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When Law Repeats Itself ...

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***When Law Repeats Itself:
Redundancy and Legal Design***

John M. Golden¹

Abstract

The idea that law should generally be understood and constructed to minimize redundancy remains a powerful force in legal reasoning. Patent law has been no exception as judges have sought to limit overlaps between different doctrines, have regularly invoked anti-redundancy canons in interpreting claims, and have rejected efforts to “relitigate” issues of claim construction under the guise of the doctrine of equivalents. But despite anti-redundancy’s arguable value in promoting clarity and efficiency in legal drafting and analysis, redundancy, at least in the forms of superfluity of language and partial overlaps between doctrines, seems continually to emerge and demand acknowledgment. With an eye toward recent developments in patent law, including debates over subject-matter eligibility, this project examines justifications and limitations of anti-redundancy doctrines and considers when redundancy might add value as a principle of legal design.

I. Introduction

The idea that law should generally be understood and constructed to minimize redundancy remains a powerful force in legal reasoning and design. Judges and lawyers frequently cite this notion as a canon of interpretation or as a reason to understand legal doctrines or forms of action or argument to be cabined in one way or another. Judges or justices have invoked anti-redundancy principles in interpreting any of various forms of legal documents, including constitutions, statutes, regulations, patent claims, and contracts. Trial courts commonly criticize efforts to “relitigate” similar questions and arguments under ostensibly different legal headings. Judges make conscious efforts to limit overlapping coverage by different domains of law, such as contract and tort. General legal principles such as unconscionability or substantive due process that might be viewed as at least partially redundant “backups” or supplements to other, more specific legal principles are frequently looked on with suspicion.

The too easy hold of simply stated anti-redundancy principles is both troubling and peculiar. For decades, information theory, data compression, and ordinary persons’ success in communicating with unconventional conciseness via modern-day “text” or historical telegram have made clear how full of redundancy standard human communication tends to be.² Further,

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² C. E. Shannon, *Prediction and Entropy of Printed English*, 30 BELL SYS. TECH. J. 50, 50 (1951) (noting a prior finding that, “when statistical effects extending over not more than eight letters are considered[,] ... the redundancy [of language is] about 50 per cent,” and adding a determination that evidence suggests “that, in ordinary literary English, the long range statistical effects (up to 100 letters)” raise “redundancy [to] roughly 75%”).

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attention to the actual results or motivations of legal drafting suggests that drafters of legal documents ranging from statutes to contracts pay no more than limited heed, if any, to concerns with avoiding redundancy.³ To the extent one considers the generation of legal documents or doctrines as a problem of “legal engineering,” the desirability of a general rule against redundancy seems highly questionable. In realms of mechanical, electrical, and civil engineering, engineers are commonly advised or even required to build redundancy into systems so that important ends are not compromised if one element of a system fails. The U.S. Constitution enshrines a governmental system of “checks” and overlapping jurisdictions that falls far short of an ideal of minimalist design. Indeed, in many respects, recognition of the desirability of forms of redundancy to check fallibility and other limitations of human institutions pervades the law, including through broad provisions for rights of appeal to higher tribunals and for judicial review of the actions of administrative agencies.

Of course, there can be strong interests in avoiding various forms of redundancy in certain contexts or for a certain purpose. Redundancy can indicate or promote a lack of efficiency, whether in expression, thought, or institutional design. Overlaps between doctrines or areas of law can promote confusion, leading to inappropriate application of corollary principles associated with one doctrine or area but not another. Clear definition and distinction of legal doctrines can facilitate more precise and self-consistent reasoning about them. Moreover, to the extent anti-redundancy principles force legal reasoning and argument into well-defined channels, it can help increase predictability by causing the development of a deeper case law and body of experience within those channels.

U.S. patent law offers fertile ground for consideration of the interaction of redundancy and anti-redundancy concerns. Questions of claim construction tend to be central in patent disputes, and principles of interpretive anti-redundancy regularly make an appearance. Moreover, patent law has witnessed a great degree of doctrinal compartmentalization and institutional innovation, both of which allow opportunities for anti-redundancy principles and countervailing interests in redundancy to come into play.

As one might expect, the United States Court of Appeals for the Federal Circuit has played a significant role in patent law’s doctrinal compartmentalization and the oversight of anti-

³ See, e.g., Royce de R. Barondes, *Side Letters, Incorporation by Reference and Construction of Contractual Relationships Memorialized in Multiple Writings*, 64 BAYLOR L. REV. 651, 704 (2012) (noting that the “commonly applied principle” disfavoring “a construction that causes some provision to be ‘surplusage’ (alternatively referenced as ‘redundant’ or ‘meaningless’ or ‘superfluous’)” “seems somewhat at odds with what is involved in negotiating a large, complicated contract”); Abbe R. Gluck & Lisa Schultz Bressman, *Statutory Interpretation from the Inside—An Empirical Study of Congressional Drafting, Delegation and the Canons: Part I*, 65 STAN. L. REV. 901, 934-35 (2013) (reporting that a survey of 137 congressional staffers indicated that drafters of statutory provisions “intentionally err on the side of redundancy” to help “ensure that the statute covers the intended terrain” and that even short statutes or individual statutory provisions “are often purposefully redundant to satisfy audiences other than courts” (emphasis omitted)); Lemley, *supra* note 14, at 1394 (“Patent applicants who draft multiple claims quite often *are* trying to be redundant.”); see also *Marx v. Gen’l Revenue Corp.*, 133 S. Ct. 1166, 1177 (2013) (“[R]edundancy is ‘hardly unusual’ in statutes addressing costs.”).

redundancy principles for which this compartmentalization provides great room to operate. Although the court has suffered a hailstorm of criticism for ways in which patent law has developed under its watch, U.S. patent law's primary appellate court has commonly—if sometimes grudgingly—still received praise for success in clarifying various aspects of patent law's content and application. Part of this success has come essentially as a matter of course from the centralization of first-level appellate review in a single national tribunal bound by a single body of circuit precedent. But the Federal Circuit's success in clarification has also derived at least partly from its provision of crisper definitions of the bounds of various patent law principles and doctrines, with the result that judges and practitioners can often readily identify a particular legal question with a unique legal doctrine or provision of the U.S. Patent Act. In this way, the Federal Circuit has participated in the continuation of a longtime trend in U.S. patent law toward the progressive refinement and distinction of separate legal doctrines.

Such doctrinal refinement and distinction might commonly be a good thing. But the compartmentalization of legal doctrines can multiply opportunities for legal loopholes and also help distance the daily operation of patent law from its constitutional and statutory aims. The United States Supreme Court's recent interventions in questions of subject-matter eligibility can be at least partly understood as a reaction against efforts to delineate patent law doctrine in parsimonious ways that sacrifice some richness and complexity that involves the intermingling of different patentability concerns. The Federal Circuit itself has sometimes had to damp district courts' application of anti-redundancy principles—for example, with respect to deployment of a doctrine against “vitiating” claim constructions to prevent inquiry into infringement by equivalence.⁴

This paper discusses redundancy and anti-redundancy concerns in general and then examines how they have played out in various aspects of U.S. patent law. A general suggestion is that anti-redundancy principles merit more critical attention than they seem generally to receive although the weighing of redundancy and anti-redundancy concerns tends to appear more balanced with respect to questions of institutions and procedure. Consequently, a partial pushback against anti-redundancy principles in the context of substantive patent law might be a predictable and desirable corrective to anti-redundancy's tendency toward excessive sway in the definition and application of legal doctrine. Likewise, limits on the use of anti-redundancy principles in determining patent scope appear desirable, particularly with respect to the oft-invoked anti-redundancy doctrine of claim differentiation.

II. Overview on Redundancy and Anti-Redundancy in Law

A. Anti-Redundancy Principles in Law

1. Anti-Redundancy as a Principle of Interpretation

Anti-redundancy in the law is perhaps most visible in terms of anti-redundancy canons of interpretation. Rules against interpreting a legal document in a way that renders language within

⁴ See *infra* note 28.

the document redundant or otherwise superfluous are commonly cited as canons of construction for legal documents ranging from constitutions and statutes to patents and contracts.

In constitutional law, the general canon against superfluity received one of its most famous articulations in *Marbury v. Madison*,⁵ in which Chief Justice Marshall, writing for the Court, contended that failure to reject the proposition that Congress could add to the Court's original jurisdiction would render the Constitution's provisions specifying cases within the Court's original and appellate jurisdictions "mere surplusage," "entirely without meaning."⁶ He then enunciated the general rule against constitutional interpretations that render part of the document superfluous:

It cannot be presumed that any clause in the constitution is intended to be without effect; and, therefore, such a construction is inadmissible, unless the words require it.⁷

As Akhil Amar has noted, multiple commentators have pointed out that Marshall's use of the rule in *Marbury* is flawed:⁸ even if the Constitution's provision for the Court's original jurisdiction did not specify a ceiling for that jurisdiction, it could still have meaningful effect by specifying a floor, giving the Court original jurisdiction that Congress could not take away.⁹ Nonetheless, the canon against superfluity is generally acknowledged, and judges have prominently cited *Marbury*'s articulation of the canon for constitutional cases.¹⁰

Canons favoring interpreting of legal documents so that language within them is not redundant seem to span documents of all kinds. They are frequently cited in court opinions

⁵ 5 U.S. (1 Cranch) 137 (1803).

⁶ *Id.* at 174.

⁷ *Id.*

⁸ Akhil Reed Amar, *Constitutional Redundancies and Clarifying Clauses*, 33 VAL. U. L. REV. 1, 5 (1998) ("[M]odern scholars have ridiculed Marshall's logic here, labeling his argument 'clearly overstated' and 'surely wrong.'").

⁹ *Id.* ("As a matter of logic, perhaps the clause could be read as setting forth a constitutional minimum rather than maximum quantum of jurisdiction.").

