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INTELLIGENT DESIGN¹

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ABSTRACT

When designers can obtain exclusive intellectual property (IP) rights in the functional aspects of their creations, they can wield these rights to increase both the costs to their competitors and the prices that consumers must pay for their goods. IP rights and the costs they entail are warranted when they serve as needed incentives to encourage designers to invest in creating new socially valuable designs. But the law must be wary of allowing rights to be misused. Accordingly, IP law has employed a series of doctrinal and costly screens to channel designs into the appropriate regime—copyright law, design patent law, or utility patent law. Unfortunately, those screens are no longer working. Designers are able to obtain powerful IP protection over the utilitarian aspects of their creations without demonstrating that they have made socially valuable contributions and without paying substantial fees that weed out weaker designs. This is bad for competition and bad for consumers.

In this article, we integrate theories of doctrinal and costly screens, and we explore their roles in channeling IP rights. We demonstrate how these two types of screens can serve as complements in the efficient regulation of design protection, and we illustrate the inefficiencies that have arisen through their misapplication in copyright and design patent laws. Finally, we propose a variety of solutions that would move design protection towards a successful channeling regime, balancing the law's needs for incentives and competition. Those proposals include improving doctrinal screens to weed out functionality, making design protection more costly, and preventing designers from obtaining multiple forms of protection for the same design.

INTRODUCTION

¹ © 2017 Christopher Buccafusco, Mark A. Lemley, & Jonathan S. Masur.

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Intellectual property (IP) law in the U.S. has two primary regimes for protecting the aesthetic or ornamental aspects of product design—copyright law and design patent law.⁵ In theory, these separate regimes exist to handle different sorts of products, with different sorts of costs and benefits arising from IP protection.⁶ Copyright protection is available for any works that are at least trivially original and creative, it arises without registration or substantial examination, and it lasts for about a century.⁷ Design patent protection, by contrast, is only available for inventions that are novel and nonobvious, it requires an application and pre-grant examination to commence, and it lasts for only fifteen years.⁸ Based on these differences, any rational designer would clearly prefer copyright protection over design patent protection.

Traditionally, however, copyright law's useful articles doctrine has prevented many designers from taking advantage of its lower threshold and longer duration.⁹ The useful articles doctrine channeled functional designs into the design patent regime rather than the copyright regime.¹⁰ Only works that had significant, independent aesthetic content—and only that aesthetic content—could receive copyright protection. Any aspect of a design that was partly functional could not be protected under copyright.¹¹

While copyright law typically screened out functional aspects of works from protection, design patent law has made it easier to protect functional works. Design patent protection is supposed to extend only to the ornamental aspects of a work, but design patent law—unlike copyright law—has traditionally given at least some protection to parts of a work that are both ornamental and functional.¹² When IP law grants protection to useful or functional features of a product rather than merely aesthetic or ornamental ones, it can convey substantial market power on those holding the right.¹³ This market power can harm both consumers, who must pay higher prices, and subsequent designers and inventors, who must license the existing IP or find ways to design around it.¹⁴ Accordingly, IP law should

⁵ A third regime – trademark law – is also sometimes used to protect designs. We treat trademark law separately in this Article. *See infra* Part II.C.

⁶ By “product design” we refer to a wide variety of products in the fields of applied art and industrial design, including consumer electronics, clothing, bicycles, furniture, and automobiles.

⁷ *See infra* notes 80-88.

⁸ *See infra* notes 119-122.

⁹ 17 U.S.C. § 101.

¹⁰ Christopher Buccafusco & Mark A. Lemley, *Screening Functionality*, VA. L. REV. (forthcoming 2017).

¹¹ *Id.*

¹² *Id.*

¹³ *See infra* notes 36-44 and accompanying text (explaining why functionality can lead to market control).

¹⁴ *See* Christopher Buccafusco, Stefan Bechtold & Christopher Jon Sprigman, *The Nature of Sequential Innovation*, 59 WM. & MARY L. REV. (forthcoming 2017) (describing and analyzing the

carefully channel designers into either design patents or copyrights, depending on what they have created. And it should reserve protection for functional elements for utility patent law, which has still higher thresholds for protection.

If IP law allows claimants to gain some protection for functional aspects of a design, it should not do so easily or cheaply. It should insist that they have contributed something of high value, and it should be circumspect about the protection it offers. In this Article, we explain how IP law can and should use two separate techniques—doctrinal screens and costly screens—to make sure that designs are channeled to the appropriate regime and receive efficient protection. Doctrinal screens use substantive legal rules that exclude certain sorts of claims from a given regime. Different IP regimes' varying creativity thresholds and functionality prohibitions are doctrinal screens. Costly screens, by contrast, channel designs into different regimes by altering the costs of obtaining rights.¹⁵ The costs of applying for a patent, including the fees that an applicant must pay to the Patent and Trademark Office (PTO), create costly screens that discourage certain claimants from seeking protection. We demonstrate how IP law can effectively use doctrinal and costly screens in tandem to optimize design innovation.

The system that has been in place for channeling designs between copyright, design patent, and utility patent laws should work well if it were operating as intended. Copyright law has a low creativity threshold and a costless screen, but its high functionality bar should channel utilitarian creations to design patent law. There they would meet a high doctrinal creativity screen and a costly application screen. The combination of high doctrinal and costly screens should minimize the costs of letting the inventor control some aspect of functionality by limiting protection to designs that are most likely to have high social value and restricting the control that such rights give.¹⁶

Unfortunately, however, the actual operation of IP's channeling techniques is very different. Neither copyright law nor design patent law apply the sorts of screens that theory and law require. Consider first copyright law after the Supreme Court's recent decision in *Star Athletica v. Varsity Brands*.¹⁷ That opinion fundamentally alters copyright law's functionality screen, allowing highly functional products to obtain copyrights. As a result, a variety of products that the law had excluded from the realm of copyright may now be able to take advantage of its low

choice between using existing IP or inventing around it); *infra* note 44 and accompanying text.

¹⁵ Jonathan S. Masur, *Costly Screens and Patent Examination*, 2 J. LEGAL ANALYSIS 687 (2010); David Fagundes & Jonathan S. Masur, *Costly Intellectual Property*, 65 VAND. L. REV. 677, 681 (2012) (discussing the social value of costly screens).

¹⁶ We discuss the operation of these screens in detail *infra* Part I.

¹⁷ *Star Athletica, L.L.C. v. Varsity Brands, Inc.*, 137 S.Ct. 1002 (2017).

creativity threshold, lack of examination, and long duration to gain competitive advantages over functional product features.

Things are even worse in design patent law. As we explained above, design patent law is intended to impose three limits on its use: a high creativity threshold, expensive examination, and short duration. In fact, though, none of these features have proved especially significant.¹⁸ And while design patent duration is relatively short, the difference between it and copyright duration will often be insignificant because even fifteen years will far exceed the design's lifecycle.¹⁹ Thus, design patent law also isn't doing much of a job of imposing doctrinal or costly screens.

Consider, for example, the numerous design patents that cover incredibly trivial ornamentation like a triangular marking post,²⁰ crisscrossed straps on a sports bra,²¹ or a skull-shaped vodka bottle.²² All of these designs cleared the PTO's novelty and non-obviousness screens and have been asserted in litigation against competitors.²³ To make matters worse, the plaintiffs' claims won't be limited to nonfunctional aspects of their designs. In *Sport Dimension, Inc. v. Coleman Co. Inc.*, the plaintiff asserted a design patent that covered the shape of a life-jacket flotation device with armbands.²⁴ The design, shape, and placement of the armbands were determined by the size of human bodies and their ability to keep the wearer afloat, making them highly functional.²⁵ That is, for these types of flotation devices, function determined form. Nevertheless, in a 2016 opinion the Court of Appeals for the Federal Circuit held that the design's functional elements should be construed as part of the claim, along with any ornamental elements.²⁶ This substantially broadened the plaintiff's design patent rights to cover the design's utility. In doing so, the opinion gave the plaintiff the ability to block competitors who attempt to market flotation devices that perform the function in the same way, even if they have no desire to copy the ornamental elements of the flotation devices. This will increase costs to other designers and, ultimately, to consumers.

In sum, then, the problem is simple, if counterintuitive: it is too cheap and too easy to get design protection from various IP regimes, and the current rules make that protection too strong. The operation of these laws does an insufficient job of protecting consumers and promoting

¹⁸ See Sarah Burstein, *The Patented Design*, 83 TENN. L. REV. 161 (2015) (hereinafter *Patented Design*).

¹⁹ See *infra* notes 222-223 and accompanying text.

²⁰ U.S. Patent No. D525,721 (July 25, 2006).

²¹ U.S. Patent No. D709,668 (July 29, 2014).

²² U.S. Patent No. D589,360 (Mar. 31, 2009).

²³ For more examples, see design-law.tumblr.com.

²⁴ *Sport Dimension, Inc. v. Coleman Co., Inc.*, 820 F.3d 1316 (Fed. Cir. 2016).

²⁵ *Id.* at 1322.

²⁶ *Id.* at 1322-23.

sequential innovation. We offer a series of suggestions to bring design protection more in line with social welfare. First, we might require designers to elect either copyright or design patent protection, or at least require designers to disclaim any copyright term after design patent protection ceases. That was the rule before 1974, and it would solve many of the problems that stem from overlapping protection.²⁷ Second, we could weaken the rights that both copyright and design patent now provide so there is less incentive to overclaim design rights. While *Star Athletica* is a large step backwards in this regard, courts still have room to reinvigorate the doctrinal screens governing copyright and design patent. And both the PTO and the courts could begin applying an appropriately rigorous creativity threshold for design patents. Congress could also step in to prevent abuse of design rights, for example by incorporating an independent invention defense into design patent law. Finally, consistent with previous work that one of us has done,²⁸ it may be that it is simply too cheap to obtain strong design rights. We suggest that the Patent and Trademark Office (PTO) increase application and maintenance fees for design patents and use the money for improved examination.

Our aim is not to render design protection ineffective. Others can and have disagreed about the importance of IP rights to design.²⁹ Rather, our goal is to try to align the private and social value of design rights in IP to prevent overclaiming and abuse of those rights. As the system currently stands, that means we need to make design rights weaker, harder to get, or both.

In Part I, we explain why functionality is important to the choice of IP regimes. In Part II, we discuss the theory behind doctrinal and costly screens and how Congress attempted to use them to channel designs into the appropriate IP regime. When operating properly, these screens could provide appropriate incentives to designers while minimizing social costs. Unfortunately, as we document in Part III, design screening is not working, leaving us with a system that may be the worst of all possible worlds. In Part IV, we offer several possible solutions to this problem.

I. THE CENTRALITY OF FUNCTIONALITY

²⁷ *In re Yardley*, 493 F.2d 1389 (C.C.P.A. 1974).

²⁸ Masur, *supra* note 15, at 687; Fagundes & Masur, *supra* note 15, at 692 (discussing the social value of costly screens).

²⁹ See Burstein, *Patented Design*, *supra* note 18, at 163; Sarah Burstein, *Costly Designs*, 77 OHIO ST. L.J. 107 (2016) (hereinafter *Costly Designs*); Mark McKenna & Katherine Strandburg, *Progress and Competition in Design*, 17 STAN. TECH. L. REV. 1 (2013); Peter Lee & Madhavi Sunder, *The Law of Look and Feel*, 90 S. CAL. L. REV. 383 (2017).

IP laws exist to encourage the production of socially valuable creations and innovations by granting people certain exclusive rights to the works and inventions they produce.³⁰ When authors and inventors obtain these rights, they can charge higher prices for the goods that embody their works and inventions than they otherwise could.³¹ These higher prices provide an economic incentive to engage in the costly and risky efforts that creating and innovating entail.³²

But IP rights also impose costs of their own. By granting some people rights to make certain products, IP laws make purchasing those products more expensive for consumers, many of whom will be entirely priced out the market.³³ In addition, IP rights also can impose substantial costs on other creators who want to develop their own works and inventions or improve existing ones. They now have to pay license fees or engage in costly and risky efforts to design around existing rights.³⁴ For these reasons, IP laws—including those that protect design—attempt to balance the incentives provided to the current round of creators and the costs imposed on consumers and the next round of creators.³⁵

At the center of this question is whether or to what extent the IP right can be used to protect utilitarian or functional aspects in claimed works and inventions.³⁶ Society stands to benefit when innovators develop

³⁰ Christopher Buccafusco & Jonathan S. Masur, *Intellectual Property and the Promotion of Welfare*, in RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW 2 (Ben Depoorter & Peter Menell, eds., forthcoming 2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2905936.

³¹ WILLAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* (2003).

³² *Sony Corp. v. Universal Studios*, 464 U.S. 417, 429 (1984) (“[Copyright] is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired.”); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (“The patent laws promote this progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development. The productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.”).

³³ Christopher Buccafusco & Jonathan S. Masur, *Innovation and Incarceration: An Economic Analysis of Criminal Intellectual Property Law*, 87 S. CAL. L. REV. 275, 282 (2014); Mark A. Lemley, *Ex Ante Versus Ex Post Justifications for Intellectual Property*, 71 U. CHI. L. REV. 129, 129 (2004).

³⁴ *Id.*; Buccafusco, Bechtold & Sprigman, *supra* note 14.

