify forbidding destruction of matter abroad that was directly involved in infringement of an issued U.S. patent. *See Spine Solutions*, 620 F.3d at 1320 (“[T]he extraterritorial portion of the injunction appears to be premised solely on Medtronic’s past infringement, not on the prevention of future infringement.”); *see also* Non-Confidential Brief for Defendants-Appellants at 64, *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305 (Fed. Cir. 2010) (No. 2009-1538) (“The district court stated that ... it is quite possible that some of Medtronic’s exported devices were manufactured in violation of [the relevant] patent.” (internal quotation marks omitted)), *available at* 2010 WL 804467.

⁷⁴ 646 F.3d 869 (Fed. Cir. 2011) (en banc).

⁷⁵ Distinction between a purely reparative injunction and a prophylactic injunction can be subtle and arguably excessively formal. Many prophylactic 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 and is thereby reparative. For purposes of legal characterization in relation to existing law, however, the key point appears to be that, regardless of any additional reparative effect or purpose, a prophylactic injunction has a direct connection to the statutorily sanctioned goal of preventing future infringement.

⁷⁶ *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”).

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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 extra-protective in that it would forbid activity involving two-blade razors that do not seem even arguably covered by Gillette's patent on razors having at least three (and perhaps exactly three) blades.⁷⁷

The injunction in *TiVo* was a "partial disablement" variant of the hypothetical, subtype-(a) order requiring destruction of Schick Quattros. In *TiVo*, the 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."⁷⁸ Like a destruction order, this disablement order was extra-protective to the extent it forbade implementation of a redesign that might have rendered a product non-infringing while maintaining the specified functionality.

Notably, however, a specially tailored injunction, at least as defined here, need not be extra-protective in the manner of a destruction-or-disablement order, which might be viewed as a form of prophylactic relief.⁷⁹ A specially tailored injunction can provide less protection, at least facially, than a conventional "do not infringe" injunction. A prophylactic injunction might, for example, fail to encompass all merely colorable variants of subject matter already adjudged to infringe. More particularly, whereas a type-1, colorable-differences 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 specially tailored injunction might only forbid use of purification processes running at a pH of between 4.6 and 5.4. The latter injunction might forbid a smaller range of activity than the former, colorable-differences injunction because a process running at, say, a pH of 4.5 would be outside the scope of the specially tailored injunction but might be a "no more than

⁷⁷ Cf. *Gillette*, 405 F.3d at 1368 (concluding, "[b]ased on the preliminary record before this court, [that] the district court erred in limiting the claims of [Gillette's] patent to encompass safety razors with solely three blades").

⁷⁸ *TiVo*, 646 F.3d at 877 (internal quotation marks omitted).

⁷⁹ 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 extra-protective 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]"). At least one prior commentator has characterized both sub-protective and extra-protective 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 extra-protective and the latter is likely sub-protective of the constitutional interests most centrally at issue).

colorable” variant of the original infringing process.⁸⁰ If one accepts that a conventional, colorable-differences injunction provides a proper point of reference, one might then characterize the specially tailored injunction as sub-protective, rather than extra-protective, of patentee interests.

Why might courts—or the parties who commonly draft injunction orders as a matter of actual fact—bother themselves with the trouble of crafting specially tailored relief? Why might a court issue extra-protective orders in some circumstances and sub-protective orders in others? 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. A specially tailored injunction can be prophylactically extra-protective of patentee interests or, alternatively, sub-protective of those interests in a way that might be viewed as prophylactically protective of infringer or general social interests.⁸¹ Moreover, a specially tailored injunction might simply look to strike a reasonable balance between patentee and infringer interests in a way that is likely to be more administrable and to hold greater promise for compliance than a conventional “do not infringe” order.

This last point bears emphasis. Regardless of whether a specially tailored injunction is extra-protective or sub-protective of patentee interests, such an injunction can, when well crafted, 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 specially tailored injunction’s relative sub-protection or extra-protection of underlying rights is undesirable when considered in isolation, that suboptimality might be more than “paid for” by improvements to notice, enforceability, and administrability.

2. Legal Status of Specially Tailored Injunctions

Are specially tailored injunctions legitimate under U.S. patent law? Given the Federal Circuit’s views on Type-2, “obey the law” injunctions and purely reparative injunctions, one might worry about the legal legitimacy of specially tailored injunctions, particularly when they are prophylactic in the sense that they likely prohibit some non-infringing activity or require other activity that is beyond what is necessary to avoid infringement. Indeed, in declaring Type-2 injunctions to be illegitimate, the Federal Circuit sometimes has used language that facially

⁸⁰ 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).

⁸¹ A sub-protective injunction from a patentee’s perspective is likely to be an extra-protective injunction from the perspective of an infringer or society. Such an injunction might, for example, provide prophylactic protection to legitimate infringer interests in pursuing a good-faith redesign without fear of being held in contempt.

suggests that only Type-0, measure-zero or Type-1, colorable-differences injunctions are proper.⁸²

A first point in response is that prophylactic injunctions can be drawn in a way that addresses both of the Federal Circuit's grounds for rejecting Type-2, "obey the law" injunctions and purely reparative injunctions. Prophylactic injunctions can be written in a way that provides the adequate notice required by Federal Rule of Civil Procedure 65(d)⁸³ and that directly operates to prevent future infringement.⁸⁴

Moreover, prophylactic injunctions—and specially tailored injunctions more generally—have a substantial foundation in the traditional equity power that § 283 affirms.⁸⁵ Courts' use of extra-protective injunctions in a variety of areas of law reflects recognition that "sometimes the chancellor can assure plaintiffs their rights only by giving them more than they are entitled to."⁸⁶ 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."⁸⁷ High-profile support for the notion that specially tailored and at least partially prophylactic injunctions can be an acceptable form of relief has come through anti-abortion protest cases in which the U.S. Supreme Court upheld injunctions requiring that protestors keep a certain distance from clinic entrances.⁸⁸ Such injunctions illustrate the capacity

⁸² See *supra* text accompanying note 64.

⁸³ See *supra* text accompanying note 59-61.

⁸⁴ See *supra* text accompanying note 70-72.

⁸⁵ See *supra* text accompanying note 71.

⁸⁶ 1 DOBBS, *supra* note 70, § 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. *Taco Cabana Int'l, Inc. v. Two Pesos, Inc.*, 932 F.2d 1113, 1126 (5th Cir. 1991) ("In fashioning relief against a party who has transgressed the governing legal standards, a court of equity is free to proscribe activities that, standing alone, would have been unassailable." (internal quotation marks omitted)); 11A WRIGHT, MILLER & KANE, *supra* note 56, § 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"); RENDLEMAN, *supra* note 43, at 427 ("Under some circumstances, a judge may grant a plaintiff an injunction that forbids defendant's activities that are not themselves wrongs and that commands activities that are not in themselves part of the plaintiff's substantive-law entitlement.").

⁸⁷ Tracy A. Thomas, *The Continued Vitality of Prophylactic Relief*, 27 REV. LITIG. 99, 104 (2007).

⁸⁸ 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

of specially tailored injunctions 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.⁸⁹ These injunctions also illustrate the potential use of special tailoring to generate relatively clear lines that can help private parties and public officials know what constitutes compliance and when non-compliance has occurred.⁹⁰

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.”⁹¹ Whether in the context of requiring *Miranda* protection against self-incrimination,⁹² strictly limiting content-based restrictions on speech,⁹³ or applying strict scrutiny to suspect forms of legal classification,⁹⁴ 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.⁹⁵ Consistent with the sense that prophylactic rules can render difficult legal

more speech than necessary to eliminate the unlawful conduct targeted by the state court’s injunction”).

⁸⁹ *Madsen*, 512 U.S. at 767-68.

⁹⁰ *Cf.* LAYCOCK, *supra* note 42, at 290 (“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.”).

⁹¹ Strauss, *supra* note 79, at 195; *see also* Berman, *supra* note 79, 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.”).

⁹² Strauss, *supra* note 79, at 190 (discussing the “‘prophylactic’ character [of] the *Miranda* rule”).

⁹³ *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).

⁹⁴ *Id.* at 204 (discussing how equal protection doctrine might be viewed as embodying prophylactic rules).

⁹⁵ *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

problems more manageable, prophylactic injunctions often issue in contentious public law cases “involving schools, prisons, [or] sexual harassment.”⁹⁶ In such cases, courts commonly require reporting or monitoring, new institutional policies and procedures, or personnel training to try to transform violation-fostering cultures.⁹⁷

But prophylactic injunctions also issue in cases that are more narrowly focused on commercial interests. 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 employee to delay starting work for a competitor.⁹⁸ This decree thus prohibited activity beyond the disclosure or use of confidential information that the law formally forbade.

Antitrust law is an area where prophylactic injunctions are particularly well established. A structural injunction at the conclusion of an antitrust case can require the break-up of an offending firm as a means to protect against future monopolization.⁹⁹ Less dramatic antitrust decrees can also have prophylactic aspects. In *United States v. Microsoft Corp.*,¹⁰⁰ the district court acknowledged that its consent decree included a requirement that “plainly exceed[ed] the scope of [Microsoft’s] liability”¹⁰¹—namely, 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.”¹⁰² The court reasoned that this requirement was justified because it was

authorities ... will violate the law, and designed to improve a reviewing court’s chances of identifying violations where they occur”).