¹⁰ See, e.g., *Griswold v. Conn.*, 381 U.S. 479, 490-91 (1965) ("While this court has had little occasion to interpret the Ninth Amendment, '(i)t cannot be presumed that any clause in the constitution is intended to be without effect."); *McDonald v. City of Chicago*, 130 S. Ct. 3020, 3063 (2010) (Thomas, J., concurring in part and concurring in the judgment) (questioning "the Court's Privileges or Immunities Clause precedents" because "[i]t cannot be presumed that any clause in the constitution is intended to be without effect"); *District of Columbia v. Heller*, 554 U.S. 570, 643 (2008) (Stevens, J., dissenting) (contending that the preamble of the Second Amendment "should not be treated as mere surplusage, for '[i]t cannot be presumed that any clause in the constitution is intended to be without effect'"); *Noel Canning v. NLRB*, 705 F.3d 490, 506 (D.C. Cir. 2013) (criticizing another court of appeals' interpretation of the term "adjournment" for "fail[ing] to distinguish between 'adjournment' and 'Recess,' rendering the latter superfluous and ignoring the Framers' specific choice of words"); *id.* at 507 (concluding that a proposed interpretation of the Recess Appointments Clause would "depriv[e a specified] phrase of any force" and therefore "ru[n] afoul of the principle that every phrase of the Constitution must be given effect").

interpreting statutes, patent claims, and contracts. Hence, the Supreme Court has stated that “[i]t is a cardinal principle of statutory construction that a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant.”¹¹ Likewise, the U.S. Court of Appeals for the Federal Circuit has asserted that “[i]t is the usual (though not invariable) rule that, in patent claims as elsewhere, the construction of a clause as a whole requires construction of the parts, with the meaning to be given to each part so as to avoid rendering any part superfluous.”¹² In accordance with this principle, the much-invoked doctrine of claim differentiation acts “as an anti-redundancy canon”¹³ by implementing “a rebuttable presumption that each claim in a patent has a different scope.”¹⁴ Likewise, in interpreting contracts, courts regularly invoke an anti-redundancy canon, stating, for example, that “[a] basic [tenet] of contract law is that each word in the agreement should be interpreted to have a meaning, rather than to be redundant and superfluous.”¹⁵ In short, courts seem to have generally adopted a presumption that, no matter the form of document, a “written instrument [is] to be interpreted so as not to render some language mere surplusage.”¹⁶

2. Anti-Redundancy as a Non-Overlap Principle for Legal Doctrines

Another form of anti-redundancy principle presumes that different legal doctrines are intended to occupy distinct “application spaces” that are not to overlap in significant ways. This principle can be used to limit the potential scope of general provisions, such as the constitutional requirement of “due process,”¹⁷ when such general provisions might otherwise overlap or blend with the scope of a more specific provision, such as that against “unreasonable searches and

¹¹ TRW Inc. v. Andrews, 534 U.S. 19, 31 (2001) (internal quotation marks omitted).

¹² Frans Nooren Afdichtingssystemen B.V. v. Stopaq Amcorr Inc., 744 F.3d 715, 722 (Fed. Cir. 2014).

¹³ ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 777 (6th ed. 2013).

¹⁴ Dow Chem. Co. v. United States, 226 F.3d 1334, 1341 (Fed. Cir. 2000); *see also* Mark A. Lemley, *The Limits of Claim Differentiation*, 22 BERKELEY TECH. L.J. 1389, 1392 (2007) (observing that “[c]ourts rely heavily on the doctrine of claim differentiation” and that they “generally reject an interpretation of a claim that renders that claim redundant of another claim”).

¹⁵ Wintermute v. Kan. Bankers Sur. Co., 630 F.3d 1063, 1068 (8th Cir. 2011); *see also* Foskett v. Great Wolf Resorts, 518 F.3d 518, 522 (7th Cir. 2008) (“A contract must be construed so as to give a reasonable meaning to each provision of the contract and so as to avoid render[ing] portions of a contract meaningless, inexplicable or mere surplusage.” (internal quotation marks omitted)); E. ALLAN FARNSWORTH, CONTRACTS § 7.11, at 458 (4th ed. 2004) (“[A]n interpretation that gives effect to every part of the agreement is favored over one that makes some part of it mere surplusage.”).

¹⁶ MERGES & DUFFY, *supra* note 13, at 777.

¹⁷ U.S. Const. amend. V; *id.* amend. XIV, § 1.

seizures.”¹⁸ In such situations, the general rules laid down by the U.S. Supreme Court are that the more specific provision governs, and the limitations of this more specific provision are not to be overridden by reliance on the more general provision.¹⁹ Likewise, the economic loss doctrine forbidding bringing certain sorts of claims in tort, rather than contract, is championed for “protect[ing] contract doctrines” from being overridden by tort doctrines and “prevent[ing] the piling on of duplicative remedies.”²⁰ In patent law, the Supreme Court once famously emphasized that examination of the subject-matter eligibility of a patent claim—i.e., whether the claim covers only types of things, such as machines, that are potentially patentable—should be considered to be entirely distinct from questions about “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself,” novelty being a separate requirement for patentability.²¹ The Federal Circuit’s predecessor court for patent law, the Court of Customs and Patent Appeals (CCPA), quickly picked up on the Supreme Court’s apparent rejection of “‘point of novelty’ analysis” for subject-matter eligibility,²² and the Federal Circuit, which adopted CCPA precedent as its own,²³ arguably turned this separation between analyses under sections 101 and 102 of the U.S. Patent Act into a model for strongly binned analysis under each of various separate statutory provisions.²⁴

In addition to helping to focus attention on a single legal inquiry, anti-redundancy as a non-overlapping-doctrine principle can serve as a principle against duplicative litigation. Courts can experience frustration when a ruling against a party on a hard-fought legal question seemingly only serves as a prelude to the assertion of fundamentally similar arguments under a putatively

¹⁸ *Id.* amend. IV.

¹⁹ *County of Sacramento v. Lewis*, 523 U.S. 833, 842 (1998) (“Because we have always been reluctant to expand the concept of substantive due process, we held in *Graham v. Connor*, 490 U.S. 386 (1989), that where a particular Amendment provides an explicit textual source of constitutional protection against a particular sort of government behavior, that Amendment, not the more generalized notion of substantive due process, must be the guide for analyzing these claims.” (internal quotation marks and citations omitted)).

²⁰ *All-Tech Telecom, Inc. v. Amway Corp.*, 174 F.3d 862, 869 (7th Cir. 1999) (Posner, C.J.).

²¹ *Diamond v. Diehr*, 450 U.S. 175, 188-89 (1981) (“The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.”).

²² *In re Taner*, 681 F.2d 787, 791 (1982).

²³ *South Corp. v. United States*, 690 F.2d 1368, 1370 (Fed. Cir. 1982) (en banc) (adopting as precedent for the newly formed Federal Circuit “[t]hat body of law represented by the holdings of the Court of Claims and the Court of Customs and Patent Appeals announced before the close of business on September 30, 1982”).

²⁴ *Cf. In re Nuijten*, 500 F.3d 1346, 1354 n.3 (Fed. Cir. 2007) (“Of course, a claim that is so unclear as to be ambiguous about whether it covers a process or a machine might be invalid for failure to ‘particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention,’ 35 U.S.C. § 112, ¶ 2, but claim definiteness is a requirement separate from patentability under § 101.”).

different legal aegis. In patent law, such frustration seems commonly to arise when a patentee loses on a question of patent claim construction—a question about what is considered to be the literal scope of patent claims. If the court’s claim construction prevents the patentee from proving literal infringement—i.e., that a product or process accused of infringement fails to fall within a claim’s literal scope—the patentee might make an argument that the accused product or process nonetheless infringes under the doctrine of equivalents: although the accused product or process fails to contain elements that are literal matches to all the elements of a claim, the accused product or process can still infringe if it contains one or another element that is at least equivalent, if not a literal match, to each element of the claim.²⁵ Arguments for infringement by equivalence can often closely track arguments that claim language should have been interpreted to cover the accused product or process literally,²⁶ and the result can be a judicial reaction against such arguments as an effort effectively to relitigate claim construction, with a judge reflexively granting summary judgment of no infringement.²⁷ The result can be an effective collapse of the “two bites” at the apple, the overlapping coverage, that the doctrines of literal infringement and of infringement by equivalence would seem otherwise intended to provide.²⁸

3. Anti-Redundancy as a Limitation on Procedure

²⁵ *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1016 (2006) (“Under the doctrine of equivalents, a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.” (some internal quotation marks omitted)).

²⁶ *Cf.* John R. Allison & Mark A. Lemley, *The (Unnoticed) Demise of the Doctrine of Equivalents*, 59 STAN. L. REV. 955, 977 (2007) (“[T]he patentee will use the doctrine of equivalents as a second bite at the apple.”)

²⁷ *Cf. id.* at 958 (“[A] court that has just rejected a literal infringement argument—the only kind of court likely to spend much time thinking about equivalents issues pre-trial—is unlikely to undo the work of claim construction by sending the issue of infringement by equivalents to the jury.”); Lee Petherbridge, *On the Decline of the Doctrine of Equivalents*, 31 CARDOZO L. REV. 1371, 1396 (2010) (“[I]t seems quite evident that the future of the doctrine of equivalents will be trial court summary judgments adverse to the patentee, affirmed by the Federal Circuit.”).

²⁸ Recent Federal Circuit case law seems to have pushed back against these anti-redundancy tendencies by seeking to rein in a “no vitiation” limitation on application of the doctrine of equivalents. *See, e.g.*, *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1356 (Fed. Cir. 2012) (admonishing trial courts to “be cautious not to shortcut [the proper equivalents] inquiry by identifying a ‘binary’ choice in which an element is either present or ‘not present,’” for “the vitiation test cannot be satisfied by simply noting that an element is missing”); *Charles Mach. Works, Inc. v. Vermeer Mfg. Co.*, 723 F.3d 1376, 1380-81 (2013) (quoting *Deere* and reversing summary judgment of no infringement by equivalence); *Ring & Pinion Serv. Inc. v. ARB Corp.*, 743 F.3d 831, 836 (2014) (quoting *Deere* and reversing a failure to grant summary judgment of infringement by equivalence).

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Generally speaking, at least vocal adherence to redundancy and anti-redundancy principles seems more evenly balanced with respect to procedural questions than with respect to interpretive questions and doctrinal overlaps. At a relatively fundamental level, principles of legislative bicameralism, separation of powers, and checks and balances have commonly supported the presence of multiple, semi-redundant “veto-gates” in legislative processes, whose resulting delays and inefficiencies are commonly bemoaned. Of course, as with doctrinal redundancies, such procedural redundancies—e.g., review by both houses of Congress, review by the President, and, for certain questions, potential later judicial review—are, like doctrinal redundancies, generally not “pure redundancies” because each of the major institutional reviewers is seen as having different characteristics and competences and thus might be conceived as providing an at least somewhat different kind of review even if there are substantial overlaps between the reviews performed by one institution and another. But as the existence of apparently plausible options such as unicameral legislatures and more limited judicial review of congressional statutes suggests, the breadth of overlapping responsibilities and other at least partial redundancies between and within different branches does not have to be as great as it is within typical U.S. federal or state systems. The seeming common tolerance and frequent celebration of such redundancies, despite the apparent inefficiencies that they are acknowledged to generate, illustrate how procedural redundancies have commonly escaped the general disdain that is commonly directed at interpretive or doctrinal redundancies.