³⁵ Lemley, *supra* note 33 **Error! Bookmark not defined.**

³⁶ This is not the only reason for the doctrinal differences between the regimes. Scholars have asserted numerous rationales to explain, for example, why copyright and patent laws impose different creativity thresholds. See Clarisa Long, *Information Costs in Patent and Copyright*, 90 VA. L. REV. 465, 495 (2004); Dale P. Olson, *Copyright Originality*, 48 MO. L. REV. 29, 34 (1983); 1 PAUL GOLDSTEIN, *GOLDSTEIN ON COPYRIGHT* § 2.2.1 (3d ed. 2013); Jeanne C. Fromer, *A Psychology of Intellectual Property*, 104 NW. U. L. REV. 1441 (2010) (utilizing the psychology of creativity to analyze the differences in protectability standards between patent and copyright law).

new techniques to build safer buildings or more efficient appliances and to better treat diseases.³⁷ But often there are only a limited number of ways to design utilitarian products.³⁸ Scientists and engineers have only discovered so many ways of safely and effectively treating high blood pressure or designing anti-lock brakes. This means that granting inventors exclusive control over the utilitarian features of product design can also give them substantial market power and enable them to price access to those products far above their marginal cost.³⁹ For example, brand name pharmaceuticals sell for much higher prices when they are covered by a patent than after generic producers have entered the market.⁴⁰

Accordingly, IP law must be careful about granting exclusive rights to utilitarian features of products. The utility patent regime is the principal home for scientific and technical inventions that improve the ways products work.⁴¹ But a variety of utility patent law doctrines stringently police access to exclusive rights. An inventor seeking a utility patent must prove that her invention is “novel”⁴² and “nonobvious”⁴³—not only that she is the first to create it, but also that it is more than the predictable combination of pre-existing elements. The inventor must also demonstrate that the invention is useful and describe how it should be used.⁴⁴ Moreover, all of this must be proved to the satisfaction of an examiner at the Patent and Trademark Office before a utility patent is issued.

Given these high demands on functional inventions, some innovators attempt to skirt the rigors of utility patent law by seeking

³⁷ See Buccafusco & Masur, *supra* note 33.

³⁸ One example is the pocket multi-tool described by U.S. Design Patent 707,091. The device comprises several tools built into one small structure, including a bottle opener, screwdriver, smartphone kickstand, set of hex wrenches, and so forth. The device is only able to perform these functions because of its shape and design, and thus design and function are inextricably linked. Nonetheless, the PTO allowed a patent on the device, which the owner asserted. *See, e.g.,* Caffeinat Labs, Inc. v. Vante, Inc., 2017 WL 2889031, at 2 (D. Mass. 2017).

³⁹ We do not suggest that exclusive rights covering aesthetic or ornamental aspects of product design could never convey market power. If they did not provide at least some ability to price products above marginal cost, copyrights and design patents would have no meaningful incentive effects. We merely claim that, given a certain scope for IP rights, those covering functional or utilitarian aspects of design are likely to convey more market power because of the limited range of competitive options.

⁴⁰ Rena M. Conti & Ernst R. Berndt, *Specialty Drug Prices and Utilization after Loss of U.S. Patent Exclusivity, 2001-2007*, in MEASURING AND MODELING HEALTH CARE COSTS (Ana Aizcorbe et al., eds.) available at <http://www.nber.org/chapters/c13100>.

⁴¹ Mark M. McKenna & Christopher Jon Sprigman, *What's In, and What's Out: How IP's Boundary Rules Shape Innovation*, 30 HARV. J. L. & TECH. (forthcoming 2017).

⁴² 35 U.S.C. § 102.

⁴³ 35 U.S.C. § 103 ([A patent] may not be obtained . . . if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.”).

⁴⁴ *In re Fisher*, 421 F.3d 1365, 1371 (Fed. Cir. 2005).

protection through either the copyright or design patent regimes. Doing so would provide a mechanism for them to obtain “backdoor utility patents.”⁴⁵ I might not be able to patent the wheel; I’m not the first inventor. But if I can get a copyright in my round design I might effectively get some of the same control over the wheel without having to clear the novelty and nonobviousness hurdles. Thus, the copyright and design patent regimes must themselves police creators’ attempts to gain IP protection for functional features of their products without spending the time and money and meeting the higher standards of utility patent law. As we explain below, IP law serves to channel different sorts of creations into the appropriate doctrinal home based on their degree of functionality. Depending on a product’s functionality, it is eligible for copyright, design patent, or utility patent protection. Each of these doctrines imposes different sorts of hurdles, treats functional features in different ways, and creates different sorts of rights.⁴⁶

As applied to design law, the differences between these IP regimes—and the screens that separate them—are driven largely by the extent to which they can be used to protect functional inventive elements. The critical question is whether and to what extent the IP regime can be used to claim exclusive rights over a utilitarian invention that performs some function rather than merely the designs or ornamentations that are layered over or intertwined with that invention. There are many other differences between these IP regimes, including the damages that plaintiffs can obtain and the defenses available to accused infringers, and we will discuss a variety of these distinctions. But our focus is on functionality, because it is through the protection of function that a creator can turn a design right into a powerful market position.

Ideally, utility patent, design patent, and copyright laws work together to appropriately channel different kinds of creations into the correct legal regime—the one that maximizes the law’s benefits net of costs. In the next section we explain the tools the law uses to perform this channeling.

II. SCREENS AT THE INTERSECTION OF COPYRIGHT AND DESIGN PATENT

⁴⁵ Buccafusco & Lemley, *supra* note 10; Viva R. Moffat, *Mutant Copyrights and Backdoor Patents: The Problem of Overlapping Intellectual Property Protection*, 19 BERKELEY TECH. L.J. 1473 (2004).

⁴⁶ Buccafusco & Lemley, *supra* note 10; Pamela Samuelson, *Strategies for Discerning the Boundaries of Copyright and Patent Protections*, NOTRE DAME L. REV. (forthcoming 2017) available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2908496; McKenna & Sprigman, *supra* note 41; Viva R. Moffat, *The Copyright/Patent Boundary*, 48 U. RICH. L. REV. 611 (2014).

Before the government awards a valid design right to a private party, it must have some way of determining that doing so will further the goals of the IP system. One way to do this is to limit protection to designs that meet certain doctrinal thresholds.⁴⁷ A court, and sometimes also the PTO, scrutinizes the design to determine whether it warrants protection under the relevant IP doctrines. But doctrine is only one tool for screening out designs that do not deserve protection. In addition, the government uses costly screens—fees and other expenses that someone seeking an IP right must pay—as a means of screening out rights that would do more social harm than good.⁴⁸

These two approaches can be complementary and are frequently applied in tandem. Indeed, doctrinal screens often serve as a driver of costly screens. The higher the doctrinal threshold that a party must pass in order to claim a right, the more that party will have to spend—in attorney’s fees and other costs—in perfecting and obtaining the right. And the more expensive it is to obtain the right, the more important it must be to make it worth the trouble of trying to obtain it. The laws establishing utility patents, design patents, and copyrights, and delineating the boundaries between the three, all balance costs and benefits. Importantly, however, each of these fields attempts to strike this sort of balance in different ways. They differ in terms of how easily rights are granted, and with respect to the scope and duration of the rights that people receive. Accordingly, the screens that separate the three fields, and that separate protectable from unprotectable creations within each field, are different as well.⁴⁹

In the sections that follow, we describe the operation of these screens and the ways in which they do or do not achieve optimal policy objectives. First, however, we begin by describing the operation of screens in general and the manner in which they are designed to function.

A. *The Theory Behind Doctrinal and Costly Screens*

As we described in Part I, IP protection involves tradeoffs between social benefits and costs. The goal of the IP system is to grant rights only when doing so will produce net social benefits.⁵⁰ In addition, the strength of the IP right determines both the incentive it creates to produce further creativity and also the costs it imposes on third parties. The stronger the

⁴⁷ See Christopher Buccafusco, Zachary C. Burns, Jeanne C. Fromer & Christopher Jon Sprigman, *Experimental Tests of Intellectual Property Laws’ Creativity Thresholds*, 93 TEX. L. REV. 1921 (2014).

⁴⁸ Fagundes & Masur, *supra* note 15, at 684; Masur, *supra* note 15, at 693.

⁴⁹ Buccafusco & Lemley, *supra* note 10.

⁵⁰ See Buccafusco & Masur, *supra* note 33 (explaining the policy aims behind a coherent system of IP rules).

right, the greater the incentives it creates, but also the greater the costs it imposes. Given a menu of different IP rights, the legal system should grant the appropriate right to maximize net social benefits relative to other kinds of rights.⁵¹ Screens affect these tradeoffs by ensuring that not every right is granted to every party that seeks it and that the parties who do get rights get the appropriate ones, not ones that are too strong or too weak.

Accordingly, one naïve theory of screens would hold that stronger IP rights should be accompanied by higher and costlier screens.⁵² Before a party can obtain a more valuable right, it should be forced to pass a more rigorous test, satisfy a higher legal standard, pay higher costs, and so forth. This approach is facially plausible and perhaps intuitively appealing, but it is also wrong. The reason is that the objective of a screen is not merely to block the strongest or most powerful IP rights. After all, some of these rights are also the most socially valuable, in that they have encouraged the most beneficial research.⁵³ In some cases, strong rights may be necessary to provide powerful incentives to create. Rather, the objective of a screen is to separate those rights that are net socially valuable from those that are net socially harmful, allowing the former and blocking the latter.⁵⁴ Moreover, in the case of designs, where creators have multiple options for obtaining IP, the objective behind these screens is to channel creators into selecting the type of IP protection that will generate the greatest social benefits net of costs.⁵⁵

As noted above, we can limit access to IP rights in two fundamental ways – by imposing doctrinal barriers a creator must clear or by raising the cost of obtaining a right. We call the former approach “doctrinal screens” and the latter “costly screens.” Doctrinal screens and costly screens operate in slightly different ways. A doctrinal screen acts as a firm bar against certain types of design rights. If the design does not satisfy the necessary doctrinal conditions, it does not qualify for protection. A properly calibrated doctrinal screen will refuse protection to designs when the social costs of granting a design right outweigh the benefits. Consider, for example, a creativity threshold for IP rights. By imposing such a threshold, the law judges that designs that cannot meet some standard of cleverness or novelty are unlikely to generate sufficient social benefits to justify the costs associated with IP protection.⁵⁶ This is a type of doctrinal screen. Costly

⁵¹ *Id.*

⁵² See Fagundes & Masur, *supra* note 15, at 704 (describing and rejecting this theory).

⁵³ *Id.* at 713.

⁵⁴ *Id.* at 692.

⁵⁵ Cf. MATTHEW ADLER & ERIC A. POSNER, *NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS* 32 (2006) (describing the object of social planners as maximizing benefits net of costs).

⁵⁶ See Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1578 (2003) (explaining patent law’s utilitarian framework and the ways in which IP laws are calibrated to generate net social benefits).

screens, on the other hand, force applicants to choose whether or not to pursue a certain type of design right.⁵⁷ That is, whether a not an applicant could qualify for a right doctrinally, she must determine whether or not the costs of obtaining and keeping the right are worth it to her.⁵⁸

B. Private Value, Social Value, and Screens

The law’s goal in applying either sort of screen is to align private incentives with social value. We can think of design rights as falling into one of four categories based on the relationship between private and social value.⁵⁹ First, consider the private value of the right—the value of the right to its owner. IP rights can have “low” private value, meaning that putative owners will not be able to generate significant income from the ownership of the right. Or they can have “high” private value, meaning that putative owners will be able to generate significant income from the ownership of the right. This income could arise through making products covered by the right, licensing the right to others, or litigation over the right.

Second, consider the social value of the right—whether the right produces net costs or net benefits for society. IP rights can have positive social value or negative social value. Thus, there are four categories of rights: high private value/positive social value rights; high private value/negative social value rights; low private value/positive social value rights; and low private value/negative social value rights.

TABLE 1: FOUR POSSIBLE TYPES OF IP RIGHTS

| | Social value | |
|---------------|---|---|
| Private value | 1. High private value/Positive social value | 2. High private value/Negative social value |
| | 3. Low private value/Positive social value | 4. Low private value/Negative social value |

Doctrinal screens are meant to separate rights based upon social value. They should prohibit the creation of IP rights that are predicted to

⁵⁷ Masur, *supra* note 15, at 688.

⁵⁸ *Id.* at 688-90.

⁵⁹ This two-by-two categorization was initially laid out in Masur, *supra* note 15, and Fagundes & Masur, *supra* note 15. In those earlier works, the authors referred to “low social value” and “high social value” rights. Here, for greater clarity, we describe them as “negative social value” and “positive social value” rights. The categorization is identical; only the nomenclature has changed slightly.

have negative net social value. That is, a well-calibrated doctrinal screen is meant to draw a vertical line between the positive social value rights in boxes 1 and 3 from the negative social value rights in boxes 2 and 4, permitting the former and blocking the latter.

TABLE 2: IDEALIZED DOCTRINAL SCREEN

| | Social value | |
|---------------|---|---|
| Private value | 1. High private value/Positive social value | 2. High private value/Negative social value |
| | 3. Low private value/Positive social value | 4. Low private value/Negative social value |

Consider, for instance, the requirement that utility and design patents must be new and nonobvious. The purpose of patents is to create incentives for new and valuable innovation. Absent new innovation, patents are unlikely to create positive social value. Accordingly, the novelty and nonobviousness requirements are meant to screen out those patent applications that did not involve any socially valuable innovation and—if they were granted—would be likely to do net social harm.⁶⁰ Other doctrinal tests, such as the utility requirement for utility patents and the idea/expression distinction in copyright law, perform similar functions.

Of course, even well-calibrated doctrinal screens will not function perfectly. Requirements such as novelty and nonobviousness are only proxies for positive social value. For instance, imagine a design patent application involving a new and nonobvious design, but one that the designer would have created whether or not she was able to obtain a patent.⁶¹ A patent on this design would create negative social value, because (a) the valuable design would exist regardless, and (b) the patent will increase costs for consumers and subsequent designers. Merely satisfying doctrinal IP requirements does not guarantee that the IP right will necessarily create social value. And of course not all doctrines are properly calibrated, nor are they always properly applied. The doctrine might be too lax or too stringent, and courts or the PTO may err when evaluating whether a given right satisfies the doctrinal requirements. Thus, no IP doctrine

⁶⁰ See Stephen Yelderman, *The Value of Accuracy in the Patent System*, U. CHI. L. REV. (forthcoming 2017).