⁹⁶ Thomas, *supra* note 87, at 100 (describing prophylactic injunctions as tending to “reac[h] the facilitators of harm in order to prevent continued illegality”); *cf.* RENDLEMAN, *supra* note 43, at 34 (“We will encounter many injunctions that forbid defendants’ preparatory, ancillary, and related behavior.”); Rendleman, *supra* note 4, at 89 (“Public-nuisance injunctions against street gangs often extend defendants’ prohibitions beyond the criminal law”).

⁹⁷ *Id.* at 101-02 (describing potential prophylactic measures).

⁹⁸ LAYCOCK, *supra* note 42, at 284 (internal quotation marks omitted) (reproducing portions of *PepsiCo, Inc. v. Redmond*, 54 F.3d 1262 (7th Cir. 1995)).

⁹⁹ 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”).

¹⁰⁰ 231 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).

¹⁰¹ *Id.* at 190.

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“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.”¹⁰³

Such examples of prophylactic injunctions from a variety of legal areas 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.¹⁰⁴

At least as of this writing, the Federal Circuit has not insisted on a contrary view. In *TiVo*, seven judges of the Circuit’s en banc majority determined that challenges to a partial disablement injunction as overbroad had been waived through the defendants’ failure to make them on direct appeal.¹⁰⁵ In a footnote, the majority added a statement emphasizing that such a challenge would not necessarily succeed:

We note ... that, although we have strongly discouraged judicial restraint of noninfringing activities ..., we have never barred it outright and instead have repeatedly stated that district courts are in the best position to fashion an injunction tailored to prevent or remedy infringement.... Because it is not before us in this case, we make no *en banc* holding on that issue.¹⁰⁶

What will be prophylactic injunctions’ fate if the Federal Circuit squarely faces the issue? It might be a close call. The en banc majority’s footnote suggests that the majority remained open to such relief but was at least somewhat suspicious of it. Moreover, five judges dissented from the portion of the majority opinion that contained this footnote. Their dissenting opinion

¹⁰² *Id.* at 189.

¹⁰³ *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)).

¹⁰⁴ Thomas, *supra* note 87, at 99 (describing prophylactic injunctions as tending to “reac[h] the facilitators of harm in order to prevent continued illegality”).

¹⁰⁵ 646 F.3d at 890 (“We therefore conclude that EchoStar’s arguments on overbreadth of the district court’s injunction have been waived by its failure to raise them earlier.”).

¹⁰⁶ *Id.* at 890 n.9. Does the en banc majority’s indication that an injunction can be designed “to prevent or *remedy* infringement” mean that the judges in the majority are looking to step back from the Federal Circuit’s prior rejection of purely reparative patent-infringement injunctions? Not necessarily. The majority might simply have meant to recognize that some injunctions, such as destruction or disablement orders, can serve dual purposes of preventing further infringement and helping to correct for past infringement.

used language that might be understood to indicate that the dissenters were significantly less open to the use of prophylactic injunctions:

[T]his court has recognized that an injunction is only proper to the extent it is to prevent the violation of any right secured by patent.... [In a prior case,] we held that an injunction which precludes [the defendant] from activities that are not necessary to prevent infringement of the patented process cannot stand.¹⁰⁷

Notably, however, Federal Circuit precedent on injunctive relief is more nuanced than the dissenters' language might suggest. In the case usually cited as the source of the rule that the U.S. Patent Act does not authorize purely reparative injunctions, the circuit panel stated that an injunction to "prevent infringement of a United States patent" "can reach extraterritorial activities ..., even if these activities do not themselves constitute infringement."¹⁰⁸ Moreover, the circuit has repeatedly upheld prophylactic injunctions in situations where an adjudged patent infringer violated a prior court order.¹⁰⁹ For example, in *Additive Controls & Measurement Systems, Inc. v. Flowdata, Inc.*,¹¹⁰ 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."¹¹¹ 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."¹¹² Although the Federal Circuit has also indicated that *broad* prophylactic orders like that in *Additive Controls* "should be used only in exceptional cases,"¹¹³ this indication itself appears to leave open the possibility that comparatively *narrow* prophylactic orders can be proper in a wider range of cases. There thus appears much for litigants and judges to work out in future battles over the proper bounds of prophylactic relief and the larger category of specially tailored relief of which it forms a part.

¹⁰⁷ *Id.* at 893 (Dyk, J., dissenting) (internal quotation marks omitted).

¹⁰⁸ *Johns Hopkins*, 152 F.3d at 1366-67 (emphasis omitted); *cf.* Trimble, *supra* note 60, at 367 ("U.S. courts ... have issued orders requesting or prohibiting behavior abroad that is not infringing per se but is behavior that the courts have decided to target in order to prevent further infringements of U.S. patents.").

¹⁰⁹ *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*).

¹¹⁰ 154 F.3d 1345 (Fed. Cir. 1998).

¹¹¹ *Id.* at 1356.

¹¹² *Id.*

¹¹³ *Id.*

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

Part III has described five categories of injunctions. To what extent do these 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 143 patent-infringement injunctions.¹¹⁴ I obtained the text of the 143 orders via Lex Machina or PACER.¹¹⁵

The 143 orders were coded for various characteristics, including (a) whether the order was a permanent injunction, preliminary injunction, or temporary restraining order; (b) whether, as part of a consent agreement, the parties agreed to the injunction prior to its issue—i.e. whether, in this article's terminology, the injunction was "consented to"; (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-1, Type-2, purely reparative, and/or specially tailored language.

Arguably, there is double-counting in the 143-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 in a little over two months.¹¹⁶ For purposes here, I have counted separately such same-case

¹¹⁴ The author personally searched for and coded all results. Some additional search results were apparently added to the Lex Machina database after the author's review of search results for injunctions issued in 2010 began. Thus, the results reported in this article might not reflect all 2010 injunctions that are ultimately indicated in the Lex Machina database.

¹¹⁵ 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").

¹¹⁶ *Reah v. Resource, Inc.*, No. 2:09-cv-00601 (D. Utah Mar. 25, 2010) (issuing three separate 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.);

orders because, although many of the orders use substantially identical language, this is not true of all of them.¹¹⁷ 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 nine different cases accounted for only 28 orders total. The general impressionistic significance of the results from the 143-order dataset appears unlikely to be dominated by how this counting problem is resolved, particularly as various aspects of these same-case results seem entirely in line for those of the dataset as a whole.¹¹⁸

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

The most striking empirical result is that a substantial majority of the 143 orders appear to violate the Federal Circuit's understanding of Federal Rule of Civil Procedure 65(d).¹¹⁹ Eighty-two injunctions, about 57% of the total, contain Type-2 language. This figure is striking, if not shocking. It has long been suspected that, despite Rule 65(d), "obey the law" injunctions

Reah v. Resource, Inc., No. 2:09-cv-00601 (D. Utah Jan. 20, 2010) (issuing five separate consent orders directed at five different defendants).

¹¹⁷ 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 from "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").

¹¹⁸ The overall Type-2 error rate for the 28 same-case injunctions is about 54% (15 of 28). The Type-2 error rate for the 24 consent orders among these 28 injunctions is about 58% (14 of 24). These percentages appear substantially consistent with the approximately 58% Type-2 error rate for the other 115 non-same-case orders (67 of 115) and the approximately 57% Type-2 error-rate for the 58 non-same-case consented-to orders (33 of 58). When the results for the 28 same-case injunctions and the 115 non-same-case injunctions are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(141) = -0.45$, $p = 0.66$; and $t(40) = -0.44$, $p = 0.66$. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 1.1$, $p = 0.41$). Likewise, when the results for the 24 same-case consented-to orders and the 58 non-same-case consented-to orders are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(80) = 0.12$, $p = 0.91$; and $t(43) = 0.12$, $p = 0.91$. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 1.0$, $p = 0.46$).

¹¹⁹ *Supra* text accompanying notes 56-66.

are relatively common in patent law¹²⁰ and elsewhere.¹²¹ But I do not know of any prior indication that courts commit such Rule-65(d) error in the majority of such a significant subset of cases.¹²²

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

The prevalence of Rule-65(d) 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 limits of injunctions even when issuing consent decrees,¹²³ courts might be less rigorous in enforcing Rule 65(d) when parties have agreed on the form of relief or when an injunction is otherwise unopposed—for example, because of default. At the very least, a trial judge might rightly suspect that a stipulated-to or default-judgment injunction is substantially less likely to be subjected to appellate scrutiny than an injunction issued over party opposition. Lack of fear of appellate reversal might result in less care to avoid legal error.¹²⁴

Indeed, the three categories of consented-to injunctions, otherwise unopposed injunctions, and the rest, which I term “actively opposed injunctions,” exhibit facially distinct Type-2 error rates. In the 2010 dataset, the percentage of consented-to injunctions featuring Type-2 error is essentially the same as the overall average, about 57% (47 of 82). A higher rate of Type-2 error characterizes the dataset’s 16 otherwise unopposed injunctions—mostly default-judgment injunctions and one temporary restraining order issued without prior notice to the other side.¹²⁵ These unconsented-to but unopposed injunctions have a Type-2 error rate of just over

¹²⁰ 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)”).