The recognition of general rights to appeal provides another, not entirely separate example of the seemingly more common tolerance of procedural redundancies. There are commonly constitutionally required rights to appeal administrative decisions in the courts. These reflect principles of checks and balances and of separation of powers that, as discussed above, commonly lead to at least partial redundancies but are seen as providing countervailing value in large part because of the different forms of institutions that are doing the checking. Of more distinct interest here is the common recognition of a right to at least one appeal within court systems. Again, the resulting redundancy tends to be only partial because the appellate courts will frequently operate differently than the trial courts. For example, adjudication in the trial courts might involve only one judge, might involve a jury in addition to the judge, and generally involves presentation of evidence in addition to legal argument, whereas appellate adjudication commonly involves a panel of judges, generally does not involve a jury, and generally does not involve presentation of evidence beyond materials, such as legislative history or dictionary definitions, of which a court may take judicial notice and whose presentation has not been waived or forfeit in the trial court. Thus, one could view a micro-system of checks and balances at work here between the trial courts and appellate courts as different types of institutions. But the tolerance of at least partial redundancy can also be explained more generically as reflecting desires to facilitate uniformity and predictability in the treatment of cases and to allow for an additional check not so much on an institution as on error itself—whether pure legal error or at least some forms of gross error involving fact-finding.

The tolerance of procedural redundancy in the judicial system is far from absolute, of course. U.S. legal systems also exhibit many tendencies that reflect a desire to avoid what is viewed as excessive redundancy and to promote closure in legal proceedings and judgments. One appeal as of right is frequently viewed as enough. Principles of claim and issue preclusion and of

stare decisis all facilitate final—or relatively final—resolution of legal disputes, issues, or arguments. Limitations on collateral review of legal judgments, including limitations on habeas review despite such review’s constitutional status, similarly reflect a desire not only to prevent an endless, resource-consuming loop of litigation and relitigation but to cut off further argument far earlier than infinity. Once again in the procedural context, however, such limitations of redundancy do not seem to reflect as much of a generalized hostility to redundancy as appears prevalent in interpretive and doctrinal contexts. Instead, the limitations seem more to reflect a sense that, although redundancy, including checking and re-checking prior decisions, can generate advantages such as error reduction and boosting of social and individual morale, a functional forward-looking society needs legal settlements in order to plan productively for the future and cannot expend all its resources constantly looking back. In short, in the procedural context, there seems more of a general acceptance of a relatively balanced, engineering perspective on redundancy, a perspective that recognizes redundancy’s value but also recognizes that, at some point, its costs can also exceed its benefits. Thus, some levels or forms of redundancy are commonly accepted, but they are commonly limited as well and frequently enriched—and thus apparently made easier to justify—by mixing partial redundancy with institutional distinctions that can provide some cause to hope that system “checks” can add value that goes beyond straightforward repetition of another institutional player’s work.

B. Redundancy and Anti-Redundancy as Principles of Legal Design

Why might anti-redundancy principles be a matter of concern? First, as indicated above, they can run contrary to actual norms of human communication and legal design. They can therefore lead to courts’ incorrectly interpreting and applying relevant law, perhaps to the unpleasant surprise of those most knowledgeable about the law’s development and accepted meaning within relevant practice communities. Second, to the extent anti-redundancy principles lead to less redundancy in original legal design or in legal doctrines as understood and applied by the courts, anti-redundancy can in various circumstances lead to less clarity and reliability in law and its application.²⁹ In both natural and engineered systems, redundancy is often appreciated as a desirable way to help ensure the robustness of critical functions, providing practical assurance that certain ends will be successfully achieved.³⁰ Likewise, in language, redundancy helps ensure successful communication, despite the likelihood of discrete errors or limitations in the transmission, reception, and comprehension of messages.³¹ A missing letter or might often be unlikely to prevent effective communication in ordinary speech but more likely to cause problems

²⁹ Cf. Amar, *supra* note 8, at 10 (identifying “a certain kind of good redundancy represented by various clauses that are clarity-enhancing and doubt-removing”).

³⁰ Martin Landau, *Redundancy, Rationality, and the Problem of Duplication and Overlap*, 29 PUB. ADMIN. REV. 346, 349 (1969) (noting that “the phenomenon of ‘duplication’” is not “overlooked in the design of automobiles, computers, and aircraft; the latter are reliable to the extent that they are redundant ..., as with the dual braking system, for example”).

³¹ *Id.* at 346 (“[I]t is precisely the liberal use of redundancy that provides linguistic expression with an extraordinary measure of ‘reliability.’”).

in the already compressed language of a short text message. Through reinforcing or clarifying effect, overlapping legal doctrines or redundancy in legal drafting can help ensure that cases intended to be “easy” ones come out correctly.³²

Further, like two-dimensional maps that cover different but overlapping regions of the globe,³³ overlapping legal doctrines can also help prevent undesired gaps in legal coverage while also avoiding a need for the excessive warping of one or another doctrine to prevent this or that particular case from falling through doctrinal cracks. The somewhat different perspective that a distinct but at least partially overlapping doctrine embodies might improve the law’s self-correcting potential as well as its ability to adapt to new circumstances. The Uniform Commercial Code suggests that contract law’s unconscionability doctrine plays such a role in relation to doctrines regarding public policy or contract interpretation with which the unconscionability doctrine’s reach can be viewed as overlapping.³⁴ Aspects of patent law’s restrictions on subject-matter eligibility, including doctrines regulating when a claimed invention should be viewed as representing an attempt to patent an “abstract idea,” “natural phenomenon,” or “law of nature,” might play a similar role in relation to doctrines requiring that a patentable invention meet requirements of utility, novelty, and nonobviousness. A somewhat flexible subject-matter analysis that features at least the possibility of overlaps with other patentability requirements can help prevent artful claim drafting, as opposed to meaningful technological progress, from becoming the real basis for patentability.³⁵

In light of the above advantages of redundancy, why have anti-redundancy principles remained so strong? Randy Barnett has suggested that “[a]t least three reasons explain why the virtues of redundancy are so commonly overlooked”:

- (1) “[M]oral philosophers and legal intellectuals do not spend much time worrying about easy cases where differing modes of analysis converge.”

³² Cf. Randy E. Barnett, *The Virtues of Redundancy in Legal Thought*, 38 CLEV. ST. L. REV. 153, 154 (1990) (contending “that the degree of confidence we have in any of our beliefs largely depends on the degree to which the different methods we use to critically assess our beliefs converge on the same conclusion”).

³³ Cf. STEPHEN HAWKING & LEONARD MLODINOW, *A BRIEFER HISTORY OF TIME* (2008) (describing the possibility of a unified theory of physics that uses multiple formulas having distinct but overlapping coverage).

³⁴ UCC § 2-302 cmt. 1 (stating that policing against “unconscionable” contractual language had previously “been accomplished by adverse construction of language, by manipulation of the rules of offer and acceptance or by determinations that the clause is contrary to public policy or to the dominant purpose of the contract”).

³⁵ Cf. John M. Golden, *Flook Says One Thing, Diehr Says Another: A Need for Housecleaning in the Law of Patentable Subject Matter*, 83 GEO. WASH. L. REV. (forthcoming).

- (2) Perhaps as a consequence of oft-theorized “physics envy,”³⁶ “modern intellectuals are trained to accept the principle of parsimony—or ‘Ockham’s razor.’”³⁷
- (3) “Intellectuals in many disciplines, from law to philosophy to economics, are often oblivious to the serious practical problems of knowledge and interest that pervade actual decisionmaking.”³⁸

Alternatively, one might credit any of various potential benefits of anti-redundancy. These include the following:

- (1) relative efficiency or elegance³⁹ in decisionmaking by limiting duplicative, perhaps often predictably futile inquiries;
- (2) relative efficiency or elegance in legal writing if drafters can be assumed to feel pressure to act in accordance with anti-redundancy principles;
- (3) potentially increased clarity and precision through the focusing effect that distinct, non-overlapping legal doctrines might provide;
- (4) parsimony’s limitation of fodder for imaginative judicial activists;⁴⁰ and
- (5) a potentially realistic presumption that certain drafters of legal documents were not “truly terrible writers.”⁴¹

In short, there are factors that can favor application of anti-redundancy principles in appropriate contexts.

III. Redundancy and Anti-Redundancy in Patent Law

For at least four reasons, patent law has been a particularly fertile area for the operation and conflict of redundancy and anti-redundancy principles:

³⁶ Andrew W. Lo & Mark T. Mueller, *WARNING: Physics Envy May Be Hazardous to Your Wealth!* 2 (2010) (“examining the intellectual milieu that established physics as the exemplar for economists”), available at <http://ssrn.com/abstract=1563882>.

³⁷ Cf. Tun-Jen Chiang, *The Rules and Standards of Patentable Subject Matter*, 2010 WIS. L. REV. 1353, 1396-97 (“[I]f the abstract-idea doctrine [for subject-matter eligibility] is understood as being functionally redundant with [patent law’s] enablement [requirement], the logical argument would be to fold the doctrine into enablement so as to simplify patent law.”).

³⁸ Barnett, *supra* note 32, at 157-58.

³⁹ Cf. Amar, *supra* note 8, at 6 (“[T]he anti-redundancy maxim, sensibly understood, is merely one aspect of a general preference of grace over awkwardness”).

⁴⁰ Cf. J. Kodwo Bentil, *Statutory Surplusage*, 12 STAT. L. REV. 64, 64 (1991) (“Words or phrases in a statutory provision may be so verbose or repetitive that they add little or nothing to the meaning, and obscure legislative intent. Yet, for a court to readily assume this, would tend to undermine or usurp the power of the legislature.”).

⁴¹ Amar, *supra* note 8, at 6 (describing “the anti-redundancy maxim” with respect to the U.S. Constitution as reflecting “interpretive charity” and a sense of the unlikelihood “that the Constitution’s drafters were truly terrible writers”).

- (1) the centrality of issues of interpretation, in particular the interpretation of patent claims, to the great mass of patent cases;⁴²
- (2) a long-time historical trend toward increased subdivision and separation of issues in patent law;
- (3) centralization of appeals in the U.S. Court of Appeals for the Federal Circuit, which has contributed to delineation and distinction of patent law doctrines in ways that give redundancy and anti-redundancy principles more fodder with which to work; and
- (4) continuing pressure for institutional and procedural developments to try to reduce system costs, delays, and errors.

To a large extent, these factors contribute to an environment in which redundancy or anti-redundancy concerns have particularly strong chances to operate. The first factor means that there is no dearth of interpretive situations in patent law in which anti-redundancy concerns can arise. The second and third have combined to generate a situation in which a great variety of patent-law doctrines have been discretely defined either by statute or through a now quite deep and centralized body of appellate case law. The relatively well-defined nature of many doctrines has brought potential overlaps into sharper relief, and the multiplicity of such doctrines increases the possibilities for interactions that can be argued to generate unseemly redundancy. Finally, continuing institutional developments have predictably manifested tension between interests in obtaining the upfront advantages of streamlined procedure and obtaining the value of at least partly redundant procedures as checks against error or alternative opportunities for dispute resolution.