⁶¹ See Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590 (2011).

actually succeeds in drawing a perfect vertical line down the center of Table 1. Any system of doctrine will inevitably permit some negative social value rights to see the light of day and block some positive social value rights. Accordingly, even if doctrinal screens are well-calibrated—and certainly if they are not—there is a potential role for some other type of screen to play.

TABLE 3: REALISTIC DOCTRINAL SCREEN

| | Social value | |
|---------------|---|---|
| Private value | 1. High private value/Positive social value | 2. High private value/Negative social value |
| | 3. Low private value/Positive social value | 4. Low private value/Negative social value |

Enter the possibility of costly screens. A costly screen is simply a requirement that an applicant expend some amount of money to obtain, maintain, or enforce a given legal right. The costly screen can take the form of an application fee, a maintenance fee, or a fee that must be paid for litigating a given right. Costly screens may also arise because compliance with some aspect of the law is expensive, such as the need to hire a lawyer to prosecute a patent. Because it is the IP applicant or owner who must bear the expense, costly screens affect IP rights differentially based upon their private value. That is, a costly screen draws a horizontal line between the high private value rights in boxes 1 and 2 and the low private value rights in boxes 3 and 4. For high private value rights, costly screens are irrelevant. If the rights are highly valuable to their potential owner, the owner will invest the money to obtain them regardless of the cost.⁶² The screen will only serve to run up the costs of such owners.

TABLE 4: IDEALIZED COSTLY SCREEN

| | Social value | |
|---------------|---|---|
| Private value | 1. High private value/Positive social value | 2. High private value/Negative social value |
| | 3. Low private value/Positive social value | 4. Low private value/Negative social value |

⁶² Fagundes & Masur, *supra* note 15, at 692.

Thus, costly screens are a second-best solution because they will not eliminate IP rights that fall into box 2, namely rights that have high private value (so creators will pay to obtain them) but negative social value. For example, if someone could claim the exclusive right to publish stories about star-crossed lovers she would be able to obtain substantial private value from doing so, but that would clearly make society worse off. No costly screen would prevent a creator from applying for a copyright or patent on such a valuable idea. A doctrinal screen is necessary. For this reason, copyright law's idea/expression doctrine prevents people from obtaining such rights.⁶³ No matter how much people would be willing to pay to obtain a copyright over an idea or a utility patent over a product of nature, doctrinal screens prevent them from doing so.⁶⁴

TABLE 5: DOCTRINAL AND COSTLY SCREENS IN COMBINATION

| | | Social value | |
|---------------|---|---|--|
| Private value | 1. High private value/Positive social value | 2. High private value/Negative social value | |
| | 3. Low private value/Positive social value | 4. Low private value/Negative social value | |

Instead, the function of a costly screen is to eliminate or curtail the number of low private value IP rights. If the costly screen exceeds the value of the right to its putative owner, the owner will not seek (or maintain, or enforce) the IP right. Of course, the private value of the right is not what policymakers really care about—their focus is the social value of the right.⁶⁵ Costly screens will reduce the number of low private value/negative social value rights—box 4—which is good, but they will also reduce the number of low private value/positive social value rights—box 3—which is bad.⁶⁶ Accordingly, costly screens are appropriate when the number of potential low private value/negative social value rights is high and the number of potential low private value/positive social value rights is low, and they are

⁶³ 17 U.S.C. 102(b) (“In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”).

⁶⁴ See 35 U.S.C. § 101; *Diamond v. Chakrabarty*, 100 S. Ct. 2204 (1980); *Association for Molecular Pathology v. Myriad Genetics*, 133 S. Ct. 2107 (2013).

⁶⁵ *Id.* at 695-97.

⁶⁶ *Id.* at 695-98.

counterproductive when the reverse is true.⁶⁷ On the other hand, costly screens are ill-advised in cases where policymakers believe that there are likely to be few low private value/negative social value rights (box 4) but many low private value/high social value rights (box 3). Here, a costly screen would do more harm than good by eliminating too many rights that produce net social value.

Doctrinal screens and costly screens are complements, not substitutes. They can and do exist side-by-side in a wide variety of legal regimes.⁶⁸ At the boundary between copyrights, design patents, and utility patents, doctrinal screens and costly screens play important supplementary roles. Doctrinal screens sort designs between the copyright, design patent, and utility patent regimes, determining which will qualify for each category. And then within those three doctrinal regimes, costly screens (or their absence) determine the types of rights that creators will seek to obtain. For the system to function properly, the two types of screens must be well-calibrated to perform these operations in tandem.

C. *Doctrinal Screens and the Selection of IP Regimes*

Now that we have laid out the principles behind doctrinal and costly screens, we turn our attention to the IP doctrines through which these screens are meant to operate.

Because our focus is functionality, our baseline is the utility patent regime. Utility patents were designed to protect functional inventions, and indeed they can only be used to protect functional inventions.⁶⁹ Before an inventor can obtain a utility patent, however, she must surmount a series of doctrinal and costly screens that are implemented (directly or indirectly) through examination by the PTO. The inventor must demonstrate to the PTO that her invention is within the realm of utility patent law,⁷⁰ is new and nonobvious,⁷¹ is sufficiently developed and disclosed,⁷² and that it has useful applications.⁷³ In addition, as one of us has written, the high cost of obtaining a utility patent functions as a costly screen that eliminates a significant number of low private value rights.⁷⁴ The PTO's examination of

⁶⁷ *Id.* at 703-07 (describing the general point in the context of copyright and patent law).

⁶⁸ Doctrinal screens can also create costly screens. For example, trade dress law's requirement that a claimant must establish that the design has secondary meaning as a designation of source will typically involve the expenditure of substantial resources on advertising. See *infra* note XX.

⁶⁹ See Kevin Emerson Collins, *Patent Law's Authorship Screen*, U. CHI. L. REV. (forthcoming 2017).

⁷⁰ 35 U.S.C. § 101 (patentable subject matter).

⁷¹ 35 U.S.C. § 102 (novel); 35 U.S.C. § 103 (nonobvious).

⁷² 35 U.S.C. § 112 (requiring that the invention be described and enabled).

⁷³ *Id.*

⁷⁴ Masur, *supra* note 15, at 701.

patents is not always rigorous or effective, and the costly screen imposed is not terribly high when compared with the most valuable patents.⁷⁵ Nonetheless, utility patent law couples the IP regime that is most protective of functionality with the most stringent doctrinal and costly barriers to entry. In the sections that follow, we compare copyright law and design patent law against this baseline. We explore the extent to which they can be used to obtain “backdoor” protection for functional elements and the legal responses to the possibility of such protection.

Our primary focus is on utility patents, design patents, and copyrights, not on trademark law. Although each of these fields falls under the rubric of intellectual property protection, their foundations differ in important ways. Congress’s power to grant copyrights and patents is grounded in the progress clause of Article I, section 8 of the Constitution.⁷⁶ Copyrights and patents are intended to stimulate creativity and innovation. In the context of product designs, this means that Congress should use its power to grant copyrights and patents over product designs to optimize innovation in the field.

Trademark law is—or at least is supposed to be—different. Congress’s power to establish and protect trademarks comes from the commerce clause of the Constitution,⁷⁷ and that power is exercised, not primarily to incent producers, but rather to protect consumers from confusion in the market.⁷⁸ Trademarks, which can include the design of product or its trade dress, prevent consumers from being misled about, for

⁷⁵ See *id.*; Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1508-11 (2001); ADAM B. JAFFE & JOSH LERNER, *INNOVATION AND ITS DISCONTENTS* 130-33 (2004); Rochelle Dreyfuss, *Pathological Patenting: The PTO as Cause or Cure*, 104 MICH. L. REV. 1559, 1567 (2006) (“Fee diversion has impoverished the PTO, making it difficult for the Office to search or examine prior art comprehensively.”); Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law’s Presumption of Validity*, 60 STAN. L. REV. 45, 53 (2007); Arti K. Rai, *Growing Pains in the Administrative State: The Patent Office’s Troubled Quest for Managerial Control*, 157 U. PA. L. REV. 2051, 2062-63 (2009); Michael D. Frakes & Melissa F. Wasserman, *Does Agency Funding Affect Decisionmaking?: An Empirical Assessment of the PTO’s Granting Patterns*, 66 VAND. L. REV. 67 (2013) (arguing that the PTO grants too many patents in order to earn maintenance fees).

⁷⁶ Art I, s. 8, cl. 8 (“Congress shall have the power . . . To promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their writings and discoveries.”)

⁷⁷ Art. I, s. 8, cl. 3 (“Congress shall have the power...To regulate commerce with foreign nations, and among the several states, and with the Indian Tribes.”).

⁷⁸ See, e.g., LANDES & POSNER, *supra* note 31, at 167–68; Stacey L. Dogan & Mark A. Lemley, *Trademarks and Consumer Search Costs on the Internet*, 41 HOUS. L. REV. 777 (2004); Nicholas S. Economides, *The Economics of Trademarks*, 78 TRADEMARK REP. 523, 525–27 (1988) (discussing the economic benefits of marks that apprise consumers of products’ unobservable features); Nicholas S. Economides, *Trademarks*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 602 (Peter Newman ed., 1998) (describing the savings for consumers in product searches as one of “[t]he primary reasons for the existence and protection of trademarks”). Cf. Mark P. McKenna, *The Normative Foundations of Trademark Law*, 82 NOTRE DAME L. REV. 1839 (2007) (arguing that trademark law before the 20th century was based on unfair competition rather than consumer protection, but noting that they are both serving similar goals in protecting a functioning market).

example, whether a particular shoe is made by Converse or not.⁷⁹ To the extent that Congress allows designers to claim exclusive rights to product designs via trade dress law it is not doing so to promote innovative designs. But because trade dress does, in fact, affect innovation in design, we address its interactions with copyright and patent law in Part II.

1. Copyright Law

On its face, copyright law would appear to be the most favorable place for creators to turn in search of backdoor utility patents, because copyright law imposes the lowest creativity threshold for protection, and, once granted, copyright protection lasts the longest. To prevent this sort of doctrinal arbitrage, copyright has imposed the strictest set of functionality screens, traditionally limiting its availability only to works with no, or very modest amounts of, functionality.

Obtaining a copyright is incredibly easy. Federal copyright protection exists from the moment that a work is fixed in a tangible medium of expression.⁸⁰ Creators need not demonstrate any substantial cleverness to obtain copyright protection.⁸¹ A work is protectable if it is original, which means that it was not copied from another source and that it evinces some more than entirely trivial degree of creativity.⁸² So while the U.S. Supreme Court rejected a copyright claim for a telephone book white pages directory because it was insufficiently original and creative,⁸³ courts have upheld protection for yellow pages directories,⁸⁴ fairly simple photographs,⁸⁵ and three-note sequences of music.⁸⁶ Copyright law sets the creativity hurdle incredibly low, enabling virtually any work with a spark of cleverness or novelty to sail over.⁸⁷

Copyright law is also cheap. Authors don't need to pay any money or file any paperwork to obtain copyright protection.⁸⁸ Every reader of this

⁷⁹ *Qualitex Co. v. Jacobson Prods. Co.*, 514 U.S. 159 (1995); *Two Pesos*, 505 U.S. at 763.

⁸⁰ Christopher Jon Sprigman, *Reform(alizing) Copyright*, 57 *STANFORD L. REV.* 485 (2004).

⁸¹ *Feist Pub., Inc. v. Rural Telephone Service Co.*, 499 U.S. 340, 345 (1991).

⁸² 17 U.S.C. 102(a) (“Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression...”).

⁸³ *Feist Pub., Inc. v. Rural Telephone Service Co.*, 499 U.S. 340 (1991).

⁸⁴ See *Key Publications, Inc. v. Chinatown Today Pub. Enterprises, Inc.*, 945 F.2d 509 (2nd Cir. 1991).

⁸⁵ See *Schrock v. Learning Curve Intern., Inc.*, 586 F.3d 513 (7th Cir. 2009); *Mannion v. Coors Brewing Co.*, 377 F.Supp.2d 444 (S.D.N.Y. 2005). But see *Ets-Hokin v. Skyy Spirits Inc.*, 225 F.3d 1068 (9th Cir. 2000).

⁸⁶ See *Newton v. Diamond*, 388 F.3d 1189, 1192 (9th Cir. 2014) (assuming without deciding that a three-note sequence of a musical composition could have evinced sufficient originality to be copyrightable).

⁸⁷ Joseph Scott Miller, *Hoisting Originality*, 31 *CARDOZO L. REV.* 451, 464, 488–89 (2009); Buccafusco, Burns, Fromer & Sprigman, *supra* note 47.