¹²¹ See *LAYCOCK*, *supra* note 42, at 274 (“Defendants do not object to obey-the-law clauses as often as one would expect in light of [the case law].”).

¹²² Perhaps the nearest known analog is Marketa Trimble’s study of thirteen cases involving patent-infringement “[i]njunctions issued against foreign entities.” Trimble, *supra* note 60, at 339. Trimble noted in passing that at least two of the injunctions in the study contained language that, according to Federal Circuit precedent, violates Rule 65(d). *Id.* at 340.

¹²³ 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 42, at 345 (discussing the principle that parties cannot contract for an injunction otherwise beyond a court’s power to grant).

¹²⁴ Cf. David E. Klein & Robert J. Hume, *Fear of Reversal as an Explanation of Lower Court Compliance*, 37 *LAW & SOC’Y REV.* 579, 603 (2003) (suggesting that “trial judges in virtually every court system” might be particularly sensitive, compared to U.S. circuit court judges, to “[t]he threat of reversal”).

¹²⁵ See *Valvtechnologies, Inc. v. North*, No. 4:10-cv-03943 (S.D. Tex. Oct. 20, 2010) (issuing a temporary restraining order).

87% (14 of 16). The Type-2 error rate for actively opposed injunctions is lower, with about 47% (21 of 45) of this last category of injunctions including Type-2 language

Although the observed Type-2 error rates for these three subclasses of injunctions are distinct, they all seem relatively high. Moreover, these high levels do not appear to be mere flukes resulting from a limited-size sample. According to a standard t-test, the distinction between the approximately 57% error rate observed for the 82 consented-to injunctions and a hypothesized 45% error rate is statistically significant at a 95% confidence level.¹²⁶ The same holds true for the distinction between the approximately 47% error rate observed for the 45 actively opposed injunctions and a hypothesized 30% error rate.¹²⁷ Likewise, statistical analysis suggests that the over 87% error rate observed for the 16 unconsented-to but unopposed injunctions corresponds to a real error rate for such orders of at least 67%.¹²⁸

The lower observed error rate for actively opposed orders as opposed to consented-to orders or otherwise unopposed orders might suggest that truly adversarial proceedings in the district courts help prevent improperly drafted decrees. Litigators should probably not congratulate themselves too much, however, for this apparent gain from adversarial process. For starters, the difference between the approximately 47% error rate observed for actively opposed injunctions and the approximately 57% error rate observed for consented-to injunctions does not appear to be statistically significant even at a relatively low 80% confidence level.¹²⁹ Further, the discrepancy between the observed error rates for these categories all but disappears after the sample is truncated to eliminate patent-infringement injunctions directed exclusively to either of

¹²⁶ More specifically, under a one-sample, two-tailed t-test applied to the sample of eighty-two consented-to injunctions, a null hypothesis that the real error rate is 45% is rejected at a 95% confidence level, with $t(81) = 2.2$, $p = 0.028$. If a one-tailed t-test is used to test a null hypothesis that the real error rate is less than or equal to 45%, the null hypothesis is rejected at a 95% confidence level by a more substantial margin, $t(81) = 2.2$, $p = 0.014$.

¹²⁷ Under a one-sample, two-tailed t-test applied to the sample of forty-five actively opposed injunctions, a null hypothesis that the real error rate is 30% is rejected at a 95% confidence level, with $t(44) = 2.2$, $p = 0.032$. If a one-tailed t-test is used to test a null hypothesis that the real error rate is less than or equal to 30%, the null hypothesis is rejected at a 95% confidence level by a more substantial margin, $t(44) = 2.2$, $p = 0.016$.

¹²⁸ Under a one-sample, two-tailed t-test applied to the sample of sixteen actively opposed injunctions, a null hypothesis that the real error rate is 67% is rejected at a 95% confidence level, with $t(15) = 2.4$, $p = 0.030$. If a one-tailed t-test is used to test a null hypothesis that the real error rate is less than or equal to 67%, the null hypothesis is rejected at a 95% confidence level by a more substantial margin, $t(15) = 2.4$, $p = 0.015$.

¹²⁹ When the results for the 82 consented-to injunctions and the 45 actively opposed injunctions are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(125) = 1.1$, $p = 0.25$; and $t(90) = 1.1$, $p = 0.26$. An F-test for equality of variances did not indicate a statistically significant difference between variances ($F = 0.97$, $p = 0.45$).

two idiosyncratic forms of subject matter—biomedical-substance technology and ornamental designs.¹³⁰ By contrast, the differences between the approximately 87% observed error rate for unconsented-to but unopposed injunctions (predominantly defaults) and either of the error rates for consented-to orders and actively opposed orders appears to be statistically significant at a 95% confidence level.¹³¹ But even these differences appear to remain significant only at an 85% confidence level once results are truncated to eliminate biomedical-substance and ornamental-design orders.¹³² In short, there seems no great triumph for adversarial process here.

Finally, regardless of comparisons with the observed error rates for consented-to and otherwise unopposed injunctions, the 47% observed error rate for actively opposed injunctions seems high in light of the fact that compliance with the ban on Type-2, “obey the law” injunctions does not appear to be particularly difficult. Neither Type-0, measure-zero or Type-1 “colorable differences” language is hard to draft. Yet nearly 50% of the 21 actively opposed injunctions that feature Type-2 language (10 of 21) do not feature either Type-0 or Type-1 language. The only orders of a “do not infringe” form that these injunctions contain is of the forbidden, obey-the-law type. Even if one views it as predictable that successful plaintiffs will seek, and often obtain, facially overreaching orders for injunctive relief, one might have thought those plaintiffs would also be careful to include legally proper Type-0 or Type-1 language, so that any later-discovered impropriety in injunction scope might be viewed as easily severed from an otherwise proper order. Indeed, 11 of the 21 actively opposed injunctions featuring Type-2 language do include Type-0 language, and five of these 11 also include Type-1 language. Of course, in such instances, one might wonder why opposing parties and courts have together failed to “get things right” by having the offending “obey the law” language stricken while leaving the rest of the order intact.

In any event, even if legal compliance were not so easy, a statistically significant error rate of more than 30% with respect to the scope of an actively opposed remedial order might be viewed as surprisingly high. An appellate reversal rate of about 35% or so on questions of claim

¹³⁰ See *infra* text accompanying notes 144-145.

¹³¹ When the results for the 82 consented-to injunctions and the 16 otherwise unopposed injunctions are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(96) = 1.7$, $p = 0.023$; and $t(29) = 1.7$, $p = 0.006$. An F-test for equality of variances did not indicate a statistically significant difference between variances at a 95% confidence level but did suggest such a difference at a 90% confidence level ($F = 2.12$, $p = 0.051$). When the results for the 45 actively opposed injunctions and the 16 unconsented-to but unopposed injunctions are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(59) = 1.7$, $p = 0.004$; and $t(39) = 1.7$, $p = 0.0009$. An F-test for equality of variances did not indicate a statistically significant difference between variances at a 95% confidence level but did suggest such a difference at a 90% confidence level ($F = 2.18$, $p = 0.051$).

¹³² See *infra* note 146 and accompanying text.

construction is commonly thought to signal serious problems with the way U.S. courts work.¹³³ This is true even though (a) claim construction is generally an interlocutory issue that is often difficult to resolve¹³⁴ and (b) claim-construction issues pursued in an appeal might be assumed, on average, to be unusually tricky.¹³⁵ In contrast, Type-2 error can be far from even arguably subtle. In *Monsanto Co. v. Bowman*,¹³⁶ for example, Monsanto obtained an actively opposed permanent injunction of breathtaking breadth: rather than restricting itself to enforcement of the patent rights at issue, this order “permanently enjoined [the defendant] from making, using, selling or offering to sell any of Monsanto’s patented crop technologies.”¹³⁷

2. *Preliminary v. Permanent Injunctions*

The 2010 dataset can be used to test another potential hypothesis. This is that judges or parties should be less susceptible to Type-2 error in the preliminary-relief context. Preliminary injunctions and temporary restraining orders are rarer and, because of less lead time from the date of suit, likely more disruptive than permanent injunctions. Further, from a court’s perspective, such injunctions are naturally more suspect because they become effective before the court has made a final decision on the merits according to ordinary procedure.¹³⁸ A supposedly wronged rights holder might ultimately turn out to own no valid rights or at least no valid rights that were violated. In light of the preceding, courts and parties might be expected to be especially careful in policing the form of preliminary injunctions and temporary restraining orders.