A. Claim Differentiation and Anti-Redundancy in Claim Construction

As discussed above, a commonly stated principle for the interpretation of a legal document is that it should, to the extent reasonable, be interpreted in a way that prevents language in the document from being redundant with other language or otherwise superfluous.⁴³ Some form of this principle is commonly cited when courts mull questions of the proper interpretation of patent claims. The most prominent form of the principle in the context of claim construction is the doctrine of claim differentiation, under which distinct patent claims are at least presumptively to be understood to have different scope and thus to have their language interpreted so that the coverage provided by one claim is not precisely the same as—entirely overlapping and coextensive with—that of any other.⁴⁴

Deployments of a general anti-redundancy principle in the context of claim construction partake of the various defects and weaknesses, as well as the advantages, of the anti-redundancy principle for reading legal documents generally. But in the claim construction context, the

⁴² See 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.”); Lemley, *supra* note 14, at 1389 (“The process of claim construction is the most important part of patent litigation.”).

⁴³ See *supra* text accompanying notes ____.

⁴⁴ See *supra* text accompanying notes 13-14.

principle might have one additional advantage or justification, at least as it is commonly deployed. Courts appear commonly to invoke a general anti-redundancy principle as a basis for rejecting arguments by patentees that certain claim language is superfluous or redundant and thus does not serve to limit the scope of a claim beyond what other language in the claim requires.⁴⁵

When an anti-redundancy principle is used to reject broader interpretations of claims, its application corresponds with another common principle for construing legal documents that have been drafted by one or more interested parties—namely, the principle of construing the document against the drafter.⁴⁶ The patentee or the patentee’s predecessor in interest had an opportunity to draft claim language unambiguously to have the breadth that the patentee now asserts. In particular, the patentee or patentee’s predecessor in interest could have omitted the supposedly superfluous claim language entirely. Failure to do so has left the claim with language that the interested public might expect does act to limit the claim. Given the notice purpose of patent claims⁴⁷ and the corresponding statutory injunction that claims “particularly poin[t] out and distinctly clai[m] the subject matter which the inventor or a joint inventor regards as the invention,”⁴⁸ reading a claim comparatively narrowly by reasonably rejecting a patentee’s argument that certain claim language is non-limiting and therefore superfluous might seem especially well justified from a policy standpoint.⁴⁹

⁴⁵ See, e.g., *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 781 (Fed. Cir. 2010) (rejecting patentee’s argument that claim language indicating that a “centrifugal unit compris[ed] a centrifugal component and a plurality of tubes” was merely preambular and non-limiting); *Bicon, Inc. v. The Straumann Co.*, 441 F.3d 945, 951 (Fed. Cir. 2006) (rejecting a patentee’s proposed construction where “the effect of adopting [that] claim construction would be to read limitations [a], [b], [e], and [h] out of the claim”).

⁴⁶ See, e.g., BLACK’S LAW DICTIONARY 327 (6th ed. 1990) (defining “contra proferentem” as a term “[u]sed in connection with the construction of written documents to the effect that an ambiguous provision is construed most strongly against the person who selected the language”); E. ALLAN FARNSWORTH, CONTRACTS § 7.11, at 459 (4th ed. 2004) (discussing “the rule that if language supplied by one party is reasonably susceptible to two interpretations, one of which favors each party, the one that is less favorable to the party that supplied the language is preferred”).

⁴⁷ See *Haemonetics*, 607 F.3d at 781 (stating that patent claims’ “notice function would be undermined ... if courts construed claims so as to render physical structures and characteristics specifically described in those claims superfluous”); *Bicon*, 441 F.3d at 950-51 (explaining the principle of interpreting claims “with an eye toward giving effect to all terms in the claim” by stating that “[a]llowing a patentee to argue that physical structures and characteristics specifically described in a claim are merely superfluous would render the scope of the patent ambiguous, leaving examiners and the public to guess about which claim language the drafter deems necessary ... and which language is merely superfluous, nonlimiting elaboration”).

⁴⁸ 35 U.S.C. §112(b).

⁴⁹ As indicated by the use of the terms “reasonably rejecting” in the text, courts have generally recognized that anti-redundancy principles in claim construction are not absolute and can be

Anti-redundancy principles most prominently manifest themselves in claim construction through the doctrine of claim differentiation,⁵⁰ however, and this application of the general anti-redundancy canon seems far more questionable. The USPTO is authorized by statute to require the narrowing of an application that originally claims “two or more independent inventions” so that the application covers only “one of the inventions.”⁵¹ Further, the USPTO has strong incentive to use this power of “restriction” because, as Rob Merges and John Duffy point out, it helps limit the work that patent examiners must do per application and helps protect “the integrity of the [USPTO’s] fee structure” as, “[o]therwise, applicants would be sorely tempted to cut their prosecution costs by claiming several different inventions in one application.”⁵² In fact, the USPTO does appear to have used its restriction powers quite vigorously, to the apparent chagrin of U.S. practitioners who can point abroad to foreign countries’ apparently looser standards for joining inventions within a single application.⁵³

In a context in which patent applicants expect themselves to be relatively strictly limited to one invention per patent, significant redundancy of claim coverage within a single patent becomes especially natural. In this context, inclusion of multiple patent claims within a single patent—i.e., the practice of claiming an alleged invention through multiple linguistic formulations—tends to serve the purpose of helping to ensure desired coverage of the invention by protecting against the possibility that certain claims will be later be understood to be narrower

overridden by other considerations that make construction in accordance with an anti-redundancy principle unreasonable. *See* *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004) (“[W]hile interpretations that render some portion of the claim language superfluous are disfavored, where neither the plain meaning nor the patent itself commands a difference in scope between two terms, they may be construed identically.”).

⁵⁰ *See* Lemley, *supra* note 14, at 1391 (“The doctrine of claim differentiation is the canon [of patent claim construction] that has arguably had the most significant impact on claim construction.”); *id.* at 1392 (observing that the doctrine of claim differentiation “seems to flow from a parallel doctrine of statutory construction that rejects statutory interpretations that would render a provision redundant or superfluous”).

⁵¹ 35 U.S.C. § 121.

⁵² MERGES & DUFFY, *supra* note 13, at 535-36.

⁵³ *See, e.g.,* MERGES & DUFFY, *supra* note 13, at 1170 (“In general, European standards on which inventions may be claimed together are quite liberal, and the same is true of Japan.”); Edwin S. Flores Troy, *The Development of Modern Frameworks for Patent Protection: Mexico, A Model for Reform*, 6 TEX. INTELL. PROP. L.J. 133, 159-60 (1998) (“By permitting the consolidation of inventions that relate to a single ‘inventive concept,’ the Mexican law addresses a recurrent problem in United States practice, which is the PTO’s use of restriction requirements to limit inventors to one invention per patent.”); Etienne de Villers, *The Patent Prosecution Highway: Canada as Office of First Filing*, 2 LANDSLIDE, no. 3, at 30, 31 (Jan./Feb. 2010) (“Generally, USPTO examiners seem to issue restriction requirements more often than Canadian examiners, and, when a restriction is issued, require a narrower election of claim sets.”).

than hoped⁵⁴ or that certain claims, most likely among the broader claims, will later be found invalid.⁵⁵ In accordance with this purpose, some claims are deliberately drafted to be narrower than other claims, but some distinct claims use different language but only do this to ensure the same level of broad coverage—or, at least, the maximal level of coverage possible without much thought at all given to whether particular claims should be understood to have the same or different scope. In short, claim drafters are commonly engaged in an engineering exercise that deliberately introduces redundancy in order to try to protect against any of a number of “stresses” or “failures”—invalidity challenges, relatively narrow claim constructions, etc.—that can later afflict the language that they choose to use. In this context, the doctrine of claim differentiation, which instructs courts to presume that differently worded claims have different scope, can be perverse.⁵⁶

The doctrine of claim differentiation seems particularly problematic when operating “horizontally”—i.e., between claims that are independent claims or that derive from different independent claims—as opposed to “vertically”—i.e., between a first claim and a second claim that incorporates the requirements of the first claim. At least one claim in a patent document is an “independent claim,” a claim that stands on its own, does not refer to another claim, and contains all its pertinent claim language.⁵⁷ Other claims can be “dependent claims,” which are claims that refer to another claim, incorporate its limitations by reference, and then add some additional claim language.⁵⁸ The relationship between a dependent claim and the parent claim from which it

⁵⁴ See Lemley, *supra* note 14, at 1394 (“[P]atent applicants draft multiple claims because writing words to define ideas is an inherently difficult and uncertain process, and taking multiple bites at the apple gives patentees a greater chance of successfully capturing their single invention in words.”).

⁵⁵ See MERGES & DUFFY, *supra* note 13, at 31 (describing “narrower claims” in a patent as “a form of insurance” against the possibility that a broader claim will later be found invalid).

⁵⁶ See Lemley, *supra* note 14, at 1394 (“If the patentee is using different words to mean the same thing, a rule that requires each set of words to have its own unique meaning creates artificial distinctions not intended by the patentee”).

⁵⁷ JANICE M. MUELLER, PATENT LAW 98 (4th ed. 2013) (“[A]n independent claim stands alone without referring to any other claim.”).

⁵⁸ *Id.* (“A dependent claim includes (i.e., incorporates by reference) all limitations of the claim from which it depends, and also adds some further limitations.”). For example, a hypothetical independent claim could read as follows: “1. A stool comprising a top seat portion and a first leg connected to the seat portion and extending substantially downward from the seat portion.” A dependent claim could then read: “2. The stool of claim 1 further comprising a second leg connected to the seat portion and extending substantially downward from the seat portion.” There could be further dependent claims referring to claim 1 or instead referring to claim 2—for example, an additional claim that added a requirement of “a third leg” to claim 2’s requirement of “a second leg.” An alternative independent claim could feature the following language: “8. A stool comprising a top portion featuring a substantially horizontal surface and a support extending substantially downward relative to the top portion.” Looking at this group of claims, one would probably conclude that claim 2 is meant to be narrower than claim 1 because (1) claim 2 adds a

depends supports an expectation that the dependent claim will generally be narrower than the parent claim,⁵⁹ and this expectation is commonly further fortified by language in the dependent claim that indicates that it “further compris[es]” the matter separately specified in the dependent claim.⁶⁰ Thus, with respect to vertically related claims, the presumption generated by the doctrine of claim differentiation—that claims have different scope and, in this particular context, that the dependent claim has narrower scope⁶¹—seems likely to accord with general drafting intent and reader expectations.

In contrast, with respect to claims that are only horizontally related, there seems no general cause for expectation that the breadth of the claims will have any specific relation, including a simple relation of difference in scope. Given the purposes of claim drafters to try to ensure a certain viable scope of claims despite the vagaries of claim construction and the possibilities of later information that supports a conclusion that one or another claim is invalid, they might reasonably intend for independent claims, for example, to have essentially or identically the same scope under their favored claim construction.⁶² On the other hand, one independent claim might be intended to be narrower or broader than another or to have a scope that has no simply described relation to the other claim—perhaps more likely to be narrower along one dimension but more likely to be broader along another based on the drafter’s assessment of the probability distributions for how the claims might be construed.