⁸⁸ 17 U.S.C. § 408 (noting that “registration is not a condition of copyright protection”).

article has created at least one and probably several copyrights today, just by living an ordinary life. Creators need not register their works with the Copyright Office, although they may do so for a nominal fee,⁸⁹ and the Office will generally grant registration without meaningful examination of the claimed work.⁹⁰ If they do want the additional benefits of copyright registration, creators can pay \$40 and fill out a very simple form online,⁹¹ no lawyers or bankers required. For this nominal sum, they get quite a bit. Copyright protection isn't just easy to obtain; it also lasts for a really long time.⁹² Most copyrights last for about a century or more.⁹³

Copyright law offers creators a regime without meaningful examination, a trivial creativity bar, and incredibly long protection. Creators who cannot meet utility patent law's strict utility and nonobviousness requirements or who desire longer protection are often tempted to seek copyright protection instead. To combat this behavior, Congress created strict functionality screens that would prevent misuse.⁹⁴ In some cases, copyright law simply denies protection to entire categories of works because they are deemed too functional.⁹⁵ However expressive cooking or yoga might be, creators cannot rely on copyright law for protection in these fields.⁹⁶ In other cases, such as computer software, copyright law allows limited protection for the relatively few expressive aspects of such works while also filtering out any of their functional content from protection.⁹⁷

⁸⁹ *Id.* § 408 (“At any time during the subsistence of the first term of copyright in any published or unpublished work in which the copyright was secured before January 1, 1978, and during the subsistence of any copyright secured on or after that date, the owner of copyright or of any exclusive right in the work may obtain registration of the copyright claim by delivering to the Copyright Office the deposit specified by this section, together with the application and fee specified by sections 409 and 708. Such registration is not a condition of copyright protection.”).

⁹⁰ See Thomas G. Field, Jr., *Judicial Review of Copyright Examination*, 44 IDEA 479 (2004).

⁹¹ See <https://www.copyright.gov/registration/>.

⁹² 17 U.S.C. § 302.

⁹³ *Id.* For many works, copyrights lasts for the life of the author plus an additional seventy years postmortem. *Id.* For other works, including works made for hire or works created before 1978, copyright typically lasts for 95 years from the date of first publication. *Id.*

⁹⁴ Buccafusco & Lemley, *supra* note 10; Samuelson, *supra* note 46.

⁹⁵ Buccafusco and Lemley refer to this as an “Exclusion Screen.” Buccafusco & Lemley, *supra* note 10.

⁹⁶ *Publ’ns Int’l, Ltd. v. Meredith Corp.*, 88 F.3d 473, 482 (7th Cir. 1996); *Lorenzana v. South American Rest. Corp.*, 799 F.3d 31 (1st Cir. 2015) (denying copyright protection to chicken sandwich); *Bikram’s Yoga College of India, L.P. v. Evolution Yoga, LLC*, 803 F.3d 1032 (9th Cir. 2015) (denying copyright protection to a series of yoga poses). See also Christopher Buccafusco, *Authorship and the Boundaries of Copyright: Ideas, Expressions, and Functions in Yoga, Choreography, and Other Works*, 39 Colum. J.L. & Arts 421 (2016); Christopher Buccafusco, *On the Legal Consequences of Sauces: Should Thomas Keller’s Recipes Be Per Se Copyrightable?*, 24 CARDOZO ARTS & ENT. L.J. 1107 (2007); Christopher Buccafusco, *Making Sense of Intellectual Property Law*, 97 CORNELL L. REV. 501 (2012).

⁹⁷ *Computer Associates International v. Altai*, 982 F.2d 693 (2d Cir. 1992). See also, Pamela Samuelson, *Functionality and Expression in Computer Programs: Refining the Tests of Software Copyright Infringement* (UC Berkeley Public Law, Working Paper No. 2667740, 2015,

Copyright protection, if it exists for a computer program, should not cover any of its aspects that relate to efficiency or compatibility, leaving those free for others to copy and use.⁹⁸

Most important for design, however, is the regime that Congress created for handling pictorial, graphic, and sculptural works. Congress was concerned that industrial designers would attempt to use copyright law to gain exclusive rights over the designs of “useful articles” such as clothing, furniture, or appliances.⁹⁹ Because these items are intrinsically functional, easily obtainable exclusive rights could create substantial and unwarranted costs for the public and on subsequent creators.¹⁰⁰ To avert this risk, the Copyright Act imposes additional eligibility criteria on useful articles.¹⁰¹ Such works are copyrightable only if and only to the extent that they contain “pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.”¹⁰²

The useful articles doctrine was intended to exclude from copyright law works of industrial design, including the creativity and innovation associated with successfully marrying form and function.¹⁰³ The artistic yet simultaneously functional design of a chair leg, automobile hood, smartphone, or garment were unprotectable via copyright.¹⁰⁴ Protection could extend only to purely non-functional features of useful articles such as a hood ornament or printed decal. That is, copyright would only attach to features of a work that existed solely to portray its appearance or convey information.¹⁰⁵

For example, the Second Circuit denied the designer of the “Ribbon Rack” bicycle rack copyright protection even though the work was aesthetically appealing and had won numerous design awards.¹⁰⁶ The aspects of the design that were expressive, such as the shape of its curves, were also intrinsically related to its functionality. By contrast, the same

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2667740); Peter S. Menell, *Rise of the API Copyright Dead: An Updated Epitaph for Copyright Protection of Network and Functional Features of Computer Software*, 31 HARV. J. L. & TECH. (forthcoming 2017).

⁹⁸ See, e.g., *Computer Associates Int'l v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992); but see *Oracle America, Inc. v. Google, Inc.*, 750 F.3d 1339 (Fed. Cir. 2014).

⁹⁹ 17 U.S.C. § 101 (“A “useful article” is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information.”).

¹⁰⁰ See Christopher Buccafusco & Jeanne C. Fromer, *Fashion's Function*, NOTRE DAME L. REV. (forthcoming 2018).

¹⁰¹ *Id.*

¹⁰² 17 U.S.C. § 101.

¹⁰³ H.R. Rep. No. 94-1476, at 49-50, 54-55, 1976 U.S.C.C.A.N. at 5662-63, 5667-68.

¹⁰⁴ *Id.*

¹⁰⁵ 17 U.S.C. s 101 (defining “useful article”). See Buccafusco & Fromer, *supra* note XX.

¹⁰⁶ *Brandir v. Cascade Int'l*, 834 F.2d 1142 (2nd Cir. 1987) (considering the functionality of an artistic bicycle rack).

court upheld copyrights in decorative belt buckles, because the buckles' shape did not affect their utility and was entirely superimposed on the functional aspects of the designs.¹⁰⁷ Thus, copyright law's useful articles doctrine allowed creators to obtain protection for solely non-functional aspects of their designs, but it rejected claims based on design elements that intermixed functional and non-functional components.¹⁰⁸

Beyond the useful articles doctrine, copyright law also includes a variety of other features meant to balance its power and scope. On one hand, copyright law offers reasonably broad protection against competition. Copyright owners can prevent not only literal or exact duplications of their designs but also those that are substantially similar to them.¹⁰⁹ This can include works that have the same "aesthetic appeal" as the copyrighted work.¹¹⁰ On the other hand, copyright law limits this otherwise broad scope in a number of ways. First, copyright only prohibits actual copying: a designer sued for infringement can defend herself by proving that she independently created the allegedly infringing design, even if the prior and subsequent designs are identical.¹¹¹ Second, copyright law narrows the scope of an author's copyright only to her expression of a particular idea, rather than to the idea itself. For example, the designer of a jeweled pin the shape of a bee cannot prevent everyone else from producing bee-shaped jewelry.¹¹² Third, copyright law's fair use doctrine permits certain kinds of copying that are deemed socially valuable or that don't interfere with the copyright owner's market exploitation.¹¹³ Although comment and criticism are the paradigmatic examples of fair use, it can also include instances of copying that are motivated by the need to access functional features of a work.¹¹⁴ Finally, copyright law limits the damages that a victorious infringer can receive. Copyright apportions damages for infringing and

¹⁰⁷ *Kieselstein-Cord v. Accessories by Pearl, Inc.*, 632 F.2d 989 (2nd Cir. 1980).

¹⁰⁸ That law has recently changed in significant respects as a result of the Supreme Court's *Star Athletica* decision. We discuss that decision in Part II.

¹⁰⁹ See e.g. *Yurman Design, Inc. v. PAJ, Inc.*, 262 F.3d 101, 111 (2nd Cir. 2001).

¹¹⁰ *Id.* But see *Satava v. Lowry*, 323 F.3d 805, 812 (9th Cir. 2003) (limiting plaintiff's copyright in jellyfish-in-glass sculpture to "thin protection" against only virtually identical copying).

¹¹¹ *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49, 54 (2nd Cir. 1936) ("just as he is no less an 'author' because others have preceded him, so another who follows him, is not a tort-feasor unless he pirates his work"). On the independent creation doctrine in copyright law see ABRAHAM DRASSINOWER, *WHAT'S WRONG WITH COPYING?* (2015).

¹¹² *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 741-42 (9th Cir. 1971).

¹¹³ 17 U.S.C. § 107 ("Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright."). For a discussion of the market effect of fair use, see Jeanne Fromer & Mark A. Lemley, *The Audience in IP Infringement*, 112 MICH. L. REV. 1251 (2014).

¹¹⁴ *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992); *Sony Computer Entertainment v. Connectix Corporation*, 203 F.3d 596 (9th Cir. 2000).

non-infringing elements.¹¹⁵ That is, even if a design is held to infringe an existing copyright, the copyright owner can only recover damages based on the proportion of lost royalties *attributable to the copying*.¹¹⁶ She cannot recover royalties attributable to other, non-copyrighted elements of the infringing product.¹¹⁷

Thus, at least since the 1976 Copyright Act, copyright law has coupled an incredibly low creativity screen, a low cost of acquisition, and a long term of protection with a rather robust functionality screen and a number of doctrines that limit the right's power. Although purely non-functional works could obtain protection with ease, functional works would be excluded from the regime. In particular, creators of industrial designs would be channeled into the design patent or utility patent regimes to seek protection.

2. Design Patents

For creators seeking IP protection over ornamental designs, design patent law offers the primary alternative to copyright.¹¹⁸ Design patents protect the ornamental features of a utilitarian article of manufacture.¹¹⁹ While design patent law's ornamentality requirement has been treated as a functionality bar, it has been applied in a far more relaxed manner than copyright law's useful articles doctrine. Thus, by contrast to copyright law, where functionality is supposed to be rigorously policed, design patent doctrine is more tolerant of claims that mix ornamentality with utility.¹²⁰ Design elements will be eligible for protection whenever there are other alternatives to the claimed element.¹²¹ Because there is often at least one other way of achieving a function—even if it isn't quite as good of a way—design patents will often include substantial functionality that is mixed with ornamentality.

¹¹⁵ *Roulo v. Russ Berrie & Co., Inc.*, 886 F.2d 931 (7th Cir. 1989); *Frank Music Corp. v. Metro-Goldwyn-Mayer Inc.*, 886 F.2d 1545 (9th Cir. 1989); *Rogers v. Koons*, 960 F.2d 301 (2d Cir. 1992).

¹¹⁶ 17 U.S.C. § 504(b).

¹¹⁷ *Sheldon v. MGM*, 309 U.S. 390 (1940). This does not mean that copyright's damages provisions are a model of policymaking. See Pamela Samuelson & Tara Wheatland, *Statutory Damages in Copyright Law: A Remedy in Need of Reform*, 51 WM. & MARY L. REV. 439 (2009). Statutory damages are indeed subject to abuse in copyright law. But the problem occurs primarily when one defendant is accused of multiple small acts of infringement. That is unlikely to be true in the design cases we consider here.

¹¹⁸ Congress has considered a number of other design protection regimes in the last hundred years. See Shira Perlmutter, *Conceptual Separability and Copyright in the Designs of Useful Articles*, 37 J. Copyright Soc'y U.S.A. 339 (1990). Congress has even adopted a separate design protection regime for vessel hulls. 17 U.S.C. s. 1301.

¹¹⁹ 17 U.S.C. § 171 (design is “for a [utilitarian] article of manufacture”).

¹²⁰ *Buccafusco & Lemley*, *supra* note 10.

¹²¹ Jason J. Du Mont & Mark D. Janis, *Functionality in Design Protection Systems*, 19 J. INTELL. PROP. L. 261, 281–85 (2012).

Both the Patent and Trademark Office—which oversees design patent law—and the federal courts have enabled creators to include within the scope of their patents aspects of designs that are not purely non-functional. Claimants have been allowed to protect design features that do more than merely portray appearances or convey information and that, instead, contribute to how the design works and are valued in substantial part on their utility. So although design patent claims should be “construed in order to identify the non-functional aspects of the design,”¹²² what counts as “non-functional” in the design patent context is broader than it has been in copyright law.

The Court of Appeals for the Federal Circuit has consistently accommodated design patents that cover aspects of designs that contribute to a product’s usefulness or efficiency. Consider, for example, the shoe design at issue in *L.A. Gear, Inc. v. Thom McAn Shoe Co.* Although each element of the plaintiff’s shoe design contributed to the shoe’s function, the court upheld the plaintiff’s design patent because the overall design of the shoe was not “dictated by the use or purpose of the article.”¹²³ Although these elements served a utilitarian purpose, they were still protectable because competitors could achieve the same purpose with different designs.¹²⁴ Thus, even though the design elements served a utilitarian function and even though they may have been the best way to achieve that function, they were still included within the scope of the plaintiff’s claim.¹²⁵

In what is perhaps the Federal Circuit’s most comprehensive discussion of functionality screening, the court in *Richardson v. Stanley Works, Inc.* explained that design patents would only be declared invalid if “the patented design is primarily functional rather than ornamental.”¹²⁶ Thus, many designs that were substantially functional but not *primarily* so would be upheld. Even so, the court “factored out” functional elements of a multi-function tool design from the scope of the plaintiff’s claim when it came to deciding infringement. These elements included the handle, the hammer-head, and the jaw, because they were “driven purely by utility.”¹²⁷ The plaintiff still had a valid patent covering the “ornamental” design of the tool, which in this case included the shape of the tool’s edges and

¹²² *OddzOn Prods., Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1405 (Fed. Cir. 1997).

¹²³ 988 F.2d 1117, 1123 (Fed. Cir. 1993).