Consistent with this expectation, the percentage of permanent injunctions featuring Type-2, “obey the law” language is greater than the percentage of preliminary injunctions or temporary restraining orders doing the same. Just over 60% of permanent injunctions (75 of 124) and about 37% of preliminary injunctions or temporary restraining orders (7 of 19) feature Type-2 language. According to a t-test, this difference is significant at a 90% confidence level.¹³⁹

¹³³ See, e.g., Golden, *supra* note 16, at 324 (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%”).

¹³⁴ *Cf. id.* at 386 (“[E]ven a more coherent claim construction jurisprudence will leave room for uncertainty regarding the meanings of particular claims”).

¹³⁵ *Id.* at 324 n.15 (“Of course, the relatively high reversal rates for patent claim construction could be explained by litigants’ greater selectivity in choosing which claim constructions to appeal, rather than any atypical failure on the part of courts.”).

¹³⁶ No. 2:07-cv-283-RLY-WGH (S.D. Ind. May 12, 2010).

¹³⁷ *Id.* at 1.

¹³⁸ See DOUGLAS LAYCOCK, *THE DEATH OF THE IRREPARABLE INJURY RULE 111* (1991) (discussing “reasons for being cautious with preliminary relief”).

¹³⁹ When the results for the 124 permanent injunctions and the 19 preliminary injunctions (including temporary restraining orders) are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(141) = 2.0$, $p = 0.053$; and

But this superficially significant difference between the observed error rates for preliminary and permanent injunctions is likely deceiving. As discussed below, once orders directed to biomedical-substance or ornamental-design patents are eliminated from consideration, the discrepancy between observed Type-2 error rates for preliminary and permanent injunctions essentially disappears.¹⁴⁰ Generally speaking, the 2010 dataset does not appear to provide strong support for a hypothesis that, under comparable circumstances, there is a significant difference in Type-2 error rates for preliminary and permanent relief.

3. *Subject-Matter Specificity of Error Rates and Earlier Error Rates Revisited*

In addition to highlighting distinctions between preliminary and permanent relief, the 2010 dataset reinforces a common impression that the practical operation of patent law can be very technology-specific.¹⁴¹ One substantial subset of orders leaps out as one in which the observed Type-2 error rate is very low. This is the subset of orders focused on biomedical-substance (“BMS”) technology, predominantly pharmaceuticals. Only three out of 25 BMS orders in the dataset use Type-2, “obey the law” language. The Type-2 error rate for BMS orders is thus only 12%. For the 22 BMS orders dealing with a pharmaceutical substance apparently subject to Food and Drug Administration regulation, the error rate is even lower: only 1 of 22 orders (about 5%) contains Type-2 language.¹⁴²

General lack of Type-2, “obey the law” language is merely one aspect of BMS orders’ idiosyncrasy. Remarkably, only two of the 25 BMS orders (8%) even bother to include Type-1, colorable-differences language. The overwhelming majority of BMS orders are simple Type-0, measure-zero orders lacking explicit extension even to matter “no more than colorably different” than that expressly described. Such noteworthy avoidance of hazy language comports with notions that—whether because of relatively inherent qualities 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.¹⁴³

$t(24) = 1.9$, $p = 0.06$. An F-test for equality of variances does not indicate a statistically significant difference between variances ($F = 0.98$, $p = 0.44$).

¹⁴⁰ See *infra* notes 147-149 and accompanying text.

¹⁴¹ 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”).

¹⁴² The majority of BMS orders (15 of 25) were actively opposed, and none involved situations of actual or effective default. Somewhat interestingly, Type-2 language appears exclusively in actively opposed BMS orders: three of the 15 actively opposed BMS orders feature Type-2 language, whereas no consented-to BMS order includes such language.

¹⁴³ See JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* 152 (2008) (“The usual explanation for the superior performance of patents in [chemical and pharmaceutical] technologies is that the boundaries of chemical patents are clearer ...—the structure of a molecule or the composition of a mixture can

Indeed, outside BMS orders, Type-2 error is rife. Over 63% of utility-patent orders coded as not involving BMS technology (67 of 105) contain Type-2, “obey the law” language. For orders relating to design patents and no other types of patents (henceforth referred to as “purely design-patent orders”), Type-2 language is nearly ubiquitous: twelve of the thirteen such orders in the 2010 dataset (about 92%) contain Type-2 language.

The dominance of Type-2 error for purely design-patent orders and the general lack of Type-2 error for BMS orders suggests that we should revisit the figures discussed in earlier subsections after excluding such orders. In large part because, unlike other types of patent-infringement injunctions, most BMS orders are actively opposed, the main notable effect of excluding BMS and purely design-patent orders is that the numerical discrepancy between the Type-2 error rates for consented-to and actively opposed injunctions—which was already suggested to lack statistical significance¹⁴⁴—essentially disappears. About 62% of the remaining consented-to injunctions (39 of 63) feature Type-2 error. For the remaining actively opposed injunctions, the Type-2 error rate is about 59% (17 of 29). The Type-2 error rate for unconsented-to but unopposed injunctions (mostly from defaults) remains atypically high, however: eleven of the thirteen remaining injunctions in this subcategory (nearly 85%) feature Type-2 error. Unsurprisingly, the differences between the approximately 62% and 59% error rates observed for the remaining consented-to and actively opposed injunctions, respectively, do not appear to be statistically significant at any plausibly meaningful confidence level.¹⁴⁵ The differences between the observed error rates for each of these two classes of injunctions and the observed error rate for the remaining unconsented-to but unopposed injunctions might be significant but, according to t-tests, do not appear to be significant at much more than an 85% confidence level,¹⁴⁶ not a strong basis for concluding that the compared error rates are in fact unequal.¹⁴⁷

be defined with precision.”). One large subclass of BMS-patent litigation is litigation based on § 271(e) of the U.S. Patent Act, which makes the filing of an application for Food and Drug Administration (FDA) approval of a patented drug an act of infringement. 35 U.S.C. § 271(e)(2) (describing specified forms of infringement). Subsection 271(e)(4) makes distinct and exclusive provision for the remedies, outside attorney fees, that are available for such an act of infringement, declaring, in effect, that in many cases the only available relief will be “injunctive relief . . . to prevent the commercial manufacture, use, offer to sell, or sale within the United States or importation into the United States of an approved drug or veterinary biological product.” *Id.* § 271(e)(4).

¹⁴⁴ See *supra* text accompanying note 129.

¹⁴⁵ When the results for the 63 remaining consented-to injunctions and the 29 remaining actively opposed injunctions are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(90) = 0.30$, $p = 0.77$; and $t(53) = 0.29$, $p = 0.77$. An F-test for equality of variances does not indicate a statistically significant difference between variances ($F = 0.95$, $p = 0.43$).

¹⁴⁶ When the results for the 63 remaining consented-to injunctions and the 13 remaining unconsented-to but unopposed injunctions are compared, two-sample, two-tailed t-tests assuming

With respect to preliminary versus permanent injunctions, the dataset for preliminary injunctions is so small after BMS and purely design-patent orders are excluded that little of significance can be said. For permanent injunctions outside the BMS and purely design-patent categories, the Type-2 error rates are about 65% overall (62 of 96) and about 64% for actively opposed orders (14 of 22). Meanwhile, five of the nine preliminary injunctions in the residuum (about 56%) feature Type-2 error. Three of the seven of these preliminary injunctions that were actively opposed (about 43%) feature such error. None of the differences in comparable preliminary-versus-permanent error rates in these residual samples appear to be statistically significant.¹⁴⁸ Likewise, differences in the Type-2 error rates for preliminary and permanent injunctions in the relatively small samples of BMS and purely design-patent orders do not appear statistically significant or, for that matter, very substantial even on their face.¹⁴⁹

equal variances and assuming unequal variances yield, respectively, $t(74) = -1.6$, $p = 0.12$; and $t(21) = -1.9$, $p = 0.07$. An F-test for equality of variances did not indicate a statistically significant difference between variances at a 90% confidence level ($F = 1.7$, $p = 0.16$). When the results for the 29 remaining actively opposed injunctions and the 13 remaining unconsented-to but unopposed injunctions are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(40) = -1.7$, $p = 0.103$; and $t(30) = 1.7$, $p = 0.07$. An F-test for equality of variances does not indicate a statistically significant difference between variances at a 90% confidence level ($F = 1.8$, $p = 0.15$).

¹⁴⁷ If the observed error rate for residual unconsented-to but unopposed injunctions is compared to the observed error rate for all other residual injunctions (i.e., the approximately 61% error rate (56 of 92) for actively opposed injunctions and consented-to injunctions combined), the difference appears significant at 90% confidence level. Two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(103) = -1.7$, $p = 0.097$; and $t(18) = -2.0$, $p = 0.056$. An F-test for equality of variances does not indicate a statistically significant difference between variances at a 90% confidence level and, just barely, fails to indicate such significance even at an 85% confidence level ($F = 1.7$, $p = 0.151$).