Appropriately, the Federal Circuit has characterized the doctrine of claim differentiation as only establishing a rebuttable presumption,⁶³ and the Federal Circuit has indicated that this

“second leg” requirement to claim 1’s requirement of a “first leg” only and (2) generally accepted principles of claim construction tell us that terms such as “first” and “second” are commonly used for mere purposes of identification and, thus, claim 1’s requirement of a “first leg” should not be understood to imply a requirement that claim 1 also require a “second leg.”

⁵⁹ *Cf.* *MERGES & DUFFY*, *supra* note 13, at 31 (“Often the claims in a patent begin with the broadest claim which is then ‘qualified’ in a series of dependent claims.”).

⁶⁰ *See, e.g.*, U.S. Patent No. 7,173,416 col. 10 ll. 27-29 (filed Mar. 4, 2002) (“8. Magnetic measurement probe according to claim 1, further comprising a sample support made of non-magnetic material of low electric conductivity.”); U.S. Patent No. 6,521,030 col. 16 ll. 38-43 (filed June 20, 2000) (“15. The set of inkjet inks according to claim 11, further comprising: a magenta ink comprising a magenta dye; and a yellow ink comprising a yellow dye.” (emphasis omitted)).

⁶¹ *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1242 (Fed. Cir. 2003) (“Under the doctrine of claim differentiation, dependent claims are presumed to be of narrower scope than the independent claims from which they depend.”).

⁶² *See* *Lemley*, *supra* note 14, at 1394 (“The doctrine [of claim differentiation] leads to a fruitless search for gradations of meaning that simply may not exist.”).

⁶³ *E.g.*, *Regents of Univ. of Cal. v. Dakocytomation Cal., Inc.*, 517 F.3d 1364, 1375 (Fed. Cir. 2008) (observing that “[p]resumptions are rebuttable” and that “the prosecution history overcame the presumption” generated by the doctrine of claim differentiation in the instant case).

presumption is somewhat weaker between horizontally related claims.⁶⁴ But at least between horizontally related claims, it is not clear that it makes sense to have any such presumption. Moreover, because a common effect of the presumption, even when operating vertically, can be the relative inflation of patent claims' overall scope, its operation might be especially perverse, providing extra reason for patent applicants to include in their applications a multiplicity of claims with ambiguous and variant language,⁶⁵ thus complicating the public's ability to interpret patent scope both as a result of the number of claims and as a result of the imprecision of language. Consequently, an anti-redundancy principle, rooted in an assumption about the undesirability of redundant or otherwise inefficient use of language, can in fact encourage greater redundancy in the form of multiplied claims and greater inefficiency in the form of at least arguably ambiguous language.

To understand why a common effect of the doctrine of claim differentiation might be the relative inflation of patent claims' overall scope, consider a hypothetical situation, chosen to be simple for purposes of illustration of inflationary effect, in which two claims differ only in that the first claim recites a requirement for a "nail" and the second claim recites a requirement for a "metal nail." In the absence of the second claim or perhaps in the absence of a doctrine of claim differentiation or similar redundancy principle, the term "nail" in the first claim might be understood, in accordance with a dictionary definition, to mean "a small metal spike."⁶⁶ In the presence of the second claim and the doctrine of claim differentiation, however, the addition of the term "metal" in the second claim generates a presumption that the "nail" of the first claim is not necessarily metal because otherwise the two claims will have identical scope. In short, the presence of the second claim and the doctrine of claim differentiation make it more likely that the first claim will be read more broadly.⁶⁷

⁶⁴ Cf. *Interdigital Communications, LLC v. U.S. Int'l Trade Comm'n*, 690 F.3d 1318, 1324 (Fed. Cir. 2012) ("The doctrine of claim differentiation is at its strongest in this type of case, where the limitation that is sought to be 'read into' an independent claim already appears in a dependent claim." (some internal quotation marks omitted)); *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003) (noting that the presumption generated by the doctrine of claim differentiation "is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim").

⁶⁵ Cf. Lemley, *supra* note 14, at 1395 ("Patent prosecutors often differentiate claims not because they have a different scope in mind for different claims, but because they know that the courts will apply the claim differentiation doctrine").

⁶⁶ THE POCKET OXFORD AMERICAN DICTIONARY OF CURRENT ENGLISH 524 (2002) (first listed definition of "nail").

⁶⁷ Cf. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) ("As the court has frequently stated, the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim."); *Dow Chem. Co. v. U.S.*, 226 F.3d 1334, 1341 (Fed. Cir. 2000) ("The doctrine of claim differentiation can support a broader construction of step (c) of claim 1 because the doctrine creates a rebuttable

The inflationary effect of claim differentiation and the incentives that it can provide for claim multiplication and imprecision might not be a concern if the processes of reading claims and assessing their scope were costless. But these processes are not costless, and claim construction in particular is notoriously difficult,⁶⁸ and there thus has been much concern about the extent to which the public is properly on notice of patent scope.⁶⁹ Further, the way claim differentiation's inflationary effect can depend on relatively subtle relationships between claims can reduce already low confidence that patent examiners, who commonly only have a couple dozen hours or less to work on an individual patent application, can avoid having the wool drawn over their eyes. An overworked patent examiner might have thought that a patent applicant's claims did not properly extend beyond objects including nails that were, in accordance with a common dictionary definition, made of metal, and, particularly as dependent claims might be unlikely to obtain much scrutiny in an examination process that can be expected to focus on the broadest claims in a patent application, the examiner might not have noted the subtle inclusion of "metal" in front of the word "nail" in one of the claims in a long patent document. But the doctrine of claim differentiation indicates that we should effectively assume the contrary, to the likely advantage of a patent applicant who, in the absence of the doctrine, might have drafted its claims more clearly and in smaller numbers from the start.⁷⁰

In sum, anti-redundancy principles predictably appear in courts' opinions on claim construction. Anti-redundancy principles might not be so problematic when they operate within the scope of a single claim, particularly when they press courts toward narrower construction of claims and thus operate effectively to encourage construing ambiguous claim language against the drafter. As embodied in the doctrine of claim differentiation, however, anti-redundancy principles seem more problematic, particularly to the extent they operate between only horizontally related claims and to the extent they have inflationary tendencies that tend to encourage multiplication of patent claims and ambiguities in claim language that drafters might otherwise have avoided.

B. Doctrinal Compartmentalization and Pushback

Anti-redundancy and redundancy concerns appear not only with respect to questions of patent claim construction but also with respect to questions of patent law doctrine more generally. Amidst the shifting sands of patent law doctrine there is continual debate over whether one or another argument really fits under one doctrinal rubric or another. For example, recent stirrings in

presumption that each claim in a patent has a different scope. Thus, the limitations stated in dependent claim 4 should ordinarily not be read into independent claim 1.”).

⁶⁸ See Golden, *supra* note 42, at 324 (“[C]laim construction jurisprudence continues to bear hallmarks of unpredictability.”).

⁶⁹ See JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* (2008).

⁷⁰ Cf. Lemley, *supra* note 14, at 1395 (“If patent lawyers are ... using the claim differentiation doctrine to game the claim construction process, rote application of the canon simply plays into their hands.”).

the law of subject-matter eligibility have led to questions of whether certain arguments should be viewed either exclusively or primarily as novelty or nonobviousness arguments, enablement arguments, or indefiniteness arguments, rather than subject-matter eligibility arguments. Underlying such questions often seems to be either an assumption or a conclusion that policymakers would ideally identify a single doctrinal rubric through which the arguments at issue will be processed. A longtime trend toward increasing doctrinal compartmentalization of patent law has facilitated these questions and associated background assumptions in at least two ways: (1) by providing more distinctly defined doctrinal rubrics whose domains might be plausibly argued to be exclusive and (2) by providing momentum for efforts to further distinguish and separate the domains of such rubrics.

1. Longtime Trend Toward Compartmentalization

Although many of the most basic requirements and provisions of patent doctrine have been stable for centuries,⁷¹ there has also been significant change and refinement of the structure and institutions of patent law. The requirement of a specification providing a written description of an alleged invention became a generally recognized requirement in England in the late eighteenth century.⁷² The United States introduced “a formal system of examination with professional examiners” in 1836.⁷³ Likewise, patent claims, specific portions of the patent document meant to delineate the scope of an alleged invention and the associated patent rights, first began to play a prominent role in patent law in the nineteenth century.⁷⁴ The nonobviousness requirement for patentability arose relatively slowly and was not codified in the U.S. Patent Act until 1952.⁷⁵

Moreover, from the late eighteenth century to the late twentieth century, U.S. patent law not only gathered unto itself new legal doctrine but also generated a greater sense of the distinctions between a variety of legal doctrines, the questions on which they focus, and even different associated parts of the patent document itself. A prominent example of such a development occurring before the emergence of the Federal Circuit in the 1980s was the noticeable movement of courts in the 1970s toward stronger distinctions between questions of patent claims’ validity and questions of patent scope, with the courts tending to move to the relative sidelines a previously more central interpretive canon providing that patent claims should be construed so as to preserve their validity.⁷⁶

⁷¹ MERGES & DUFFY, *supra* note 13, at 4 (noting that a Venetian law of 1474 “lays out most of the essential features of a modern patent statute”).

⁷² *See id.* at 6 (describing as “[a]n important change” “the increasingly stringent requirement that the applicant describe his or her invention clearly and completely, a development most often associated with [a] 1778 opinion of the well-respected Judge Mansfield”).

⁷³ *Id.* at 8.

⁷⁴ *See id.* at 750 (discussing the history of patent claims).

⁷⁵ *See id.* at 610 (discussing the nonobviousness “doctrine’s relative youth”).

⁷⁶ Golden, *supra* note 42, at 360-61 (“The 1970s may mark a true breakpoint, with courts finally developing strong tendencies to distinguish questions of equivalence, assessment of an invention’s

Some more recent refinements have reflected pressure to distinguish categories of issues in order to ensure proper allocation of responsibilities to judge and jury, a more strongly felt need after a norm of bench trials became replaced by a norm of jury trials in the last decades of the twentieth century.⁷⁷ Probably the most prominent of such developments is the Supreme-Court-sanctioned holding that claim construction is a process to be carried out by judges⁷⁸ and therefore, implicitly, necessarily to be distinguished from the determination of a patent claim's infringing equivalents, a separate issue of patent scope that, at least so far, has been generally left (at least in principle)⁷⁹ to a jury, rather than a judge.⁸⁰ In contrast, at least into the third quarter of the twentieth century, judicial decisions, which previously had come predominantly in cases involving bench trials,⁸¹ could mix questions of claim construction and equivalents much more freely, thereby almost necessarily leaving questions of literal claim scope and of the scope of equivalents on a relatively even level.⁸²

merit, and claim construction in both patentee-favorable and patentee-unfavorable opinions.”); *see also id.* at 359 (“[U]ntil quite recently, the nature of claim language and the rules of claim construction commonly required courts to determine patent scope through a technologically substantive inquiry involving consideration of what was necessary to distinguish prior art or which aspects of disclosed embodiments were ‘essential.’”).