¹²⁴ *Id.*

¹²⁵ See Perry J. Saidman, *Functionality and Design Patent Validity and Infringement*, 91 *J. Pat. & Trademark Off. Soc’y* 313, 317 (2009) (“It should be apparent...that if the individual de facto functional features of an article of manufacture claimed in a design patent were removed from consideration prior to applying the ordinary observer infringement test, there would in most cases be nothing left of the patented design to compare to the accused design.”).

¹²⁶ 597 F.3d 1288, 1293-94 (Fed. Cir. 2010).

¹²⁷ *Id.* at 1294.

corners.¹²⁸ But whatever “ornamental” means here, it certainly doesn’t mean entirely non-functional. The shape of a hand tool’s corners and edges will contribute significantly to its comfort, manipulability, and wearability. These are aspects of the design that copyright law’s useful article doctrine would traditionally have screened out because they are simultaneously aesthetic and functional.

In *Apple Inc. v. Samsung Electronics Corp.*, the Federal Circuit upheld the validity and infringement of the rounded corners of the iPhone design, even while acknowledging that they improved “pocketability” and “durability.”¹²⁹ This decision is even more startling in light of that the fact that, earlier in the same opinion, the court rejected Apple’s claim to trade dress on the same features on the grounds that they were functional.¹³⁰ By including functional features, the court noted, Apple “pursued both ‘beauty’ and functionality.”¹³¹ Nonetheless, Apple could still draw upon design patents for IP protection. While copyright (at least until recently) excluded an item from protection if there was no way to separate its non-functional and functional aspects, design patent law welcomes designs that intertwine form and function. The only designs or elements that will be excluded from design patent’s functionality screen are those that are purely utilitarian.¹³²

Design patents differ from copyrights in a number of other dimensions that affect their scope and strength. For example, most scholars think that design patents have a narrower scope than copyrights.¹³³ Variations from a design that copyright law would treat as substantially similar and thus infringing, design patent law would treat as sufficiently different and noninfringing.¹³⁴ In other ways, however, design patents are more powerful rights than copyrights. There is no independent invention defense to design patents: if a subsequent design infringes an existing design patent, it is irrelevant whether or not the designer copied the pre-existing design.¹³⁵ Furthermore, design patent law does not include any defense akin to copyright law’s fair use provision.¹³⁶ Finally, when

¹²⁸ Id. at 1296.

¹²⁹ *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 993 (Fed. Cir. 2015).

¹³⁰ Id. at 993-95.

¹³¹ Id. at 995.

¹³² Buccafusco & Lemley, *supra* note 10.

¹³³ See e.g. Dennis David Crouch, *A Trademark Justification for Design Patent Rights*, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1656590 (2010).

¹³⁴ For instance, Apple’s iPad patent on the rectangle with rounded corners was found valid but not infringed by Samsung’s virtually indistinguishable design. Both aspects of that ruling are surprising.

¹³⁵ 35 U.S.C. § 271(a) (2012) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

¹³⁶ See Maureen A. O’Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L.

assessing damages for design patent infringement, judges do not apportion the value of damages between infringing and non-infringing elements. Infringers are on the hook for all profits lost because of the infringement, without respect to the proportion of those profits that were driven by non-infringing elements.¹³⁷

As we discussed above, granting creators exclusive rights over partially functional features, as design patent law does, can provide them with substantial market power. The lack of independent invention or fair use doctrines and the absence of damages apportionment heighten this power. This can create costs for consumers, who must pay more for goods with patented designs, and for subsequent creators, who must license existing designs or expend resources in designing around them. To lessen the risks to consumers and other creators, then, Congress made it more costly and more difficult to obtain protection through design patent law than through copyright law.

To obtain a design patent, a creator must submit a formal application to the PTO that depicts the claimed design.¹³⁸ At the PTO, the claimed design undergoes examination to determine whether it should be granted or not.¹³⁹ Unlike in copyright law, where the work need only be original and minimally creative to receive protection, the design patent statute requires that the claimed design be both novel and nonobvious, in parallel with the requirements for utility patents.¹⁴⁰ Novelty here means newness.¹⁴¹ If the design or a substantially similar one had previously existed, the applicant shouldn't receive a patent.¹⁴² In addition, if a designer of ordinary skill would have found it obvious to modify prior designs to create the claimed design, the applicant shouldn't receive a design patent.¹⁴³ As with utility patents, these requirements are intended to pose a much greater hurdle for claimants. Only those who have produced a significant innovation in ornamentality should be given exclusive rights to reproduce and sell it.

In addition, design patents receive substantial shorter protection than do copyrights. Design patents only last for fifteen years from the date of

REV. 1177 (2000); Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 UC IRVINE L. REV. 265 (2011).

¹³⁷ Burstein, *Costly Designs*, supra note 29, at 117 ("A design patent carries with it the potential for enormous monetary awards, even if it claims only a tiny, trivial, or otherwise insignificant part of a product's overall design.")

¹³⁸ U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 601 (8th ed., July 2010 rev.).

¹³⁹ *Id.* §§ 601-603.

¹⁴⁰ 17 U.S.C. s. 171. See Jason J. Du Mont, *A Non-Obvious Design: Reexamining the Origins of the Design Patent Standard*, 45 GONZ. L. REV. 531 (2009).

¹⁴¹ Sarah Burstein, *Visual Invention*, 16 LEWIS & CLARK L. REV. 169, 175 (2012).

¹⁴² *Int'l Seaway Trading Corp. v. Walgreens Corp.*, 589 F.3d 1233, 1237-41 (Fed. Cir. 2009).

¹⁴³ *Id.* at 1240; *Titan Tire Corp. v. Case New Holland, Inc.*, 566 F.3d 1372, 1380-81 (Fed. Cir. 2009).

grant.¹⁴⁴ This is approximately 85% shorter than the duration of a copyright, so the benefits that accrue to a rightsholder, and thus the effects on competition, are substantially curtailed.

* * *

The doctrinal screens that set the boundaries between copyright, design patents, and utility patents thus endeavor collectively to channel functional and ornamental elements into the proper IP regimes. Recall that the law's object is to prevent creators from obtaining rights that would produce negative social value. By combining creativity thresholds with functionality limitations, IP law strives to maximize social welfare by giving creators the correct set of rights. Utility patents are the most natural home for functional inventions, but they also involve the most exacting legal standards. Design patents offer some protection for functional elements, but they similarly require application and examination by the PTO to determine whether the design meets certain legal benchmarks. This means that if designers will get the benefits of protection for functionality, they will have to show that they contributed a significant new design. Copyrights, by contrast, are easily obtained and last for a long time, but they generally cannot be used to protect functional elements and are leavened with other legal defenses that mitigate the ability of designers to leverage them into market share over functional products.

D. *Costly Screens within IP*

The legal doctrines governing copyright and design patent law are meant to channel designs with functional elements toward design patents and away from copyright. But this between-regimes doctrinal screen is not the only relevant barrier to obtaining IP rights. In addition, design patent law imposes a costly screen, while copyright law does not. Copyrights spring into being instantly and nearly costlessly.¹⁴⁵ This is appropriate, at least in theory. Because copyrights are not thought to protect functional elements, they cannot usually provide substantial market power to designers.¹⁴⁶ The independent creation doctrine, as well as the suite of

¹⁴⁴ Burstein, *The Patented Design*, *supra* note 18, at 172.

¹⁴⁵ While copyright protection is automatic, there are certain advantages to copyright registration. But unlike filing an application with the PTO for a design or utility patent, copyright registration is very cheap (\$40) and can be done with a simple web form without hiring a lawyer. And the examination process is cursory. Indeed, in many circuits it is the mere *filing* of the copyright application that confers benefits, even if it is later rejected. Kenneth Moskow, *What's In a Word? Defining Registration Under the Copyright Act*, 52 JURIMETRICS J. 87 (2011).

¹⁴⁶ Fagundes & Masur, *supra* note 15, at 712-13.

other doctrines that characterize copyright law, similarly limit the power of a copyright.¹⁴⁷ Copyright law's functionality screen should thus prevent the existence of high private value/negative social value rights. In addition, there should be relatively few low private value/negative social value copyrights, though potentially some low private value/positive social value ones.¹⁴⁸ These are the conditions under which a costly screen would normally do more harm than good, and thus it seems appropriate that copyright law does not establish one.¹⁴⁹

With respect to design patents, the opposite is true. Applicants seeking design patents must first apply to the PTO and have their patent applications examined, as we have explained. Design patent's doctrinal screen—new and nonobvious—is applied *ex ante*, through this process of application and examination, rather than only *ex post* through judicial review.¹⁵⁰ This process of *ex ante* review creates financial costs for the applicant. The PTO charges fees of \$180 to apply for a design patent,¹⁵¹ \$120 to cover the search for prior art,¹⁵² \$460 to have the patent examined,¹⁵³ and \$560 for the patent to be issued,¹⁵⁴ for a total upfront cost of \$1320. Most applicants also hire professionals to produce the drawings for the applications, which costs approximately \$500,¹⁵⁵ and attorneys or agents to represent them, at a cost of approximately \$2000 on average.¹⁵⁶ All told, a design patent applicant will spend approximately \$5000 to obtain a valid patent, compared with the \$40 spent by a copyright applicant.¹⁵⁷

These upfront fees are potentially important. Design patent rights are powerful: as we explained above, not only can design patents be used to protect functional elements, they are also not limited by independent creation or fair use defenses, and victorious design patent plaintiffs can recover significant damages.¹⁵⁸ This has two significant ramifications for the universe of potential design patents. First, it reduces the likelihood of low private value/positive social value design patents, just as there are very

¹⁴⁷ *Id.* at 713; *see also supra* Part I.B.

¹⁴⁸ *Id.* at 704-07.

¹⁴⁹ *Id.*

¹⁵⁰ *See* Burstein, *Costly Designs*, *supra* note 29, at 137 (describing the design patent examination process).

¹⁵¹ 37 C.F.R. § 1.16(b).

¹⁵² 37 C.F.R. § 1.16(l).

¹⁵³ 37 C.F.R. § 1.16(p).

¹⁵⁴ 37 C.F.R. § 1.18(b).

¹⁵⁵ Burstein, *Costly Designs*, *supra* note 29, at 124; Thomas T. Chan, *Design Patent*, in THE AMERICAN BAR ASSOCIATION'S LEGAL GUIDE TO FASHION DESIGN 38 (David H. Faux ed., 2013).

¹⁵⁶ Burstein, *Costly Designs*, *supra* note 29, at 124; AM. INTELLECTUAL PROP. LAW ASS'N, 2015 REPORT OF THE ECONOMIC SURVEY I-100 (2015).

¹⁵⁷ Burstein, *Costly Designs*, *supra* note 29, at 124.

¹⁵⁸ *See supra* Part I.B.

few low private value/positive social value utility patents.¹⁵⁹ Design patent rights are strong enough within their scope to allow their owners to capture a substantial proportion of the value of any designs they have created.¹⁶⁰ If a patented design is valuable in the marketplace, the design patent owner will generally be able to realize a significant share of that value.¹⁶¹

Second, despite the operation of doctrinal screens, the power of design patents raises the prospect of numerous low private value/negative social value design patents. Each existing design patent increases costs for future designers in ways that copyrights do not. A new designer who wishes to patent a design must comb through the thicket of existing designs to determine whether someone has already patented a similar design.¹⁶² This is because there is no independent creation defense to design patent infringement—even if the second designer has no knowledge of the patented design, she may still be held liable for infringement.¹⁶³ By contrast, an author seeking to protect a design through copyright need not prove that her design is novel, need not worry about infringing a pre-existing design (so long as she did not copy it), and thus need not search the existing stock of copyrighted designs before proceeding.¹⁶⁴ Each newly granted design patent imposes a small social cost by contributing to the mass of existing designs that a new designer must navigate.¹⁶⁵

In addition, because there is no independent creation defense, even weak design patents can be used to file nuisance lawsuits and extract settlements. Potential damages from design patent infringement are so high that many defendants will settle rather than challenging patents that appear to be invalid or not infringed.¹⁶⁶ This gives rise to the possibility that owners of design patents that are likely invalid or not infringed might nonetheless be able to extract small payments from lawsuit targets without having to litigate those patents to final judgment.¹⁶⁷ As in the utility patent context, these types of lawsuits create negative social value. They impose a

¹⁵⁹ See Fagundes & Masur, *supra* note 15, at 706-08 (explaining why low private value/positive social value patents are unlikely to exist in large numbers).

¹⁶⁰ Sarah Burstein, *Patented Design*, *supra* note 18 at 182 (describing how design patent holders can effectively use design patents in the marketplace).

¹⁶¹ *Id.* at 183-85.

¹⁶² See Sarah Burstein, *Moving Beyond the Standard Criticisms of Design Patents*, 17 STAN. L. REV. 305, 316-18 (2013) (“*Moving Beyond*”) (explaining the process by which designers attempt to determine whether new designs are patentable or whether they can be employed without violating another’s patent).

¹⁶³ 35 U.S.C. § 271(a) (imposing no scienter requirement).

¹⁶⁴ See *supra* Part I.B.

¹⁶⁵ See Burstein, *Moving Beyond*, *supra* note 162, at 320 (describing the search process).

¹⁶⁶ Burstein, *Costly Designs*, *supra* note 29, at 131.

¹⁶⁷ For discussion of the prospect of design patent trolls, see Tim Sparapani, *Stretched Too Far: Convoluted Design Patent Rules Empower Patent Trolls*, FORBES, Dec. 3, 2015, <https://www.forbes.com/sites/timsparapani/2015/12/03/stretched-too-far-convoluted-design-patent-rules-empower-patent-trolls/>

tax on other designers without leading to the contribution of valuable new designs.¹⁶⁸

Although design patent law's creativity threshold attempts to exclude negative social value rights when they are insufficiently clever, the novelty and nonobviousness requirements are imperfect proxies for social value. Many designs that are new and nonobvious are still nonetheless undesirable. A designer may create a unique shape for a shoe that turns out to be both uncomfortable and unattractive. If the patented design turns out not to be socially useful, then the patent has net negative social value, but the doctrinal screen would not have been able to eliminate it.