¹⁴⁸ When the results for the 96 remaining permanent injunctions and the 9 remaining preliminary injunctions (including temporary restraining orders) are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(103) = 0.53$, $p = 0.59$; and $t(9) = 0.49$, $p = 0.63$. An F-test for equality of variances does not indicate a statistically significant difference between variances ($F = 0.83$, $p = 0.31$). Likewise, when the results for the 22 of these permanent injunctions that were actively opposed and the seven of these preliminary injunctions that were actively opposed are compared, two-sample, two-tailed t-tests assuming equal variances and assuming unequal variances yield, respectively, $t(27) = 0.95$, $p = 0.35$; and $t(9) = 0.91$, $p = 0.39$. An F-test for equality of variances does not indicate a statistically significant difference between variances ($F = 0.85$, $p = 0.35$).

¹⁴⁹ The observed Type-2 error rates for the 16 BMS permanent injunctions and the nine BMS preliminary injunctions (including temporary restraining orders) are approximately 12% (2 of 16) and 11% (1 of 9), respectively. The observed Type-2 error rates for the 12 purely design-patent permanent injunctions and the one purely design-patent preliminary injunction are

4. *Geographic Ubiquity of Error*

Type-2 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 Southern District of Ohio—avoided Type-2 error.¹⁵⁰ Among districts issuing three or more non-BMS injunctions, the Southern District of California had the best batting percentage: its six non-BMS injunctions feature only two that contain Type-2, “obey the law” language. Among districts that issued five or more of the injunctions in the dataset, Table 1 shows that the Districts of Delaware and New Jersey were best at avoiding Type-2 error. But this might largely reflect the dominance of BMS-oriented patent cases in these districts. All five of the District of Delaware’s injunctions deal with a particular form of BMS subject matter, regulated pharmaceuticals. Twelve of the District of New Jersey’s injunctions can be similarly described, and the remaining three injunctions from that district are purely design-patent orders that account for all three of the district’s orders using Type-2 language. In short, the relative success of the Districts of Delaware and New Jersey in complying with the Federal Circuit’s interpretation of Rule 65(d) might be more attributable to technologic subject matter than any special legal acumen on the part of these courts or the attorneys who practice before them.

approximately 92% and 100%, respectively. Given the closeness of the preliminary and permanent injunction error rates and the small sizes of the samples, it virtually goes without saying that the observed differences within the respective BMS and purely design-patent classes do not appear to be statistically significant.

¹⁵⁰ See *Lexmark International, Inc. v. Ink Technologies Printer Supplies, LLC*, No. 1:10-cv-00564-MRB (S.D. Ohio Dec. 21, 2010) (issuing a permanent injunction directed at Print-Rite Holdings Ltd.); *Lexmark International, Inc. v. Ink Technologies Printer Supplies, LLC*, No. 1:10-cv-00564-MRB (S.D. Ohio Dec. 9, 2010) (issuing a permanent injunction directed at Virtual Imaging Products, Inc.).

Table 1: Leading Districts for Injunctive Relief in the 2010 Dataset

District	Number of Injunctions	Number of Injunctions with Type-2 Language	Number of Non-BMS and Non-Design-Patent Injunctions	Number of Non-BMS and Non-Design-Patent Injunctions with Type-2 Language
C.D. Cal.	19	11	14	7
D.N.J.	15	3	–	–
D. Utah ¹⁵¹	10	10	9	9
E.D. Tex.	9	6	9	6
N.D. Tex.	6	5	6	5
S.D. Cal.	6	2	6	2
N.D. Ga.	5	3	5	3
S.D. Fla.	5	2	3	1
D. Del.	5	0	–	–

5. Potential Explanations for High Rule-65(d) Error Rates

What explains the district courts' mass violation of the Federal Circuit's understanding of Rule 65(d)? Limitation of a violation's expected consequences provides one plausible explanation. As discussed earlier, if Type-2 error is not corrected on direct appeal, the general result is simply that Type-2, "obey the law" language will be enforced as if it were Type-1, colorable-differences language.¹⁵² Consequently, and particularly as Type-1 or Type-0, measure-zero language often accompanies Type-2 language, courts and parties might commonly view Type-2 error as essentially harmless.¹⁵³ This might be especially true when parties have settled their differences, perhaps through a broad licensing or cross-licensing agreement, and seek an injunction essentially only as reinforcement of their settlement, despite lack of any serious concern about a risk of future infringement. A perception of relative lack of harm from

¹⁵¹ Nine of the injunctions issued by the District of Utah were issued by one judge in a single case.

¹⁵² See *supra* text accompanying notes 59-67.

¹⁵³ 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-2, "obey the law" 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, one might have expected attorneys to more strictly avoid Type-2 language.

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Type-2 error might also result in relative lack of attention by trial judges and attorneys to Federal Circuit opinions identifying and correcting such error.

This last potential result of a perception of harmlessness dovetails with another possible explanation for the frequency of Type-2 error—namely, that the very prevalence of such error generates non-corrective inertia. The familiarity of Type-2, “obey the law” language might result in its being perceived as unsuspecting. Such a perception is likely encouraged by the fact that Type-2 orders¹⁵⁴ and even Type-2 orders in combination with Type-0, measure-zero orders¹⁵⁵ have pedigrees that stretch back well over a century.¹⁵⁶

A further contributor to Type-2 error could be Type-2, “obey the law” orders’ partial specificity. This might be important because, in applying U.S. law generally, courts commonly frown on injunctions that “d[o] no more than instruct a defendant to ‘obey the law.’”¹⁵⁷ But

¹⁵⁴ 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”).

¹⁵⁵ 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”).

¹⁵⁶ 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.”).

¹⁵⁷ *Burton v. City of Belle Glade*, 178 F.3d 1175, 1201 (11th Cir. 1999) (“As [an] injunction [against racial discrimination in annexation] would do no more than instruct the City to ‘obey the law,’ we believe that it would not satisfy the specificity requirements of Rule 65(d) ...”); see also *Payne v. Travenol Labs., Inc.*, 565 F.2d 895, 898 (5th Cir. 1978) (holding that an anti-discrimination injunction “more specific than Title VII itself only in that it does not prohibit employment discrimination based on religion and natural origin” “cannot be sustained”); cf. LAYCOCK, *supra* note 42, at 274 (describing Rule 65(d) as “generally preclud[ing] injunctions that merely tell defendant to ‘obey the law’”).

Type-2 “do not infringe” orders typically refrain from generally forbidding any future violations of 35 U.S.C. § 271 or the U.S. Patent Act as a whole. Instead, these orders ordinarily forbid future infringement only of specific patents or patent claims that the defendant is adjudged to have infringed already. Even among those familiar with the general rule against “obey the law” orders, this partial specificity could nurture an uninformed confidence that a patent-specific Type-2 order complies with Rule 65(d).

Indeed, courts in other common-law jurisdictions have indicated that such 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 patent claim is adequately instructive.¹⁵⁸ Likewise, courts in the United Kingdom (U.K.) have viewed “the standard form of injunction” as one that “restrain[s] the defendant from infringing the patent.”¹⁵⁹ 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.”¹⁶⁰ Courts in Australia have taken a similar position. The Federal Court of Australia has stated, “Particularly when the validity of the patent has been

¹⁵⁸ *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 injunction prohibiting infringement of a specified patent so that an adjudged infringer might participate in “the market in using and selling ... newly developed compounds” not available at the time of the trial judgment); *cf.* ROBERT J. SHARPE, *INJUNCTIONS AND SPECIFIC PERFORMANCE* ¶ 1.400, at 1-17 (2d ed. 1997) (observing that “it has often been said that for negative injunctions a general form is to be used, provided it gives sufficient guidance, and orders prohibiting the defendant from acting ‘in the manner hitherto pursued by him or in any manner so as to cause a nuisance’ and ‘in the manner complained of ... or otherwise so as to cause a nuisance’ have been approved by appellate courts”).

¹⁵⁹ *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”).

¹⁶⁰ *Coflexip*, *supra* note 159.

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.”¹⁶¹

Courts in these common-law jurisdictions are, like U.S. courts, sensitive to the need for injunctions to have clear scope.¹⁶² Their acceptance of Type-2, “obey the law” injunctions thus lends support to a notion that, at least as interpreted by the Federal Circuit, Rule 65(d)’s requirements are less than intuitive.¹⁶³

B. Purely Reparative Injunctions in U.S. Practice

In stark contrast to the mass violation of Federal Circuit precedent against Type-2, “obey the law” injunctions, district courts appear generally to heed Federal Circuit precedent holding that injunctions to enforce patent rights cannot be purely reparative.¹⁶⁴ Among the 143 orders in the 2010 dataset, I identified only one that contained a purely reparative injunction. Further, this purely reparative injunction had a relatively trivial form: it 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.”¹⁶⁵ Compliance with Federal Circuit precedent against purely reparative injunctions appears to be quite good.

C. Specially Tailored Injunctions in U.S. Practice

The situation with respect to specially tailored patent-infringement injunctions is more complex, in part because such orders come in many different forms. Among the orders issued in

¹⁶¹ *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.”).

¹⁶² *See, e.g.*, SHARPE, *supra* note 158, ¶ 1.390, at 1-16 (“Quite clearly, in formulating injunction orders, the courts should avoid vague or ambiguous language which fails to give the defendant proper guidance and which in effect postpones determination of what actually constitutes a violation of the plaintiff’s rights.”).