⁷⁷ *See* Mark A. Lemley, *Why Do Juries Decide if Patents Are Valid?*, 99 VA. L. REV. 1673, 1705 fig.1 (2013) (showing a shift toward the majority of trials being jury trials in the last quarter of the twentieth century)

⁷⁸ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996) (holding “that the construction of a patent, including terms of art within its claim, is exclusively within the province of [a] court” and is not subject to the Seventh Amendment right to a jury trial).

⁷⁹ The “at least in principle” qualification reflects in part an increased tendency for judges to grant summary judgments of noninfringement that prevent the issue of equivalence from being resolved by a jury. *See* Lee Petherbridge, *On the Decline of the Doctrine of Equivalents*, 31 CARDOZO L. REV. 1371, 1374 (2010) (extrapolating from established trends a prediction “that the future of the doctrine of equivalents will be trial court summary judgments adverse to the patentee, affirmed by the Federal Circuit”).

⁸⁰ *See* *Hilton Davis Chem. Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512, 1522 (Fed. Cir. 1995) (en banc) (“[I]nfringement under the doctrine of equivalents is an issue of fact to be submitted to the jury in a jury trial with proper instructions, and to be decided by the judge in a bench trial.”), *rev’d in irrelevant part*, 520 U.S. 17, 38 (1997) (declining to reverse the Federal Circuit’s holding “that it was for the jury to decide whether the accused process was equivalent to the claimed process”).

⁸¹ *See supra* text accompanying note 77.

⁸² *Id.* at 360 (“[U]ntil the last few decades of the twentieth century, courts and commentators portrayed the primary test for infringement as one of whether the accused product or process was at least equivalent to what was literally claimed.”).

The refinements and distinctions that have emerged over the centuries have in many respects been improvements, helping to bring greater clarity, reproducibility, and comprehensibility to various forms of legal analysis and argument. But particularly as patent law's individual doctrines tend to be, at best, rough proxies for desirable social goals,⁸³ focus on separate refinements of legal doctrine has also raised the risk of losing a sense of general perspective and orientation for what the legal doctrine is accomplishing as a whole. In this way, the refinement and distinction of patent law doctrine might have contributed to a current widespread sense that, from a policy perspective, the current patent regime is broken or, alternatively stated, not close to functioning as it should.⁸⁴ An associated backlash has featured a shift toward greater opportunities for more “holistic” analysis⁸⁵ of questions relating to patent rights' validity and effective power—perhaps most prominently in evaluation of subject-matter eligibility and judicial assessments of infringement remedies.⁸⁶

A quick way to gain some appreciation for the historical trend toward refinement and compartmentalization of patent doctrine is to compare the 1790 Patent Act⁸⁷ with the Patent Act of the present day. The 1790 Act occupied about two pages of single-column text and contained seven sections, each only one-paragraph long and without separately identified subsections.⁸⁸ Section 1 laid out both the basic procedures for obtaining a patent and the basic patentability requirements—namely, that the alleged invention be either a “useful art, manufacture, engine, machine, or device” that the applicant had “invented or discovered” or “any improvement therein

⁸³ See John M. Golden, *Patentable Subject Matter and Institutional Choice*, 89 TEX. L. REV. 1041, 1065 (2011) (contending that, generally speaking, patentability requirements “are no more than crude proxies for the question of whether any individualized patent grant will further overall social goals”); cf. John M. Golden, *Principles for Patent Remedies*, 88 TEX. L. REV. 505, 551 (2010) (“[C]onflicting goals, an ill-defined sense of what patent owners should receive, economic and technological contingency, and a relative scarcity of good empirical data combine to create deep uncertainty about how the patent system is performing and even what it should seek to accomplish.”).

⁸⁴ See John M. Golden, *Proliferating Patents and Patent Law's “Cost Disease”*, 51 HOUS. L. REV. 455, 456 (2013) (“Since at least 1999, the exact words ‘The patent system is in crisis’ have appeared so often in academic literature that they might be considered a meme.”).

⁸⁵ Use of the term “holistic” here resonates with its usage by Polk Wagner and Lee Petherbridge to describe an approach to claim construction that is relatively “free-form,” “seeking the correct meaning according to the particular circumstances presented, rather than following the formal steps and hierarchy of information sources seen in [what Wagner and Petherbridge term] the procedural method.” R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105, 1133-34 (2004).

⁸⁶ See *infra* text accompanying notes ____.

⁸⁷ Patent Act of 1790, ch. 7, 1 Stat. 109 (repealed 1793).

⁸⁸ *Id.* at 109-12.

John Golden

When Law Repeats Itself ...

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not before known or used.”⁸⁹ Section 1 also indicated that the grant of a patent contained an additional discretionary aspect that has dropped out of U.S. patent statutes—namely, whether the “Secretary of State, the Secretary of the department of war, and the Attorney General, or any two of them, ... deem the invention or discovery sufficiently useful and important, to cause letters patent to be made out.”⁹⁰ Section 2 of the 1790 Act then recited the basic disclosure requirements, specifically the need for an applicant to “deliver to the Secretary of State a specification in writing, containing a description, accompanied with drafts or models, and explanations and models (if the nature of the invention or discovery will admit of a model) ... of the thing or things ... invented or discovered ...; which specification shall be so particular, and said models so exact, as not only to distinguish the invention or discovery from other things before known and used, but also to enable a workman or other person skilled in the art or manufacture ... to make, construct, or use the same.”⁹¹ Sections 3 through 7 added provisions on the public availability of specifications and models,⁹² on remedies for patent infringement,⁹³ on challenges to patent rights,⁹⁴ and on fees for patent issuance.⁹⁵

The modern Patent Act spans dozens of pages and has dozens of sections.⁹⁶ These sections are, in turn, often broken down into specifically itemized subsections.⁹⁷ The present-day Patent Act’s table of contents alone spans over four pages of double-column text in the *Manual of Patent Examining Procedure*.⁹⁸

More significantly for purposes here, however, the current Act reflects a significant amount of separation, refinement, and supplementation—as well as various modifications—of the basic provisions appearing in the 1790 Act. For example, unlike the 1790 Act, the modern Patent Act generally presents the main patentability requirements separately from provisions on

⁸⁹ *Id.* § 1, at 109-10.

⁹⁰ *Id.* § 1, at 110.

⁹¹ *Id.* § 2, at 110.

⁹² *Id.* § 3, at 111 (imposing on the Secretary of State a “duty” to make available copies of specifications and opportunities to copy models on request “at the expense” of the requester).

⁹³ *Id.* § 4, at 111 (providing for damages and for forfeiture of infringing articles).

⁹⁴ *Id.* §§ 5-6, at 111-12 (enabling challenges to patent rights filed in district court “within one year” of patent issuance and enabling challenges to patent rights made in defense to charges of patent infringement).

⁹⁵ *Id.* § 7, at 112 (specifying fees to be paid “to the several officers employed in making and perfecting” a patent).

⁹⁶ *See generally* 35 U.S.C.

⁹⁷ *See id.*

⁹⁸ U.S. PATENT & TRADEMARK OFFICE, *MANUAL OF PATENT EXAMINING PROCEDURE* app. L, at L-1 to L-5 (9th ed. Mar. 2014). Even if one excluded listings of repealed sections or repetition due to the continuing force of provisions under pre-America Invents Act law, the table of contents would span about three pages of double-column text. *See id.*

administrative procedure such as the processes of patent application and grant. Further, analogs to the patentability requirements appearing in section 1 of the 1790 Act are spread among three separate sections of the modern Patent Act:

§ 101 requiring “invent[ion] or discov[ery of a] new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof”;⁹⁹

§ 102 specifying, through multiple itemized subsections, a variety of details relating to the determination of novelty and, more generally, the classification of material as prior art for purposes of assessing novelty or nonobviousness;¹⁰⁰ and

§ 103 setting forth the standard for the nonobviousness requirement of patentability.¹⁰¹

Courts and commentators have frequently ascribed legal significance to the spinning off of sections 102 and 103 from section 101. Despite the current § 101’s retention of “invent[ion] or discov[ery]” language and its use of the adjective “new,” questions about whether an alleged invention is sufficiently new or inventive to be patentable are commonly seen as the virtually exclusive domains of sections 102 and 103 on novelty and nonobviousness. Indeed, one of the primary authors of the 1952 Patent Act described § 103, which represented the first time a requirement of nonobviousness was codified in the U.S. Patent Act,¹⁰² as having been intended “to substitute ... for the requirement of ‘invention’ and for all prior case law” on that requirement.¹⁰³ In 1981, the U.S. Supreme Court examined the legislative history behind the development of § 102 as a freestanding novelty section separate from § 101.¹⁰⁴ The Court stated in strong language that, in accordance with the history, questions of subject-matter eligibility under § 101 and questions of novelty under § 102 or nonobviousness under § 103 are wholly separate.¹⁰⁵ In the Court’s words, “[a] rejection on either [novelty or nonobviousness] grounds does not affect the determination that

⁹⁹ 35 U.S.C. § 101.

¹⁰⁰ *Id.* § 102 (including multiple sections in both its pre-AIA and post-AIA forms). The pre-AIA version of § 102 includes provisions relating to so-called “statutory bars” to patentability that are often distinguished from true questions of novelty, *see* MERGES & DUFFY, *supra* note 13, at 493 (“In addition to its novelty-defining provisions, 1952 Act § 102 contains what are known as statutory bars, or ‘loss of right’ provisions as they are called in the statutory title.”).

¹⁰¹ *Id.* § 103.

¹⁰² MERGES & DUFFY, *supra* note 13, at 624 (“Section 103 of the 1952 Act was the first legislative attempt to structure judicial thinking about obviousness.”).

¹⁰³ Giles S. Rich, *Laying the Ghost of the “Invention” Requirement*, 1 APLA Q.J. 26, 36 (1972). *See generally* John F. Duffy, *Inventing Invention: A Case Study of Legal Innovation*, 86 TEX. L. REV. 1, 43 (2007) (“In the midst of general unhappiness with the Court’s invention standard ... Congress stepped in and enacted § 103 of the 1952 Patent Act.”).

¹⁰⁴ *Diamond v. Diehr*, 450 U.S. 175, 190-91 (1981) (discussing “[t]he legislative history of the 1952 Patent Act”).

¹⁰⁵ *Cf. id.* at 190 (“The question therefore of whether a particular invention is novel is wholly apart from whether the invention falls into a category of statutory subject matter.” (internal quotation marks and emphasis omitted)).

respondents' claims recited subject matter which was eligible for patent protection under § 101."¹⁰⁶ By explaining at length the distinction of § 101 questions from § 102 questions and § 103 questions, the Supreme Court's 1981 opinion thus exemplifies—and perhaps also helped promote—the tendency of members of the patent community to “bin” certain issues by statutory section or subsection.