Taken together, these considerations indicate that design patents are ripe for application of a costly screen. Recall that a costly screen will only affect the issuance of low private value patents.¹⁶⁹ Designers will still seek high private value patents regardless of any screen—it will just be more expensive for them to do so. There are very few low private value/positive social value patents, so a costly screen will not negatively affect any such grants (or the underlying designs). At the same time, a costly screen might deter the filing of many low private value/negative social value design patents. If it simply reduces the number of low-value design patents that are filed and must later be navigated, that is a social gain; if it similarly reduces the number of nuisance-value suits that are filed, that would be a benefit as well.

The upshot is that if the IP system were operating properly, doctrinal and costly screens would combine to select for predominantly social welfare-enhancing patents. Copyright's high functionality screen would channel any design covering a functional element toward design patents. There, design patent's high creativity screen would ensure that only truly innovative designs were rewarded with patent protection, and the costly screen would eliminate many (though surely not all) of the weak, negative social value patents that might otherwise be granted. Designers who opted out of the high design patent screens and into copyright protection would receive only a much thinner right that would create many fewer social costs.¹⁷⁰ The problem, as we will demonstrate, is that the doctrinal and costly screens within copyright and design patent law are not functioning in this seamless manner.

III. THE BREAKDOWN OF FUNCTIONALITY SCREENING

¹⁶⁸ Cf. Masur, *supra* note 15, at 715.

¹⁶⁹ See *supra* Part I.A.

¹⁷⁰ See *supra* Part I.B.

Channeling functionality via a combination of doctrinal and costly screens makes a lot of sense. Ideally, the system should mitigate the risk of negative social value IP rights by making it difficult and costly for claimants to obtain protection for functional creations and the market power that goes with it. Unfortunately, we don't live in an ideal world, and lately, the situation has gotten even worse. As we explain below, copyright law's high functionality screen for useful articles has vanished, and design patent law's high creativity threshold and costly examination do not, in fact, exist.

A. *Star Athletica and the Lowering of Copyright Law's Functionality Bar*

Under the system established by the 1976 Act, copyright law, with its virtually nonexistent creativity threshold and nearly costless screen, was meant to be the home for solely nonfunctional designs or at least the completely nonfunctional elements of designs.¹⁷¹ The useful articles doctrine would screen out any utilitarian aspects of an article that were not capable of being identified separately and existing independently of the article's nonfunctional features. In its recent opinion in the case of *Star Athletica v. Varsity Brands*, however, the US Supreme Court tore down copyright law's high functionality bar and replaced it with one that resembles design patent law.¹⁷²

The case involved two-dimensional designs of stripes, chevrons, and color-blocking that were incorporated into cheerleading uniforms. The placement of these design features on the uniforms was partially functional.¹⁷³ Although the designs may have been visually appealing in their own right, that's not why they were chosen. They also served to affect the appearance of the wearer's body, emphasizing certain body parts and deemphasizing others, and to identify the wearer as a cheerleader.¹⁷⁴ Unlike a decal of a team logo or mascot that could be attached to the uniform for purely nonfunctional reasons, the designs at issue in the case were dual-nature—they were simultaneously expressive and utilitarian.¹⁷⁵ According to decades of appellate opinions interpreting the 1976 Act's useful articles doctrine, the designs should have been categorically uncopyrightable.¹⁷⁶

¹⁷¹ Buccafusco & Lemley, *supra* note 10; Buccafusco & Fromer, *supra* note 100.

¹⁷² 137 S.Ct. 1002 (2017).

¹⁷³ Buccafusco & Fromer, *supra* note 100.

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

¹⁷⁶ *Jovani Fashion, Ltd. v. Fiesta Fashions*, 500 Fed. Appx. 42 (2nd Cir. 2012); *Galiano v. Harrah's Operating Co., Inc.*, 416 F.3d 411 (5th Cir. 2005); *Whimsicality, Inc. v. Rubie's Costume Co.*, 891 F.2d 452, 455 (2nd Cir.1989) (citing *Fashion Originators Guild v. FTC*, 114 F.2d 80, 84 (2nd Cir.1940) (L. Hand, J.), *aff'd* 312 U.S. 457, 61 S. Ct. 703, 85 L. Ed. 949 (1941); *Chosun Int'l, Inc. v. Chrisha Creations, Ltd.*, 413 F.3d 324, 328 (2nd Cir.2005).

Justice Thomas's opinion for the majority of the Court interpreted the statute in a much more lenient fashion. According to the Court, design elements could be copyrightable if they meet two criteria: (1) that the decisionmaker can spot elements that appear to have pictorial, graphic, or sculptural qualities and (2) that the feature could exist in a work once it is imagined apart from the useful article.¹⁷⁷ The first step, which the Court noted was "not onerous," only seems to require the decisionmaker to find something at least partially nonfunctional about the design of object, even if it was intertwined with functional elements. The second step then asks whether those features could be "imaginatively separated" and depicted or reproduced in some non-useful article. Because the stripes, chevrons, and colorblocking "hav[e] pictorial, graphic, or sculptural qualities,"¹⁷⁸ and because they could have been depicted on a piece of paper or canvas,¹⁷⁹ they met the Court's test for copyrightability.

While this might seem like a fairly straightforward reading of the statute, its novelty and extremity emerge from Justice Thomas's discussion of the nature of the imagining and separating that he has in mind. He explains that once the pictorial, graphic, or sculptural features of the article have been separated, the "imagined remainder" need not be "a fully functioning useful article at all, much less an equally useful one."¹⁸⁰ Referring to the view that copyright law should only protect solely artistic features as "flawed," the majority instead claims that copyright can extend to a design feature "even if it makes that article more useful."¹⁸¹ A feature can now count as a protectable pictorial, graphic, or sculptural feature even though it imparts significant utility to the article, and indeed even though the article couldn't function at all without it. Under this approach, copyright law can now protect things like aerodynamic elements of a car that make it drive faster or with less wind resistance, and perhaps even things like the pattern of tire treads that are designed for functional purposes but that could be imagined as works of abstract art.

The Court's opinion in *Star Athletica* thus fundamentally altered the nature of copyright law's functionality screen.¹⁸² Instead of jettisoning dual-nature features and channeling them to design patent law, copyright law will now protect features of applied art and industrial design that contribute to the article's function. The opinion replaces copyright law's high doctrinal screen for functionality with one that in fact resembles design patent law's much more accommodating standard—but, of course, while also retaining

¹⁷⁷ 137 S.Ct. at 1009.

¹⁷⁸ *Id.* at 1012.

¹⁷⁹ *Id.*

¹⁸⁰ *Id.* at 1014.

¹⁸¹ *Id.* at 1014.

¹⁸² Buccafusco & Lemley, *supra* note 10.

copyright law's low creativity threshold and costless examination and registration.¹⁸³

The design at issue in *Star Athletica* highlights the significance of this combination of screens. Because the Court lowered copyright law's functionality bar, the cheerleading uniforms are not categorically excluded from protection. Instead, they will only fail to obtain protection if they cannot meet copyright law's creativity threshold, which requires that they be original and more than minimally creative. Given how low that threshold is, these designs, as trivial and obvious as they are, may still be able to cross it. Accordingly, the designers would obtain IP protection for functional aspects of their creations without establishing that they have made a substantial innovation or even having to pay much money to the government.¹⁸⁴

The risk posed by *Star Athletica* is clear—creators of highly functional designs, which typically would have been channeled out of copyright into design patent law, can now obtain copyright protection. Copyright's previously rigorous functionality screen now resembles design patent's generous and flexible functionality screen.¹⁸⁵

B. *The Failure of Design Patent's Screens*

By contrast to copyright, design patent law is meant to couple laxer rules on functionality with (1) a high doctrinal creativity screen and (2) a significant costly screen. In reality, however, neither of these screens is operating as intended. Consider first the doctrinal screen. At least in theory, design patents should be subjected to substantial scrutiny to ensure that they are novel and nonobvious. This is the tradeoff that designers make in order to obtain the ability to protect functional elements related to designs and the market power that accompanies it. Designers should only be able to obtain significant market power if they have contributed a truly new and innovative design.

In reality, however, design patent's doctrinal creativity screen is largely toothless. The PTO rejects only 2% of designs for novelty or obviousness.¹⁸⁶ Moreover, it is not as if this high grant rate is being driven

¹⁸³ *Id.*

¹⁸⁴ For example, the Copyright Review Board recently reversed a denial of registration for a lighting fixture based on *Star Athletica*, and it found that a very simple crystal mesh pattern was sufficiently original for copyright protection. See <https://www.copyright.gov/rulings-filings/review-board/docs/amaca.pdf>

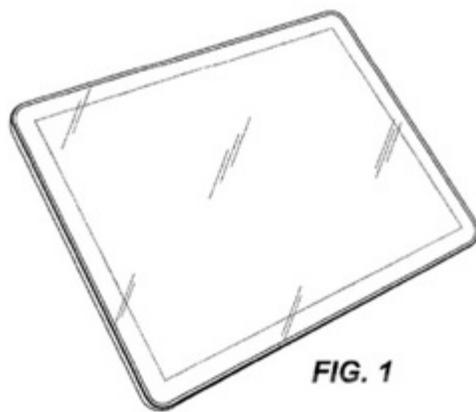
¹⁸⁵ To be sure, as noted above copyright has other limitations designed to prevent backdoor utility patents. Two of us have argued elsewhere that those limitations should now come into play to dramatically narrow the scope of any resulting right. But there is no question that the primary line of defense against turning copyrights into backdoor utility patents has been breached.

¹⁸⁶ Dennis Crouch, *A Trademark Justification for Design Patent Rights*, 24 HARV. J. L. & TECH.

by the fact that designers are playing it safe and only applying for patents on designs that are clearly novel. Even a quick perusal of some of the design patents granted by the PTO reveals that designers are regularly able to obtain patents on designs that are so familiar they should have been obvious.¹⁸⁷

Design patent law's creativity screen is failing for two distinct but related reasons. First, neither the PTO nor the courts appear to treating the novelty and nonobviousness thresholds as rigorously in design patent law as they do in utility patent law.¹⁸⁸ For known prior art to invalidate a design patent for lacking novelty, the PTO and courts seem to require that the two designs be identical in every feature. In the case of *Apple v. Samsung*, for example, the Federal Circuit upheld Apple's design patents on the rectangular shape of the iPad even though there were very similar references in the prior art.¹⁸⁹

Figure 1: Apple's Novel and Nonobvious Design



Cases like this illustrate that decisionmakers are simply interpreting the existing doctrinal to impose a lower hurdle on claimants than the statutory language suggests. In fact, the creativity threshold in design patent law is so low that it hardly seems different from copyright law's originality requirement.

Further, designers whose patent applications are rejected can keep coming back to the PTO and filing requests for further examination. No application can ever be finally rejected; the designer can always refile, and in so doing wear down the PTO examiner until the patent is finally

(2010).

¹⁸⁷ Burstein, *Costly Designs*, *supra* note 29, at 125.

¹⁸⁸ Crouch, *supra* note 186.

¹⁸⁹ *Apple, Inc. v. Samsung Electronics Co., Ltd.*, 678 F.3d 1314, 1326-30 (Fed. Cir. 2012).

granted.¹⁹⁰ In this respect, the process for obtaining a design patent mirrors the process for obtaining a utility patent, which is known to contribute to the excess of poor-quality utility patents that are granted.

The second reason for design patent law's incredibly low rejection rate is that it is quite difficult for the PTO to effectively examine design patents. Design patents are not as easily searched as utility patents, and they cannot be identified as easily using keywords. This is part of the challenge associated with comparisons based entirely on visual claims.¹⁹¹ All told, the PTO has a difficult time determining whether a design is actually new and nonobvious, and the result is a proliferation of patents that should not exist.

Both the PTO and defendants are further hampered in challenging design patents' validity by recent changes to the doctrines of ornamentality and functionality.¹⁹² While design patent law allows more protection of hybrid functional-aesthetic elements than copyright law traditionally did, it should not protect purely utilitarian product features. But recent case law has all but abandoned that functionality limitation, allowing protection even of purely functional elements where the alternative is not to protect a particular element of a design.¹⁹³ Design patent's already lax doctrinal screen has become even laxer.

The Federal Circuit has proven willing to protect even the purely functional aspects of design as long as they have some relationship with ornamental ones. For example, in *Sport Dimension v. Coleman*, the case mentioned in the Introduction, the design patent at issue covered a life jacket-style flotation device with armbands.¹⁹⁴ During claim construction, the district court excluded the armbands from the claim, because it found them to be functional.¹⁹⁵ The Federal Circuit agreed that the armbands were functional, but it held that they were wrongly excluded from the claim.¹⁹⁶ Instead, it held that the district court should have viewed the design as a whole, including the functional features.¹⁹⁷ As long as there was some ornamentation, design patent law would protect that ornamentation even though it served a functional purpose.¹⁹⁸

¹⁹⁰ Mark A. Lemley & Kimberly Moore, *Ending Abuse of Patent Continuations*, 82 B.U. L. REV. 77 (2004).

¹⁹¹ On the problem of defining and analyzing the scope of visual works elsewhere in IP, see Rebecca Tushnet, *Worth A Thousand Words: The Images of Copyright*, 125 HARV. L. REV. 683 (2013).

¹⁹² Buccafusco & Lemley, *supra* note 10.

¹⁹³ *Id.*

¹⁹⁴ 820 F.3d 1316 (Fed. Cir. 2016).