¹⁶³ Nonetheless, I can cite two instances where district courts appear to have actively corrected a party’s attempt to obtain a Type-2, “obey the law” 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-2, “obey the law” 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”).

¹⁶⁴ *Supra* text accompanying notes 70-72.

¹⁶⁵ *Batesville Services, Inc. v. Southern Rain Casket and Funeral Supply*, No. 2:09-CV-257, at 5 (N.D. Ind. July 15, 2010).

2010, I have identified four basic subcategories of specially tailored injunctions that are discussed in more detail below: (i) correlated-activity injunctions (“Type-C”); (ii) destruction, disablement, or delivery injunctions (“Type-D”); (iii) “reformulated bounds” injunctions (“Type-B”); and (iv) moderated injunctions (“Type-M”). Overall, injunctions having one or more of these specially tailored forms appear in about a third of the 143 orders in the dataset. By far the most common of these specially tailored forms is the correlated-activity injunction.

1. Correlated-Activity Injunctions

On over thirty occasions, courts issued a Type-C, correlated-activity injunction directed to 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.”¹⁶⁶ As only specific forms of causation of others’ infringement, such as active inducement or contributory infringement, constitute infringement under the U.S. Patent Act,¹⁶⁷ 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 other types of potentially 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.”¹⁶⁸ District courts commonly enjoin these five kinds of activity. But in the 99-order dataset, district courts also repeatedly forbade activities such as “distributing” or “shipping” infringing items, or even merely “displaying” images of these items.¹⁶⁹ 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.”¹⁷⁰

¹⁶⁶ *Seiko Epson Corp. v. Abacus 24-7 LLC*, No. 09-477, at 8 (D. Or. July 8, 2010) (emphasis added).

¹⁶⁷ *See* 35 U.S.C. § 271 (setting out different forms of infringement).

¹⁶⁸ *Id.* § 271(a).

¹⁶⁹ *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).

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

On the other hand, prohibition of non-infringing activities such as shipping 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-C injunctions directed at correlated activity need not be negative injunctions like the prohibitions discussed above.¹⁷¹ For example, in *O2 Micro International Ltd. v. Beyond Innovation Technology Co.*, the district court 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.”¹⁷² Although such labeling does not necessarily prevent the indicated activities, it might very well help discourage them and thus have a negative causal correlation with their occurrence.

2. *Destruction, Disablement, or Delivery Injunctions*

Another subtype of specially tailored injunction is the Type-D injunction requiring destruction, disablement, or delivery of specified material.¹⁷³ There are seven Type-D orders in the dataset.

¹⁷¹ Cf. 11A WRIGHT, MILLER & KANE, *supra* note 56, § 2942, at 57 (“[I]njunctions compelling the doing of some act, as opposed to forbidding the continuation of a course of conduct, are an ancient and familiar tool of equity courts and will be used whenever the circumstances warrant.”); ANDREW BURROWS, REMEDIES FOR TORTS AND BREACH OF CONTRACT 511-12 (3d ed. 2004) (describing the difference between “prohibitory” and “mandatory” injunctions).

¹⁷² No. 2:04-cv-00032, at 2 (E.D. Tex. Sept. 27, 2010). In *Polytree (H.K.) Co. v. Forests Manufacturing, Ltd.*, No. 1:09-cv-03377 (N.D. Ga. Dec. 20, 2010), 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. *Id.* at 39. This order could be understood to facilitate prevention of infringement by releasing the patentee and customs officers from any need to prove or confirm that tree stands so marked in fact incorporated the indicated inventions. But the order could also be understood as primarily directed toward preventing further violations of the U.S. Patent Act’s false marking statute, which, among other things, prohibits the deceptive marking of a product “without the consent of the patentee,” 35 U.S.C. § 292(a).

¹⁷³ 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 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”).

As with certain Type-C orders, repeated appearance of Type-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.¹⁷⁴

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,¹⁷⁵ court-ordered destruction of goods located in the United States might well be understood to be a permissible sort of specially tailored order that helps prevent further infringement.

3. “Reformulated Bounds” Injunctions

In another seven orders in the dataset, courts issued what I term “reformulated bounds” or Type-B injunctions. Such an injunction is distinctive in that it defines the scope of technologies that it encompasses without fundamentally relying on reference to or reproduction of a preexisting formulation or instantiation—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).¹⁷⁶ A Type-B injunction provides its own linguistic formulation of the subject matter that it encompasses.

Some consented-to orders illustrate Type-B 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.”¹⁷⁷ The injunction covered any such tub even though the relevant patent’s claims were

¹⁷⁴ 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, molds, 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.”).

¹⁷⁵ *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1366 (Fed. Cir. 1998) (emphasis added).

¹⁷⁶ 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).

¹⁷⁷ No. 4:10-cv-044, at 2 (N.D. Tex. May 20, 2010).

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more specific: the claims apparently reached only pet tubs having “a plurality of leg elements.”¹⁷⁸

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”¹⁷⁹—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.”¹⁸⁰ 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.”¹⁸¹

Consequently, in both *Tristar* and *ExitExchange*, the issued injunction’s scope appears to depart from that of the more detailed patent claims.¹⁸² At least facially, the claims appear directed to more particular forms of pet tubs or pop-under advertisements than the corresponding injunction forbids.¹⁸³ Apparently, therefore, each of these injunctions prohibits a spectrum of non-infringing activity.

A linguistically more dramatic example of a Type-B injunction appeared in *Stone Strong, LLC v. Del Zotto Products of Florida, Inc.*¹⁸⁴ In this case, the court issued an unconsented-to order that defined the scope of its prohibition through extensive description of the physical

¹⁷⁸ U.S. Patent No. 6,516,752, at col. 4, ll. 45-47 (issued Feb. 11, 2003); *id.* at col. 5, ll. 22-23.

¹⁷⁹ No. 2:10-cv-297, at 2 (E.D. Tex. Nov. 2, 2010).

¹⁸⁰ 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).

¹⁸¹ U.S. Patent No. 7,386,555, at col. 15, ll. 28-30 (issued June 10, 2008).

¹⁸² *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”).

¹⁸³ *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).

¹⁸⁴ No. 5:08-cv-503 (M.D. Fla. Nov. 19, 2010).

characteristics of forbidden concrete blocks.¹⁸⁵ 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”)¹⁸⁶

This injunction’s descriptive language does not track precisely the language of any relevant patent claim.¹⁸⁷ 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
 - a back surface coupled to the first and second side surfaces, to the top surface, and to the bottom surface.¹⁸⁸

¹⁸⁵ *Id.* at 1-2 (forbidding various activities involving “a precast concrete block” having various specified features).

¹⁸⁶ *Id.* (emphasis omitted).

¹⁸⁷ 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).

¹⁸⁸ U.S. Patent No. 6,796,098, at col. 13, ll. 41-57.

Comparison of the *Stone Strong* injunction 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-B, “reformulated bounds” 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-1, colorable-differences 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-B injunction to a Type-1 injunction’s “no more than colorable differences” haziness.¹⁸⁹

4. *Moderated Injunctions*

A fourth type of specially tailored injunction is what this article terms a “moderated injunction”—an injunction that includes an explicit carve-out for infringing (or likely infringing) behavior. At least five orders in the 2010 dataset exhibit such moderated terms. An order restricting the use of tarpless fumigation includes a carve-out for “anyone ... walk[ing] by a tarpless fumigation wearing a detection device solely for the purpose of personal safety.”¹⁹⁰ Another order directed to the recording of medical data specifically limits its prohibition of use to use “in any clinical applications in the United States,” thereby providing a carve-out for nonclinical uses.¹⁹¹ A temporary restraining order forbidding infringing activities such as use, offers to sell, and importation specifically provides that “this restraint does not apply to

¹⁸⁹ 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); cf. Mark R. Patterson, *Contractual Expansion of the Scope of Patent Infringement Through Field-of-Use Licensing*, 49 WM. & MARY L. REV. 157, 160 (2007) (“[P]atentees have used field-of-use licensing to prevent purchasers of patented products from repairing those products, and to enforce distribution constraints.”). Consequently, reflection of such behavior in consent decrees that result from agreements between parties should probably not be surprising.

¹⁹⁰ *Structural Tenting Corp. v. Termite Doctor, LLC*, No. 1:09-cv-21285-MGC, slip op. (S.D. Fla. Aug. 17, 2010).

¹⁹¹ *Datcard Sys., Inc. v. Codonics, Inc.*, No. SACV 08-00063, slip op. (C.D. Cal. Jan. 21, 2010).

manufacture.”¹⁹² Somewhat similarly, two injunctions involving pharmaceuticals specifically limit their prohibitions of making the patented invention to prohibitions of “*commercial* manufacture.”¹⁹³

V. Crafting 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, questions of patent-infringement injunctions’ scope raise 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 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 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.¹⁹⁴ Thus, various concerns of notice, clarity, and uncertainty¹⁹⁵ have been addressed. Especially if

¹⁹² King Pharms., Inc. v. Sandoz Inc., No. 3:08-cv-05974-GEB-DEA, slip op. (D.N.J. Apr. 6, 2010).