Modern analogs of the adequate disclosure provisions of section 2 of the 1790 Act are likewise spread over three sections of the current Patent Act:

§ 112, which has multiple subsections that separately require both “one or more claims particularly pointing out and distinctly claiming the subject matter ... regard[ed] as the invention” and also “a written description of the invention” that enables its reproduction and use by one of skill in the art and that “set[s] forth the best mode contemplated” for implementing the invention;¹⁰⁷

§ 113 requiring the provision of “a drawing where necessary for the understanding of the subject matter to be patented”;¹⁰⁸ and

§ 114 authorizing the USPTO to “require the applicant to furnish a model of convenient size” or “specimens or ingredients” for an “invention relat[ing] to a composition of matter.”¹⁰⁹

Moreover, the first subsection of § 112 is now recognized to impose three distinct requirements: (1) a requirement of a “written description” sufficient to “reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date” of the relevant patent application;¹¹⁰ (2) a further requirement that the written description enable one of skill in the art “to make and use” the invention;¹¹¹ and (3) the now significantly less enforceable requirement¹¹² that the written description disclose the “best mode.”¹¹³

¹⁰⁶ *Id.* at 191.

¹⁰⁷ 35 U.S.C. § 112. In the post-AIA version of § 112, its subsections are fully itemized as subsections (a) through (f). In the pre-AIA version, corresponding subsections appeared as separate paragraphs that the patent community came to refer to as paragraphs one through six even though no specific enumeration was included in the statute.

¹⁰⁸ 35 U.S.C. § 113.

¹⁰⁹ 35 U.S.C. § 114.

¹¹⁰ *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

¹¹¹ *See id.* at 1344 (holding that the written description and enablement requirements are “two separate description requirements”).

¹¹² *See* 35 U.S.C. § 282(b)(3)(A) (excluding “failure to disclose the best mode” from bases for patent claim invalidity that provide potential defenses to a charge of patent infringement).

¹¹³ MUELLER, *supra* note 57, at 117-18 (observing that the first subsection of § 112 is understood to impose “three separate requirements for the disclosure of a patent ...: (1) enablement, (2) best mode, and (3) written description of the invention” (emphasis omitted)); *see also Ariad*, 598 F.3d at 1344 (agreeing with party’s contention that the first subsection of § 112 imposes “three separate requirements”).

One could go on describing ways in which the U.S. Patent Act's substantive provisions have been expanded, multiplied, and more strictly distinguished over time. For example, the Patent Act now has an entire section, 35 U.S.C. § 271, that defines, through separately itemized subsections, different ways that patent claims may be infringed. As a result, a recent decision of the Supreme Court could and did confine itself to reviewing whether, under certain assumptions, there was infringement under subsection (b) of § 271, even though the petitioner sought to have the Court address whether there was infringement under § 271(a).¹¹⁴ Another example of a portion of the Patent Act where there has been a multiplication and distinction of provisions comes in the form of the current Act's provisions for patent-infringement remedies, which now span five different sections of the Act.¹¹⁵ The different wording of the Act's separate sections on injunctive relief "to prevent infringement" and damages "adequate to compensate for the infringement" has led the Federal Circuit to determine that the statute only authorizes forward-looking injunctions, rather than injunctions that help mitigate or correct for past harm.¹¹⁶

Without multiplying examples further, the point seems reasonably well established. U.S. patent law has experienced a longtime trend of doctrinal growth and refinement that has led to greater compartmentalization of legal issues, greater tendencies to argue that certain questions are exclusively or at least overwhelmingly the province of one legal doctrine instead of some combination of doctrines, and greater opportunities for such arguments for compartmentalization to proliferate.

2. No Vitiating Doctrine and the Doctrine of Equivalents

The splitting of the determination of patent scope into claim construction by a judge and assessment of alleged infringement by equivalents, commonly by a jury,¹¹⁷ has generated one of the more interesting fronts between redundancy and anti-redundancy principles in patent law. The doctrine of equivalents enables courts to find infringement of patent claims even when an accused product or process does not fall within the literal scope of the claims. As the U.S. Supreme Court has explained, "[u]nder this doctrine, a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented

¹¹⁴ *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111, 2120 (2014) (noting that "the question presented is clearly focused on § 271(b), not § 271(a)").

¹¹⁵ 35 U.S.C. §§ 283-87 (providing for injunctions, damages, shifting of attorney fees, time and notice limitations on damages, and certain exemptions from remedies for prior use or medical use of a claimed invention).

¹¹⁶ John M. Golden, *Injunctions as More (or Less) than "Off Switches": Patent-Infringement Injunctions' Scope*, 90 TEX. L. REV. 1399, 1424 (2012) ("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.").

¹¹⁷ See *supra* text accompanying notes ____.

invention.”¹¹⁸ Consequently, the doctrine acts as a sort of failsafe mechanism in patent law, protecting the patentee’s side of the disclosure-for-exclusive-rights bargain by helping to close “loopholes” in patent scope that can result from practical limitations of patent drafting or from deliberate efforts to gain all the benefits of the patentee’s claimed invention while avoiding the patent’s literal scope.¹¹⁹ But the doctrine’s fuzziness—a predictable result of its resting on notions of “insubstantial difference” or “substantial similarity”¹²⁰ and judicial determination that it should not be reduced to a more precise formula¹²¹—raises notice concerns for a public that would like to make plans in advance based on an accurate understanding of what patent law does and does not allow.¹²² More to the point here, the doctrine can invite arguments that are in many respects repetitious of arguments already made—and presumably already lost—in seeking a broader claim construction, an understanding of the literal scope of the claims that would have encompassed an accused product or process without resort to the doctrine of equivalents. These arguments can then trigger an adverse reaction from judges, who might perceive such arguments as an attempt effectively to relitigate a question already lost, with a natural reaction perhaps being a relatively curt rejection of the arguments—without their being allowed to go to a jury—on the ground that they are seeking to “vitiate” claim language that the court has just construed.¹²³

¹¹⁸ *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997).

¹¹⁹ *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002) (“If patents were always interpreted by their literal terms, ... [u]nimportant and insubstantial substitutes for certain [patent claim] elements could defeat the patent, and its value to inventors could be destroyed by simple acts of copying.”).

¹²⁰ MUELLER, *supra* note 57, at 475 (describing tests for infringement by equivalence).

¹²¹ *See Warner-Jenkinson*, 520 U.S. at 39-40 (indicating that “[d]ifferent linguistic frameworks [for infringement by equivalence] may be more suitable to different cases” and that both an “insubstantial differences test” and “the so-called ‘triple identity’ test—focusing on the function served by a particular claim element, the way that element serves that function, and the result thus obtained”—might be acceptable under various circumstances).

¹²² *See* 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, 1978 (2005) (“One of the most common objections to the [doctrine of equivalents] is the doctrine’s negative effect on the notice function of patent claims.”); Petherbridge, *supra* note 79, at 1374 (“By allowing a patentee to exclude others from subject matter beyond the textual scope of a patent’s claims, the doctrine fosters uncertainty in competition.”).

¹²³ *See Packless Metal Hose, Inc. v. Extex Energy Equipment (Zhejiang) Co.*, No. 2:09-CV-265-JRG (E.D. Tex. Feb. 22, 2013), *available at* 2013 WL 682845 at *7 (rejecting argument for equivalence on grounds that application of the doctrine of equivalents “would vitiate [relevant] claim elements” in a situation where a party’s equivalence arguments, “in essence, repeat[ed] its arguments with respect to literal infringement”).

The case of *Unique Concepts, Inc. v. Brown*¹²⁴ offers an example of how the doctrine of equivalents can invite arguments for infringement that seem largely to reiterate prior claim construction arguments. As a bonus, the case also provides an example of the invocation of anti-redundancy concerns in claim construction itself.

Unique Concepts involved a patent directed “to an ‘assembly of border pieces’ used to attach a fabric wall covering to a wall.”¹²⁵ The patentee argued that the claim term “right angle corner border pieces” should be construed to encompass not only single-unit right-angle structures but also multiple-unit right-angle structures that were formed by arranging two separate linear structures at a right angle.¹²⁶ A divided Federal Circuit rejected the patentee’s argument, partly because the panel majority felt that construing “right angle corner border pieces” to encompass structures made of separate linear elements would insufficiently distinguish “linear border pieces” also required by the claims.¹²⁷ The Federal Circuit explicitly invoked concern about redundancy to support its conclusion, saying:

If, as *Unique* argues, linear border pieces of framing material, whose ends are mitered, are the same as linear border pieces *and* a right angle corner piece, the recitation of both types of pieces is redundant.¹²⁸

Even aside from the advisability of anti-redundancy canons of interpretation, the reasoning here seems questionable because one can readily conceive of “linear border pieces” that are far from any corner and thus not to be considered part of even a multi-part “right angle corner piece.” In short, as with *Marbury v. Madison*, this case might give support to the notion that one reason to oppose anti-redundancy canons is their apparent liability to misapplication that short-circuits more careful argument.

More to the point of this subsection, the patentee in *Unique Concepts* followed its failed claim-construction argument with a contention that, even if a multi-part “right angle corner border piece” was not within the literal scope of the claim language, such a multi-part piece was nonetheless equivalent to a single-part “right angle corner border piece” that the claim language had been held to literally require.¹²⁹ In response to the patentee’s argument, a key inquiry for assessing equivalence was whether a multi-part “right angle corner border piece” performed substantially the same function in substantially the same way with substantially the same result as a single-part “right angle corner border piece.”¹³⁰ Determination of whether such objects were “substantially the same” in relevant respects involved review of arguments and materials that were

¹²⁴ 939 F.2d 1558 (Fed. Cir. 1991).

¹²⁵ *Id.* at 1559.

¹²⁶ *See id.* at 1561 (internal quotation marks omitted).

¹²⁷ *See id.* at 1562 (“The fact that mitered linear border pieces meet to form a right angle corner does not make them right angle corner pieces, when the claim separately recites both linear border pieces and right angle corner border pieces.”).

¹²⁸ *Id.*

¹²⁹ *Id.* at 1563-64 (discussing equivalence arguments and their resolution by the district court).