¹⁹⁵ *Sport Dimension, Inc. v. The Coleman Company, Inc.*, 2015 WL 13309300 (C.D. Cal. 2015).

¹⁹⁶ *Sport Dimension*, 820 F.3d at 1321.

¹⁹⁷ *Id.* at 1323.

¹⁹⁸ *Id.* at 1323-24.

Similarly, in *Ethicon Endo-Surgery v. Covidien*,¹⁹⁹ the district court had “factored out” certain elements of a handle for ultrasonic shears – like the trigger and an on-off button – that were driven by functional considerations. The Federal Circuit reversed, holding that as long as the entirety of the design was not fully dictated by functional considerations courts could not exclude the individually functional elements from protection.²⁰⁰ It specifically noted that the scope of the design patents extended to the combination of those elements even though they were functional.²⁰¹

Even if courts were to reverse course and apply more traditional understandings of novelty and functionality, that would be only a partial solution to the problem. If a design patent is granted, it still has some value to its owner, even if it is possible (or even likely) that it would later be invalidated if challenged in court. If the patent’s invalidity is not obvious or certain, or if the cost of discovering that invalidity is high, the patent’s owner will usually be able to extract a settlement of some value from an accused infringer. The settlement may be substantial, if the patent’s validity is plausible, or it may be merely a nuisance-value settlement. But it will not be zero. And the settlement value will be enhanced by the high level of damages available to patent plaintiffs. If design patent owners are able to realize private value through even invalid patents, they are imposing costs on consumers and other designers. These are low private value/negative social value patents that design patent’s failing doctrinal screen is allowing to slip through.

Such patents should in theory be deterred by design patent’s costly screen, which would make it sufficiently expensive that applicants would refrain from trying to obtain these types of invalid patents. In reality, however, design patent’s costly screen is not nearly as effective as one might hope. Recall that the total cost of obtaining a design patent is roughly \$5000.²⁰² This is not trivial, but it pales in comparison to the cost of obtaining a utility patent, which is approximately \$35,000 in fees to the PTO²⁰³ and the applicant’s attorney.²⁰⁴ Five thousand dollars is also much

¹⁹⁹ 796 F.3d 1312 (Fed. Cir. 2015).

²⁰⁰ *Id.* at 1334.

²⁰¹ *Id.*

²⁰² See *supra* Part I.C.

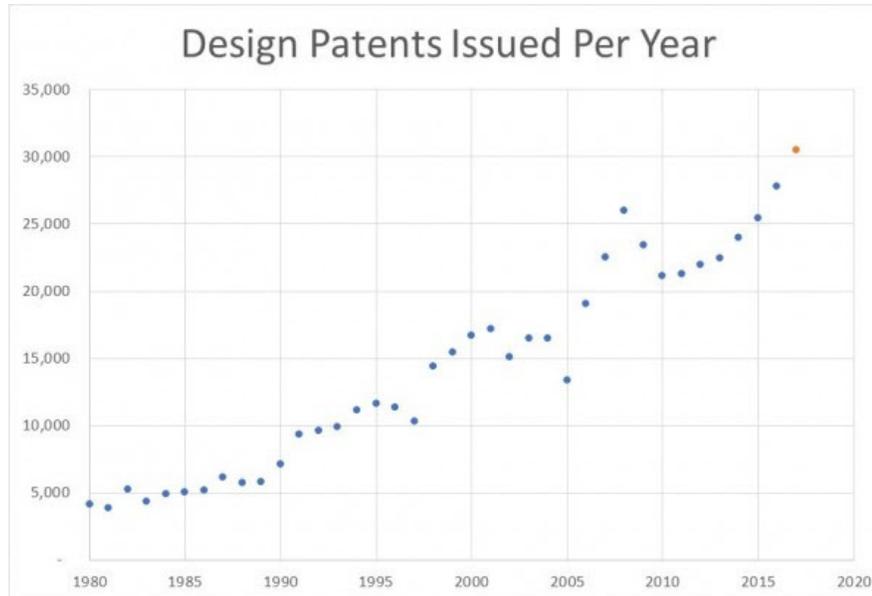
²⁰³ A utility patent application requires payment of \$280 in filing fees, 37 C.F.R. § 1.16(a), \$600 in search fees, 37 C.F.R. § 1.16(k), \$720 in examination fees, 37 C.F.R. § 1.16(o), and \$960 in issuance fees, 37 C.F.R. § 1.18(a)(1), for a total of \$2560 in up front fees. The PTO also charges maintenance fees for patents that remain in force, which total \$12,600 over the life of a patent. 37 C.F.R. 1.20(e), (f), (g). Design patents, by contrast, do not need to pay maintenance fees. <https://www.uspto.gov/web/offices/pac/mpep/s2504.html>.

²⁰⁴ Most applicants also hire attorneys, and fees for preparing and prosecuting patents typically run from \$15,000 to \$25,000, depending upon the complexity of the invention. Masur, *supra* note 15, at 699. In total, then, a typical utility patent costs roughly \$35,000 to obtain and maintain.

less than what even a dubious design patent might be worth. Again, the potential for design patent owners to win substantial damages awards due to the lack of damages apportionment can turn even questionable patents into valuable private assets. An upfront application cost of \$5000 will weed out only the most frivolous design patent applications while allowing many others through. In light of the incentives that designers face to file for even weaker design patents, knowing that they are likely to be granted, this too-low costly screen poses significant problems. Designers can (and do) obtain multiple patents on different configurations of their designs.²⁰⁵ That they do this suggests that the costly screen isn't very costly. And, because they can submit dozens of applications simultaneously, the costs of drafting and prosecution are probably even lower.

The upshot is that design patents are too easy to obtain, both as a matter of doctrine and expense. Design patent law is meant to only award these powerful IP rights to designers who have contributed valuable new designs, and it is meant to deter putative applicants from even applying for low private value/negative social value designs. It accomplishes neither of these tasks. By consequence, every day there are design patents granted that do more harm than good, driving up prices for consumers and taxing genuine creativity. If either the doctrinal screen or the costly screen had failed independently, the problem would be significant. The simultaneous and conjoint failures of both screens is calamitous. And it goes some way toward explaining the dramatic rise in design patenting.

²⁰⁵ Apple v. Samsung Electronics, 786 F.3d 983 (Fed. Cir. 2015); Jason J. Du Mont & Mark D. Janis, *Virtual Designs*, 17 STAN. TECH. L. REV. 107 (2013); Michael J. Risch, *Functionality and Graphical User Interface Design Patents*, 17 STAN. TECH. L. REV. 53 (2013).

Figure 2: Design Patents Issued Per Year²⁰⁶

C. *The Additional Problem with Overlapping Trade Dress Protection*

However well or poorly copyright and patent laws might be doing to properly incentivize innovation in design by channeling creations to the appropriate doctrine, that task is further complicated by the availability of design protection via trade dress law. As we explained above, designers can assert exclusive rights in the shape of a product or its packaging under trade dress law.²⁰⁷ These rights are not meant to stimulate new creativity in design, but instead to prevent consumers from being confused about the product's origin. For example, if consumers associate the rubber toe bumper and molding on a shoe as an indication that the shoe was produced by Converse, then Converse can attempt to use trade dress law to prevent competitors from making similarly designed shoes.²⁰⁸ But trade dress protection fits uneasily within the channeling scheme that Congress created for copyrights and design patents, and it renders the task of screening designs even more difficult.²⁰⁹

²⁰⁶ This chart was borrowed from Patently-O, https://patentlyo.com/patent/2017/08/design-patents-expected.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+PatentlyO+%28Dennis+Crouch%27s+Patently-O%29.

²⁰⁷ See *supra* notes 86-90 and accompanying text.

²⁰⁸ Bill Donahue, *ITC Spells Out How Broad Use Sunk Converse Sneaker TM*, LAW360 (July 14, 2016) available at <https://www.law360.com/articles/817642>.

²⁰⁹ See Mark P. McKenna, *An Alternate Approach to Channeling?*, 51 WM. & MARY L. REV.

Because trade dress law allows firms to obtain protection for product design, it shares copyright and design patent laws' concerns with extending protection to market power conveying functionality.²¹⁰ But trade dress law's doctrinal and costly screens differ from those used by the other regimes. Trademark law imposes no creativity threshold for marks or designs. A design is protectable even if it is identical to prior designs and was copied from them as long as the claimant can establish that consumers treat the design as indicating the source of the product.²¹¹ This non-threshold is not even as rigorous as copyright law's trivial originality requirement. Trademark protection is, however, subject to a costly screen, although one that operates differently from patent law's. Trademarks and trade dress can be registered with the PTO and, if so, are subject to examination by the office. While registration will only cost several hundred dollars, the price for trade dress protection is actually much higher. This is because trade dress is only protectable once it has acquired distinctiveness,²¹² and a company often must spend an enormous amount of money on marketing to get consumers to associate the design with the company. So although the examination and fees for trade dress protection are cheaper than utility patent law's, trade dress law's doctrinal screen requiring secondary meaning for protection actually imposes a substantial cost.

Trade dress law also imposes a doctrinal functionality screen that resembles the one copyright law used prior to *Star Athletica*.²¹³ To the extent that a producer attempts to claim protection for an aspect of the design that is "necessary to the success of the article or . . . affects the cost or quality of the article," it is unprotectable.²¹⁴ This functionality screen is more rigorous than design patent law's (and presumably the post-*Star Athletica* copyright screen), as demonstrated by *Apple v. Samsung*, where the Federal Circuit treated features of the iPhone as unprotectable by trade dress law but protectable by design patent law.²¹⁵ Whether courts and the PTO apply the functionality screen with consistent rigor is a separate issue. For example, the registered trade dress of Coca-Cola's distinctive bottle

873 (2010). Cf. Robert Bone, *Trademark Functionality Reexamined*, 7 J. LEGAL ANALYSIS 183 (2015).

²¹⁰ *Id.*

²¹¹ The design is protectable if it has acquired "secondary meaning" as a designation of the source of the goods.

²¹² *Wal-Mart Stores, Inc. v. Samara Brothers, Inc.*, 529 U.S. 205, 212-14 (2000).

²¹³ *Buccafusco & Lemley*, *supra* note 10.

²¹⁴ *TraFFix Devices, Inc. v. Marketing Displays, Inc.*, 532 U.S. 23 (2001) (holding that a dual spring design for a sign could not receive trademark protection because it was functional, as evidenced by an expired utility patent).

²¹⁵ *Apple*, 786 F.3d at 989-99.

design or Converse's rubber toe bumper and molding both contribute to their designs' functionality.²¹⁶

Trade dress law isn't part of Congress's scheme to optimize innovation in design by channeling creations to the correct regime, and it sits awkwardly alongside that scheme.²¹⁷ Although it imposes a significant functionality bar and an indirectly costly screen, trade dress law has no creativity threshold.²¹⁸ Moreover, trade dress protection, once obtained, can last forever.²¹⁹ As we explained above, creativity thresholds operate as doctrinal screens that minimize the risk of high private value-negative social value rights by requiring the claimant to have produced something innovative.²²⁰ Trade dress law makes no effort to ensure that rights are only granted to designs that contribute to social welfare.²²¹ Accordingly, it must rely entirely on its functionality screen to prevent designers from obtaining rights that will hinder competition and innovation.

D. *The Dystopian Reality of IP Screening*

The principal concern generated by the Supreme Court's decision in *Star Athletica* is that copyright law will no longer rigorously police functionality. This would allow designers to obtain protection for the functional elements of designs via copyright without having to overcome design patent law's high creativity threshold, short duration, and costly screen. This protection would then last for a century, rather than design patent's 15 years.

As we have just explained, however, many of the benefits of channeling functional designs away from copyright and into the design patent regime are chimerical. Very few designs are excluded by the latter's doctrinal creativity screens, and its supposedly costly screen isn't very costly. Design patent law's screens are already allowing through nearly every plausible design. In addition, we suspect that the enormous difference in duration between copyrights and design patents may not, in fact, be all that meaningful in practice. Product designs, including those that

²¹⁶ In the matter of Certain Footwear Products, U.S. Internat'l Trade Comm. Inv. No. 337-TA-936 (Nov. 17, 2015) available at https://www.manatt.com/uploadedFiles/Content/4_News_and_Events/Newsletters/IPandInternetLaw@manatt/ConverseITCpinion.pdf.

²¹⁷ Laura Heymann, *Policing the Copyright/Trademark Divide*, 60 SMU L. REV. 55 (2007).

²¹⁸ See Jeanne C. Fromer, *The Role of Creativity in Trademark Law*, 86 NOTRE DAME L. REV. 1885 (2011).

²¹⁹ DONALD S. CHISUM, ET AL., UNDERSTANDING INTELLECTUAL PROPERTY LAW, 2ND ED. 521 (2011).

²²⁰ See *supra* Part I.A.