¹⁹³ Sandoz, Inc. v. Boehringer Ingelheim Int’l GmbH, No. 3:10-cv-347-UATC-JBT, slip op. at 1-2 (M.D. Fla. July 29, 2010) (prohibiting “engag[ement] in the commercial manufacture, use, offer to sell, or sale within the United States, or importation into the United States, of any drug product containing pramipexole or a pharmaceutically acceptable salt thereof”) (emphasis added); Hoffman-La Roche Inc. v. Cobalt Pharms. Inc., No. 2:07-cv-04539-SRC-MAS, slip op. (D.N.J. Nov. 10, 2010) (“preliminarily enjoin[ing] ... engag[ement] in the commercial manufacture, use, offer for sale, or sale within the United States of any products that are the subject of Cobalt’s Abbreviated New Drug Applications Nos. 79-002 and 79-003”) (emphasis added).

¹⁹⁴ 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>.

¹⁹⁵ Herbert Hovenkamp, *Notice and Patent Remedies*, 88 TEX. L. REV. *SEE ALSO* 221, 224 (2011) (emphasizing the importance of notice concerns in patent law); see also BESSEN & MEURER,

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-2, "obey the law" order—i.e., an injunction against further infringement of the specific patents or patent claims already adjudged to have been infringed?

One reason "why not" is that, under current law and practice, notice of the existence and potential relevance of a specific patent or patent claim does not equate to clear notice of the scope of associated patent rights.¹⁹⁶ Consequently, a patent-limited Type-2, "obey the law" order tends to be 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 than 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.¹⁹⁷ The distribution of judicial "votes" on the issue indicates that the question was far from easy: at least at the preliminary-injunction stage, 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.¹⁹⁸

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 or the specific nature of challenges to validity or enforceability. Unaddressed questions of claim validity and scope can generate uncertainty comparable to that which existed before prior litigation. Hence, for example, if Energizer 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 a razor with more than three blades as such a question would most likely have been irrelevant to whether the razor at hand infringed.

supra note 143, at 46 ("A successful property system establishes clear, easily determined rights.").

¹⁹⁶ Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1748 (2009) ("Those who are intimate with the patent system have long understood that it is simply impossible to define boundaries of invention with the physical or descriptive precision of defining the boundaries of real property.").

¹⁹⁷ *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").

¹⁹⁸ *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").

Hence, to the extent patent-law policymakers wish to ensure that market actors, including adjudged infringers, feel free to develop and disseminate innovations whose infringement or noninfringement of another's patent rights is uncertain, those policymakers should worry about the possibility of overdeterrent injunctions. The potential severity of contempt sanctions and uncertainty about the scope of an injunction that, in effect as well as by its terms, forbid future infringement of a patent or patent claim could deter good-faith, socially productive activity in which an infringer would have otherwise engaged.¹⁹⁹ To limit the likelihood or severity of overdeterrence, 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-1, colorable-differences injunctions arguably represent an appropriate default.

An advocate for Type-2, “obey the law” injunctions might counter that an adjudged infringer is not without recourse to limit 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.²⁰⁰ Alternatively, the infringer can contract with the patentee for a blanket license for activities that might otherwise violate the patentee's previously infringed patents.

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,”²⁰¹ 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-1, colorable-differences injunctions provide a sensible default.

¹⁹⁹ 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).

²⁰⁰ 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 also *Smith-Corona Corp. v. Pelikan, Inc.*, 784 F. Supp. 452, 486 (M.D. Tenn. 1992) (“Pelikan's motion to clarify injunction is granted.”); RENDLEMAN, *supra* note 43, at 491 (“The Supreme Court's decision that a Chancery court has inherent power to modify or dissolve an injunction came in 1932 Rule 60(b)(5) became effective ... six years later.”).

²⁰¹ 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”).

Moreover, there is good reason for demanding that the Type-1 *effective scope* of a Type-2, “obey the law” injunction be indicated on the face of the order itself, rather than being imposed through later, narrowing interpretation or application. The general language of prohibition characteristic of Type-2 orders might encourage unsophisticated parties to believe that the effective scope of an injunction is broader than it is. Even if a relatively sophisticated party is informed that it is a “legal slam dunk” that “obey the law” language’s effective scope will be narrower than its plain meaning suggests, that party might justifiably hesitate to rely on such information. Slam dunks are sometimes missed, and private parties might be used to having to discount the certainty of legal representations.

Further, broad “obey the law” language might invite error by a court itself. Such language might encourage a district court to believe that valid grounds for finding contempt extend substantially beyond activities explicitly prohibited by a Type-1, colorable-differences order. Even assuming that a district court later recognizes that there are Type-1 limitations on grounds for finding contempt, Type-2, “obey the law” language might subtly distort how a district court understands those limitations. In the shadow of Type-2 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 later.

So the case for a default rule in favor of Type-1, colorable-differences injunctions seems fairly strong. Nonetheless, Type-1 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 as discussed above, patent claims themselves often contain latent ambiguity.²⁰² 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 patent claims at issue. Resulting uncertainty about what constitutes a “merely colorable difference” can leave an uncomfortable degree of uncertainty about a Type-1 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.*,²⁰³ seems originally to have followed this course. A substantial cause for the district

²⁰² See *supra* text accompanying notes 195-198.

²⁰³ 547 U.S. 388 (2006).

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."²⁰⁴

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, socially 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 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 consider how an order might be narrowed or otherwise crafted to avoid the problems that injunctive relief might present. Courts sometimes will delay the effective date of injunctions to avoid some of the special disruption or other hardship that an immediately effective order might cause. But in deciding whether to issue an injunction and when to make it effective, courts should perhaps more often consider how injunction scope can affect the balance of concerns that favor or disfavor injunctive relief. Taking scope into consideration in deciding on grant or denial might require many district courts to alter existing practices. Currently, district courts frequently decide on whether to issue an injunction before reviewing any specific proposal for what such an injunction will require.²⁰⁵ Once one recognizes that patent-infringement injunctions can come in different shapes and sizes, it seems logical to regularly demand that a movant for an injunction submit a proposed order along with briefing in favor of that order, rather than permitting submission of a specific proposal to occur after a court has already decided to grant injunctive

²⁰⁴ *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 judge in *eBay* 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 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.

²⁰⁵ *See, e.g., Mytee Prods. Inc. v. Harris Research, Inc.*, No. 3:06-cv-01854-CAB (S.D. Cal. Jan. 20, 2010).

relief. The common practice of evaluating the balance of hardships and public-interest concerns associated with an injunction without any specific proposal at hand might be ill-considered in cases where tailoring of an injunction might make a difference.

How might an injunction be tailored? An obvious first possibility would be to limit its scope to that of a “true” Type-0, measure-zero 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 likely often to be not much of an alternative at all.²⁰⁶ Outside relatively idiosyncratic fields such as pharmaceuticals, there frequently is 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.

Specially tailored injunctions provide courts with a potential way to escape the Type-0-versus-Type-1 dilemma. By crafting injunction-specific language, a court can avoid the haziness of a Type-1 injunction’s “no more than colorable differences” language while also providing relief that forbids more than a measure-zero range of conduct. As seen with the dimensional limitations in the *Stone Strong* injunction,²⁰⁷ a successfully drafted specially tailored 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 specially tailored orders will tend to favor patentee interests at excessive expense to society, it bears emphasizing that a specially tailored injunction can be broader, narrower, or simultaneously broader or narrower than alternatives such as a Type-1, colorable-differences injunction. An order to destroy certain already-existing articles or to label certain future articles as “Not to Be Sold in the United States” can both require more and provide less than patent rights abstractly demand. By reformulating metes and bounds for purposes of injunctive relief, a Type-B injunction can provide an independent description of forbidden products or processes that is simultaneously extra-protective and sub-protective relative to a Type-1 injunction.²⁰⁸ 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. One way in which a court in the position of the *eBay* district court can try to forestall contentious contempt proceedings is to devise a specially tailored 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 specially tailored injunction will nonetheless prove to be overreaching, the court can take corrective steps. First, the court can include a sunset

²⁰⁶ See *supra* text accompanying notes 49-51.

²⁰⁷ See *supra* text accompanying notes 185-189.

²⁰⁸ See *supra* text accompanying notes 184-185.

provision, a specific time limit on the injunction's effectiveness absent further court action.²⁰⁹ The court can also signal a special willingness to reconsider the injunction's scope in light of changed circumstances or new information.²¹⁰ Appellate judges might demand that both the use of a specially tailored injunction and its scope be provided with special degrees of explicit justification.²¹¹ Finally, a district court can opt for a narrower, rather than broader, specially tailored injunction, perhaps in combination with a Type-1, colorable-differences injunction that the court plans to construe narrowly. Such a hybrid approach might accord well with equity's traditional use of anti-opportunism safety valves—here in the shape of a somewhat fuzzy Type-1 order—to complement at least aspirationally clearer, *ex ante* rules.²¹²

Indeed, judicious combination of specially tailored injunctions with Type-1, colorable-differences injunctions might have the added benefit of fostering a more principled and predictable jurisprudence on the scope of the latter, while also protecting against a subsequently discovered, opportunistic means of avoiding a specially tailored injunction's force.²¹³ Inclusion of a specially tailored order such as a destruction or disablement order could provide greater assurance that the patentee has gotten *some* prospective 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 a 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 are too easily circumvented.