¹³⁰ *Id.* at 1564 (discussing the function-way-result test for infringement by equivalence).

themselves the same or substantially the same as much of those used in evaluating the claim language's literal scope. In both contexts, the court's opinion pointed to what it viewed as key language in the patent's specification, language that distinguished between multi-part "improvis[e] corner pieces" and single-part "preformed corner pieces," indicating that "a preformed corner piece is somewhat easier for a do-it-yourselfer to work with."¹³¹

In short, *Unique Concepts* shows how arguments in relation to the doctrine of equivalents can substantially involve rehashing arguments already made in relation to claim construction. Although the Federal Circuit's *Unique Concepts* opinion avoided invoking the doctrine against vitiating claim limitations through the doctrine of equivalents, the case at least suggests why courts can easily be attracted to assertions that arguments of equivalence would "vitate" claim language as a means of cutting off seemingly repetitive arguments by the patentee. It is perhaps no wonder therefore that the Federal Circuit needs to periodically admonish lower courts that the "no vitiation" doctrine should not be invoked lightly¹³² lest it improperly vitiate the doctrine of equivalents itself.¹³³

3. Pushback on Subject Matter and Remedies

As discussed above, U.S. patent law has experienced a longtime trend of doctrinal refinement and compartmentalization of legal doctrines that has increased the opportunities for anti-redundancy principles to come into play. But there has been significant pushback against this trend in the last decade, arguably in part because doctrinal compartmentalization has helped enable patent law to slip too loose of its social-welfare promoting purpose.¹³⁴ There have been at least two major fronts in this pushback:

- (1) revitalization of subject-matter eligibility doctrine, accompanied by recognition that subject-matter eligibility analysis can overlap with other patentability or claim validity analyses,¹³⁵ and

¹³¹ *Id.* at 1562 (internal quotation marks omitted); *see also id.* at 1564 (discussing and affirming district court's resolution of arguments on infringement by equivalence).

¹³² *See, e.g.,* Charles Mach. Works, Inc. v. Vermeer Mfg. Co., 723 F.3d 1376, 1381 (Fed. Cir. 2013) ("hold[ing] that a reasonable jury could have found equivalence, and the [district] court erred by making a contrary legal determination"); *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1356 (Fed. Cir. 2012) (seeking to correct "a common misperception regarding 'vitiation'" and stating stat "[c]ourts should be cautious not to shortcut this inquiry by identifying a 'binary' choice in which an element is either present or not present").

¹³³ *Deere*, 703 F.3d at 1356 ("Of course, in every case applying the doctrine of equivalents, at least one claimed element is not literally present in the accused product.").

¹³⁴ *See supra* text accompanying notes ____.

¹³⁵ *See infra* text accompanying notes ____.

- (2) revisitation of remedies doctrines, with renewed emphasis on a variety of issues that implicate wide-ranging policy concerns and, in the damages context, make greater demands for assessment of something like the practical worth of a patentee's claimed invention.¹³⁶

The Supreme Court has issued four decisions on subject-matter eligibility in the last half decade.¹³⁷ In each one, the Court has found at least some of the patent claims at issue to be invalid or unpatentable because they encompassed ineligible subject matter.¹³⁸ In so doing, the Court's opinions have overrun the sharp distinction between questions of subject-matter eligibility and questions of novelty or nonobviousness that language from the Court's 1981 opinion on subject-matter eligibility suggested. Instead, questions of the conventionality or unconventionality of various aspects of a claimed invention are found to be relevant to subject-matter eligibility analysis.¹³⁹ Apparently, a key motivation for the Court has been the concern that more compartmentalized, less overlapping and at least partially redundant analysis might make it too easy for a clever drafter of patent claims to skirt the intended bite of subject-matter requirements while also satisfying—or at least, for purposes of pre-issuance review by the USPTO, appearing to satisfy—other, more refined tests for patentability.¹⁴⁰ In this way, the revitalized subject-matter

¹³⁶ See John M. Golden, *Patent Privateers: Private Enforcement's Historical Survivors*, 26 HARV. J.L. & TECH. 545, 605 & n.406 (2013) (noting that, in recent years, “[t]he Supreme Court and the Federal Circuit have together limited the availability or value of patent-infringement remedies”).

¹³⁷ See John M. Golden, *Flook Says One Thing, Diehr Says Another: A Need for Housecleaning in the Law of Patentable Subject Matter*, 83 GEO. WASH. L. REV. (forthcoming symposium article).

¹³⁸ *Id.*

¹³⁹ See, e.g., *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2359 (2014) (noting in analyzing subject-matter eligibility that “all of [a number of listed] computer functions are ‘well-understood, routine, conventional activit[ies]’ previously known to the industry” (quoting *Mayo Collaborative Servs. v. Prometheus Labs.*, 132 S. Ct. 1289, 1294 (2012))); *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013) (describing the Court as “determin[ing] whether Myriad’s patents claim any ‘new and useful ... composition of matter,’ § 101, or instead claim naturally occurring phenomena”); *Mayo Collaborative Servs. v. Prometheus Labs.*, 132 S. Ct. 1289, 1294 (2012) (explaining a finding of lack of subject-matter eligibility in part by noting that “the steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity, previously engaged in by researchers in the field”); *Bilski v. Kappos*, 130 S. Ct. 3218, 3231 (2010) (explaining the lack of subject-matter eligibility of claims for methods of hedging risk in part on the ground that “[h]edging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class” (internal quotation marks omitted)).

¹⁴⁰ See *Alice*, 134 S. Ct. at 2360 (“This Court has long ‘warn[ed] .. against’ interpreting § 101 ‘in ways that make patent eligibility depend simply on the draftsman’s art.’” (quoting *Mayo*, 132 S. Ct. at 1294) (some internal quotation marks omitted)); *Mayo*, 132 S. Ct. at 1294 (observing that prior “cases warn us against interpreting patent statutes in ways that make patent eligibility depend simply on the draftsman’s art without reference to [underlying] principles” (internal quotation marks omitted)).

eligibility doctrine seems at least partly to serve a role in patentability analysis that compares to unconscionability doctrine's role in contract validity analysis—namely, acting as a backstop doctrine that protects against strategic or abusive behavior that fits through the cracks left by other, more specific doctrines.

The “new” remedies analysis can also be viewed as playing a backstop or “safety valve” role. After the Supreme Court's decision in *eBay Inc. v. MercExchange, L.L.C.*,¹⁴¹ patentees who have succeeded in showing a continuing course of patent infringement can no longer generally assume that they will obtain injunctions against further violations.¹⁴² Instead, there are real hurdles to obtaining such relief that enable courts to focus attention on practical concerns such as prospects of real-world harm to either side or to the general public.¹⁴³ Likewise, stricter demands for patentee proof of damages can lead courts to consider questions of real-world value, the viability of alternative design options, and the prospects for real-world harm that interact with patent law's doctrinal rubrics for patentability and infringement but also reach beyond them,¹⁴⁴ providing courts with opportunities to look to the vindication of public or private interests that can lie at the heart of patent law's purpose but are generally no more than imperfectly reflected in its separate doctrines.

C. Institutions and Procedure

Another area where there seems lately to have been an increased willingness to increase at least some forms of redundancy has been in the realm of institutions and procedure. Here, the U.S. Supreme Court's resumption of a serious role in reviewing questions of substantive patent law, after a decade or so of allowing the new Federal Circuit virtual free rein,¹⁴⁵ can be viewed as an example of revitalization of a redundancy within the system—an allowance for second-level appellate review even after review by a circuit court having centralized jurisdiction over patent appeals and thus having the capacity, without Supreme Court intervention, to substantially resolve questions of patent law on a nationally basis. But institutional and procedural innovations that have increased forms of system redundancy have centered mostly in the USPTO. The USPTO has implemented some forms of error-checking redundancy on its own, perhaps most prominently

¹⁴¹ 547 U.S. 388 (2006).

¹⁴² *Id.* at 391 (setting forth “a four-factor test” that a patentee must satisfy before obtaining a permanent injunction).

¹⁴³ *Id.* (listing factors involving consideration of “the balance of hardships” and “the public interest”).

¹⁴⁴ *Cf.* Roy J. Epstein & Paul Malherbe, *Reasonable Royalty Patent Infringement Damages After Uniloc*, 39 AIPLA Q.J. 3, 4 (2011) (noting that recent Federal Circuit decisions “point to a higher standard of economic analysis in patent damages cases”).

¹⁴⁵ John M. Golden, *The Supreme Court as “Prime Percolator”: A Prescription for Appellate Review of Questions in Patent Law*, 56 UCLA L. REV. 657, 670 (2009) (noting that a rise in Supreme Court review of patent cases after the early 1990s “is almost wholly attributable to the advent of its involvement in core questions of substantive patent law”).

through the institution of “second pair of eyes” review of applications for patents on business methods.¹⁴⁶ Other reforms enacted by Congress have generated new opportunities to revisit the USPTO’s initial decision to issue a patent: initially through the offering of ex parte reexamination in the 1980s,¹⁴⁷ nearly two decades later through the addition of an option of inter partes reexamination,¹⁴⁸ and finally under the 2011 America Invents Act through a new set of provisions for post-grant proceedings through which the USPTO can reconsider an initial patent grant.¹⁴⁹ Such proceedings not only permit checks on the USPTO’s earlier work but also can act as alternatives to expensive litigation in the courts, thus highlighting how some forms of redundancy might actually promote speed of action and the lowering of direct costs by offering cheaper substitutes for preexisting procedural institutions or forms.

In short, as in U.S. law more generally, the realm of institutions and procedure seems to have been one where redundancy and the introduction of new forms of at least partial redundancy have proven least objectionable. Whereas recent doctrinal adjustments to subject-matter eligibility and remedies law have so far only pushed on traditional compartmentalization of doctrinal roles relatively marginally, patent law’s institutional subunits and procedures have multiplied with the express purpose of permitting opportunities for further administrative review that revisit prior USPTO determinations or provide alternatives to litigation in the district courts or before the International Trade Commission.

IV. Conclusion

This paper analyzes the role of redundancy and anti-redundancy principles in law, with a particular focus on their manifestation in U.S. patent law. Preliminary thoughts are that, especially with respect to interpretive principles and doctrinal structure, anti-redundancy has commonly had excessive sway as a principle of legal design and that the recent history of U.S. patent law helps illustrate this. A great variety of complex systems, artificial and organic, testify to the value of redundancy as a design principle when reliability, adaptability, and robustness against anomaly are significant design goals. On the other hand, the fact that anti-redundancy principles can have advantages in appropriate contexts suggest that, although anti-redundancy concerns should not generally create a presumption against redundancy, they might be best deployed as context-

¹⁴⁶ Michael J. Meurer, *Patent Examination Priorities*, 51 WM. & MARY L. REV. 675, 696 (2009) (discussing the USPTO’s “Second Pair of Eyes Review (SPER) program” that “required a second review of business method patents after their initial allowance” and reflected “concern about improper grants of business method patents, and a more general concern about the quality of those patents”).

¹⁴⁷ MERGES & DUFFY, *supra* note 13, at 1039 (discussing the enactment of provisions for ex parte reexamination in 1980).

¹⁴⁸ *Id.* (discussing the enactment of provisions for inter partes reexamination in 1999).

¹⁴⁹ *Id.* at 1046 (noting that the America Invents Act of 2011 “accelerate[d] the trend toward administrative review of patent validity decisions” by “creat[ing] no fewer than five new types of PTO procedures involving patents”).

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sensitive factors that are not necessarily determinative but that can have weight with respect to questions of legal interpretation and design.