²⁰⁹ See LAYCOCK, *supra* note 42, at 287 (discussing a six-month limit on an injunction against a former employee joining a competitor).

²¹⁰ *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 ...”); SHARPE, *supra* note 158, ¶ 1.450, at 1-18 to 1-19 (“If necessary, the court can make an order by which it implicitly undertakes to review the circumstances and the obligation imposed as matters proceed.”). 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”).

²¹¹ See *infra* text accompanying notes 223-225.

²¹² See Henry E. Smith, *An Economic Analysis of Law Versus Equity* 39 (2010) (arguing that “[e]quity applies in a smaller domain [than law] with an eye to deterring opportunism, but where it applies it is vague and *ex post*”).

²¹³ *Cf.* Mark Gergen, John M. Golden & Henry E. Smith, *The Supreme Court's Accidental Revolution? The Test for Permanent Injunctions*, 112 COLUM. L. REV. (forthcoming in 2012) (“A major theme in equity has been the need to correct for party opportunism, and injunctions partake of this overarching purpose.”).

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Still, can we really expect courts to craft specially tailored injunctions that are “no more burdensome ... than necessary to provide complete relief”?²¹⁴ There is undoubtedly risk that a specially tailored injunction will either overreach or underreach relative to what is necessary to achieve optimal enforcement of a patentee’s rights. But as illustrated by the specially tailored patent-infringement injunctions issued by district courts in 2010,²¹⁵ the forms of specially tailored injunctions generally contemplated here seem likely to remain reasonably tightly tied to both the actual offense and the underlying rights at issue: these are not the sort of broadly ambitious institutional-reform or structural injunctions whose issuance or non-issuance has a greater tendency to spark heated contentions of judicial usurpation or abdication. Indeed, the risks of overprotection or underprotection through the forms of specially tailored injunctions contemplated here seem to be relatively comparable to those present with respect to conventional Type-1 injunctions. The latter’s hazy “no more than colorable differences” language leads not only to immediate uncertainty, but also to 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-1, colorable-differences injunctions, central claims describe embodiments to which infringing matter needs to be substantially related.²¹⁶ Like some specially tailored injunctions, peripheral claims seek to use language to mark the perimeter of matter that legal entitlements encompass.²¹⁷

The analogy is imperfect, however, because the circumstances in which the relevant delimiting language is developed and applied differ substantially. The case for specially tailored injunctions might be thought generally stronger than that for peripheral claiming because of an arguably greater need for precisely delimited scope to avoid overdeterrence from a threat of contempt, and also because judicial gatekeepers for specially tailored injunctions have substantial advantages over patent examiners responsible for allowing peripheral claims. Specially tailored injunctions are directed at particular parties who have already engaged in specific forms of behavior that the court, after claim construction and resolution of any

²¹⁴ *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”); *cf.* *Dayton Bd. of Educ. v. Brinkman*, 433 U.S. 406, 418 (1977) (concluding that, “[i]n effect, the Court of Appeals imposed a remedy which we think is entirely out of proportion to the constitutional violations found by the District Court”).

²¹⁵ *See supra* text accompanying notes 165-189.

²¹⁶ *Golden, supra* note 16, at 348-49 (“In central claiming, claims describe or point to representative embodiments of the inventive idea.”).

²¹⁷ *Id.* at 349 (“In peripheral claiming, claims indicate the literal boundaries of patent rights.”).

challenges to validity and enforceability, has adjudged to be infringing.²¹⁸ Initial examination of patent rights generally occurs without involvement of any potential infringer.²¹⁹ Indeed, such an infringer's relevant products or processes might not yet even be contemplated. Moreover, a judicial gatekeeper for injunctions has more than the benefit of likely better and more proximate information: the judicial gatekeeper, unlike the examiner, will likely oversee enforcement or modification of the legal claims that an injunction creates and thus can act in the future to ensure that specially tailored language achieves its intended purpose.²²⁰

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.²²¹ The fundamental nature of these difficulties suggests that, with respect to efforts to optimize claim scope 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 claiming²²²—as well as the merits of Type-I-like

²¹⁸ Cf. RENDLEMAN, *supra* note 43, at 424 (observing that, relative to “a statute, a rule, a regulation, a will, and a contract,” “an injunction can be more specific because it is drafted to control the behavior of a known defendant engaged in an actual lawsuit”).

²¹⁹ See John M. Golden, *Patentable Subject Matter and Institutional Choice*, 89 TEX. L. REV. 1041, 1098 (2011) (“The ex parte nature of the dominant forms of USPTO proceedings—examination proceedings and ex parte reexamination proceedings—means that USPTO examiners primarily interact with parties seeking to obtain patent rights.”); cf. Hovenkamp, *supra* note 195, at 223 (“[A]pplications are evaluated in largely ex parte proceedings by overworked government officials . . .”).

²²⁰ See Rendleman, *supra* note 4, at 74 (“The judge has considerable discretion in administering an injunction; a judge enforcing an injunction against a recalcitrant defendant may choose between modifying the injunction, granting a second injunction, holding the defendant in contempt, imposing a civil contempt or a criminal contempt sanction, and deciding whether to displace the defendant with a receiver.”).

²²¹ 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)).

²²² See, e.g., Burk & Lemley, *supra* note 196, at 1746 (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 189, at 772 (arguing that patent law should “incorporate further aspects of central claiming”). See generally Golden, *supra* note 16, at 349 (describing a protracted historical shift from central to peripheral claiming).

doctrines of equivalents²²³—suggest that 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-1, colorable-differences injunction, a specially tailored injunction, or at least a specially tailored injunction of the reformulated-bounds stripe, tends to frontload questions about an injunction's effective scope. Thus, particularly when specially tailored language is not a product of consent, a court should probably take special care to ensure that the injunction is properly tailored. Model language for certain types of specially tailored injunctions, such as those prohibiting activities frequently correlated with infringement, might help both parties and courts achieve results whose proportions are both reasonably tailored and well understood. More generally, when a court adopts an innovative or *sui generis* form of relief, such as that almost necessarily embodied by a “reformulated metes and bounds” injunction, the court should be required to articulate a justification for the injunction's scope that enables the court's reasoning to be scrutinized on appeal.²²⁴ The court's justification might be expected to explain why a specially tailored 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-1 order.²²⁵ In addition to facilitating appellate review, articulation of such reasoning should remind the trial court of the need for circumspection in the crafting of injunctive relief, thereby helping prevent abuse of specially tailored injunctions' multifariously malleable form.

²²³ 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 “balanc[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”).

²²⁴ See Rendleman, *supra* note 4, at 94 (“In selecting and measuring a remedy, the judge should articulate reasons and apply standards.”). *But cf.* R. Shep Melnick, *Taking Remedies Seriously: Can Courts Control Public Schools?*, in FROM SCHOOLHOUSE TO COURTHOUSE: THE JUDICIARY'S ROLE IN AMERICAN EDUCATION 17, 26 (Joshua M. Dunn et al. eds., 2009) (“Given the potential sweep and coerciveness of structural injunctions, [U.S.] Supreme Court guidance on the use of injunctions has remained remarkably vague.”).

²²⁵ 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”).

In any event, the key point is that the remedial quiver of district courts appears to contain an additional arrow that the Federal Circuit and commentators have often neglected to discuss—the capacity to craft a specially tailored injunction. An individual court in an individual case will have to do the best it can to determine whether a Type-1, colorable-differences or specially tailored injunction will better place the parties and society in an appropriate “rightful position.”²²⁶ Concerns of overdeterrence and underdeterrence can justify viewing a Type-1 injunction as the default. But particular circumstances, perhaps including a party’s willingness to draft a sensible specially tailored order, can mean that a specially tailored injunction will better balance concerns of rights protection, rights 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 about proper injunction scope. As Part II illustrates, these questions parallel similar legal and policy questions about proper patent scope.

Nonetheless, 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-1, colorable-differences 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 specially tailored injunctions can enable improved tailoring of relief. Specially tailored 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; (3) providing an injunction-specific linguistic formulation of injunction scope; or (4) providing explicit carve-outs to protect legitimate infringer or general social interests. Specially tailored injunctions’ flexibility can allow courts to better balance interests in notice, administrability, rights enforcement, and rights limitation.²²⁷

²²⁶ 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.”).

²²⁷ *Cf.* Thomas, *supra* note 225, at 372 (arguing that compliance, notice, and enforcement advantages “make [prophylactic remedies] particularly effective ... to enforce intangible rights”).

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The result can be a relative win for all concerned, one that squares some of the circles that patent law creates.