²²¹ This is, of course, because trade dress law doesn't have the same incentive-based rationale that copyright and patent laws do.

incorporate functionality, tend to have relatively short shelf lives,²²² so the market power differences between fifteen years and a century are not that great. IP protection that covered the shape of a floppy diskette, film canister, or fax machine would already have virtually zero value, because those products have become obsolete.²²³ All the additional years of copyright protection that would extend beyond the fifteen-year design patent term would generate little private value or social cost. In cases like these, where the product is truly obsolete, we would not even expect rights to have significant nuisance value or impose substantial search costs, since competitors also aren't trying to make these products. While some industrial designs have enduring market value—the Eames chair, the Burberry trench coat, or the classic Coca-Cola bottle—these are the exceptions that prove the rule of short shelf life.²²⁴

Design patent law isn't doing its job of limiting the costs of IP protection for functional designs via short duration, creativity thresholds, or costly screens. Maybe, then, copyright law's failure to channel functional creations to design patent law post-*Star Athletica* won't matter so much, since designers put to the choice might have opted for a design patent over copyright anyway. If designers do seek copyrights where they would have otherwise had to seek design patents, copyright's limiting doctrines could play an important role in influencing innovation and competition. As we explained in Part I, copyright law, but not design patent law, does not impose liability on competitors who independently create their own designs.²²⁵ Unless a copyright plaintiff can prove that the defendant actually knew of and copied her design, the infringement action will fail. The holder of a design patent, by contrast, can recover from anyone who makes or uses the design, whether they knew of its existence and copied it or not.²²⁶ We suspect that copyright law's independent creation doctrine is even more important for industrial design than it is for more typical copyright works like novels and movies. The opportunities for human cultural expression, while not infinite, are, nonetheless, vast.²²⁷ Although Judge Learned Hand discusses the possibility that “a man who had never known it [might]

²²² See WILLIAM SHAKESPEARE, *MUCH ADO ABOUT NOTHING*, Act 3, scene 3 (“the fashion wears out more apparel than the man”).

²²³ This is the process that Schumpeter refers to as “creative destruction.” JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM, AND DEMOCRACY* 82-85 (1942).

²²⁴ Indeed, even Coca-Cola is not normally sold in its iconic shape any longer, except as a novelty item.

²²⁵ *Supra* notes 83-91; see also Rebecca Tushnet, *The Eye Alone is the Judge: Images and Design Patents*, 19 J. INTELL. PROP. L. 409, 423 (2012).

²²⁶ *Id.*

²²⁷ Robert E. Suggs, *A Functional Approach to Copyright Policy*, 83 UNIV. CINCINNATI L. REV. 1293, 1302 (2015).

compose anew Keats's 'Ode on a Grecian Urn,'"²²⁸ this is incredibly unlikely to happen. That two designers of handheld smart phones might hit upon the same idea for its shape, however, seems not only possible but probable, given the physical limitations of the human hand.²²⁹ Precisely because industrial design incorporates utilitarian features which tolerate fairly few variations, independent creation of the same design is likely to often occur.

Copyright law's other limiting doctrines may further minimize the social costs from diminished competition relative to design patent law. Copyright law's infringement analysis should filter out functional aspects of the design even if the useful articles doctrine no longer does, limiting the comparison between the plaintiff's and defendant's works to their expressive, non-functional features.²³⁰ Courts have done this for other highly functional works like computer software and architecture, and we hope that they will continue the practice now that they will have to deal with industrial designs.²³¹ A similar analogy holds for copyright's fair use doctrine, which can vitiate defendants' prima facie liability if they can show that their copying was based on functional necessity.²³² Imagine, for example, that a car manufacturer attempted to control the market for replacement or add-on parts for its vehicles by claiming a copyright over their design—something that might now be possible in light of *Star Athletica*. If the only way that competitors could produce interoperable parts were to copy aspects of the manufacturer's design, the competitors would have a strong argument for fair use based on computer software caselaw.²³³ Design patent law does not have comparable doctrines and so subjects defendants to potential liability for copying functional components of the plaintiff's design.

Finally, recall that copyright law has a much more sensible approach to infringement damages than design patent law.²³⁴ When design patent law calculates the plaintiff's damages, it does not apportion value based on infringing and non-infringing elements of the defendant's design. The

²²⁸ *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49, 54 (1936).

²²⁹ Pamela Samuelson, *Reconceptualizing Copyright's Merger Doctrine*, 63 J. COPYRIGHT SOC'Y U.S.A. 417, (2016).

²³⁰ Buccafusco & Lemley, *supra* note 10; Mark A. Lemley & Mark P. McKenna, *Scope*, 57 Wm. & Mary L. Rev. 2197 (2016).

²³¹ See Clark Proffitt, *Poetry or Production: Functionality in the Architectural Works Copyright Protection Act*, 39 ARIZ. ST. L.J. 1263, 1274 (2007) ("The definition of a useful article was not amended by the legislation, but by defining architectural works as a category separate from pictorial, graphic, and sculptural works, the separability test would automatically cease to apply.").

²³² *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992); *Sony Computer Entertainment v. Connectix Corporation*, 203 F.3d 596 (9th Cir. 2000).

²³³ *Id.*

²³⁴ See *supra* note 137 and accompanying text.

defendant must pay for all of the plaintiff's lost profits.²³⁵ Copyright law, however, limits the plaintiff's recovery to any royalties that were attributable to the defendant's infringement.²³⁶ The plaintiff won't recover for any losses that may have arose from similarity between non-copyrighted elements of the design. This difference means that the potential negative social value from nuisance suits will be lower in copyright infringement cases than in design patent cases, all else equal, so the risks to competition from inappropriately granted rights will also be lower.

Yet all of this good news about copyright does not tell the whole story. Even if copyrights after *Star Athletica* are still no stronger than design patents on the whole, this does not mean that *Star Athletica* has done no harm. And it does not mean that if design law overreaches, it still overreaches largely through design patents. There are two reasons for this. First, while the costly screen of design patents isn't very costly, it is still more expensive than obtaining a copyright, which is effectively free.²³⁷ The choice between copyright and design patent protection is a tradeoff between cost and strength of protection. Increasing the strength of copyright protection without increasing its cost makes choosing copyright more attractive.

The second reason is more fundamental: designers are not required to select only one of the available design regimes. There is no doctrine of election that requires a designer to choose between copyright and design patent when obtaining IP over a design. Rather, any designer can seek both types of protection for the same designs, without limitation. In addition, the designer is also able to seek trade dress protection running parallel to copyright and design patent protection. The existence of trade dress protection intersecting with the channeling regime that Congress designed for copyrights and design patents further complicates the murky picture for design law. Instead of a simple world of channeling between copyright law's low creativity threshold, high functionality bar, and costless screen and design patent law's high creativity threshold, low functionality bar, and costly screen, we must add trade dress law's unusual combination of screens and its different aims. Determining how to distribute rights over product design in an optimal fashion is thus even harder.

The ability to choose copyright, trade dress, *and* design patent protection for the same design element creates all sorts of opportunities for designers to exploit the overlapping advantages of these systems. For instance, it is typically easier for a plaintiff to prove that a design patent is infringed than to prove that a copyright is infringed, for reasons we have

²³⁵ *Id.*

²³⁶ *Id.*

²³⁷ See *supra* notes 80-88 and accompanying text.

detailed above. At the same time, it is typically more difficult for a defendant to prove that a copyright is invalid than to prove that a design patent is invalid. (Design patents are only valid if they are novel and nonobvious, while copyright contains no such limitation.) Accordingly, a designer could seek both copyrights and design patents and choose which right to enforce against a given defendant depending upon whether that defendant is likely to have better defenses related to infringement—in which case the plaintiff will assert design patents—or invalidity—in which case the plaintiff will assert copyrights.

Similarly, designers can choose which rights to assert to maximize their potential damages recovery. If the design encompasses all aspects of the infringing product, the designer can assert copyrights, knowing that she will be able to obtain essentially full damages because the profit is attributable entirely to the design. If the infringing product involves both infringing and non-infringing design elements, the plaintiff can elect instead to assert design patent rights in order to avoid having damages apportioned and, for instance, capture the profits of an entire car based solely on the design of the chassis.²³⁸

Copyrights also offer the option of obtaining what amount to “design patent lite” protection for decades after the design patent has expired. The designer could rely upon the more powerful design patents for the first 15 years, then switch to copyrights after the design patents have expired. As we explained, in many cases the extra decades of protection will be largely irrelevant.²³⁹ But the ability to capture those additional out-years of rents will be valuable to some designers, and these designers can do so at roughly zero cost.

Most importantly, and most realistically, designers can assert both types of rights against the same defendants in the same cases.²⁴⁰ If the two causes of action are at all independent—that is, if they do not rise or fall on precisely the same factors—designers will have two bites at the same apple. Even if the design patent claim founders for some reason, the copyright claim may still prevail, or vice versa. Simply as a matter of mathematics, a

²³⁸ See Mark A. Lemley, *A Rational System of Design Patent Remedies*, 17 STAN. TECH. L. REV. 219 (2013) (discussing examples of overclaiming that result from this rule). The Supreme Court’s decision in *Samsung v. Apple* might limit this problem by allowing courts to define the “article of manufacture” more narrowly. *Samsung Electronics Co., Ltd. v. Apple, Inc.*, 137 S. Ct. 429 (2016); Sarah Burstein, *The “Article of Manufacture” Today* (working paper 2017).

²³⁹ See *supra* notes 184-190 and accompanying text.

²⁴⁰ See e.g. *Quan v. Ty, Inc.*, Case No. 1:17-cv-05683 (N.D. IL Aug. 3, 2017) available at <https://www.scribd.com/document/361003770/Quan-v-Ty-Complaint> (alleging infringements of both copyright and design patent on plush toys). We have not yet seen many cases where plaintiffs have asserted both copyrights and design patents, but there are volumes of cases asserting both copyrights and trademarks or design patents and trademarks for the same features. See Heymann, *supra* note 217, at 65-67; Moffat, *supra* note 46, at 616.

design plaintiff can transform two dubious rights into one source of strong protection. For instance, imagine that a design patent and a copyright are each only 50% likely to be found valid and infringed by a particular defendant design. If the two causes of action are completely independent, the plaintiff is 75% likely to prevail on at least one of the two. Of course, it is unlikely that the two causes of action will ever be entirely independent, particularly on the issue of infringement. But even partial independence will allow the IP holder to leverage them in litigation beyond what the underlying design warrants. Moreover, by bringing two claims instead of one, the plaintiff will increase the defendant's litigation costs to defend through trial. In other contexts, scholars have demonstrated that offering IP rights-holders the choice between two legal regimes can artificially inflate the power of IP rights and distort the operation of the IP system.²⁴¹ Option value by itself is bad enough. Permitting designers to opt for *both* IP regimes is potentially far worse.

IV. WHAT IS TO BE DONE?

The problem, then, is simple, if counterintuitive: it's too easy and too cheap to protect the functional aspects of designs. The law gives people too many ways to obtain too many rights too cheaply. As a result, IP law grants design rights that are broader than they should be, rights that aren't worth the social cost to have around, and rights that overlap in ways that undo the calibration individual IP regimes are supposed to provide. In this section, we consider policy changes designed to bring private costs and benefits more in line with social welfare.

A. *Reining in Overpowered Design Rights*

One set of approaches focuses on the fact that design rights have become too powerful, inducing too many designers to seek and enforce protection even when it is not socially optimal to do so (for instance, when the defendant independently created their design and it is not identical). We consider several approaches to mitigate the excessive power of design rights in this section.

Many of the problems discussed above stem from the ability of IP owners to use tools directed at ornamentation (design patent, copyright) or reputation (trademark) to achieve what the law intends only utility patents

²⁴¹ Omri Ben-Shahar, *Damages for Unlicensed Use*, 78 U. CHI. L. REV. 7, 15-18 (2011) (describing the distortions introduced when plaintiffs have the option of selecting between two damages regimes).

to provide: control over the function of the item itself.²⁴² One solution to the problem is to try to shore up the screens that prevent design-related rights from bleeding over into backdoor utility patents. This won't make design rights more costly, but it will reduce the ability to capture inappropriate value—value in excess of what the designer has really created—with those rights. It will therefore reduce the temptation to invest in negative social value rights that generate positive private value. A number of scholars have suggested ways to shore up these screens.²⁴³

As we mentioned in Part II, neither the PTO nor the courts seem to be applying the nominally high creativity threshold that design patent law demands. Patent law's novelty and nonobviousness standards are intended to impose a significant hurdle for claimants. But while the PTO and the courts have demonstrated some willingness to reject utility patents on these grounds, they have not done so for design patents.²⁴⁴ When prior art discloses a design that substantially anticipates the principal features of the claimant's design, as with Apple's patent on a rectangle with rounded corners, the PTO should deny the patent or the courts should invalidate it. Design patent law shouldn't grant substantially stronger protection than copyright while simultaneously applying a similarly trivial creativity threshold.

Copyright has the converse problem. Just as design patent law has begun to resemble copyright's lax approach to creativity screening, so too has copyright's functionality screen moved towards design patent law's lax functionality standard.²⁴⁵

But there may still be ways for courts to restore the division between design and function that Congress intended. In design patents, the effective elimination of the functionality screen is a creation of the Federal Circuit. It finds no basis in Supreme Court precedent, and it is at odds with the way functionality is treated in trademark cases. Indeed, in *Apple v. Samsung*, the Federal Circuit went so far as to hold that the very same features both *were* functional under trademark law and *were not* functional under design patent law.²⁴⁶ The Supreme Court declined to resolve that issue, rejecting the design patent verdict on damages instead.²⁴⁷ The Court should take a case to resolve this issue, and when it does, it should reintroduce an effective form of functionality screening to design patents, as the statute requires and as historically was true before recent Federal

²⁴² Buccafusco & Lemley, *supra* note 10.

²⁴³ *Id.*; McKenna & Sprigman, *supra* note 41; Jeanne C. Fromer & Mark P. McKenna, *Claiming Design* (working paper 2017); Risch, *supra* note 205, at 62-64.

²⁴⁴ See *supra* Part II.D.

²⁴⁵ See *supra* notes 165-171 and accompanying text.

²⁴⁶ *Apple, Inc.*, 786 F.3d at 991-92.

²⁴⁷ *Samsung Electronics Co., Ltd. v. Apple, Inc.*, 137 S.Ct. 429 (2016).

Circuit decisions.²⁴⁸ Applying *Richardson* and rejecting *Coleman* would be a good start.

Copyright functionality is a somewhat harder problem, because the Supreme Court seemed to suggest in *Star Athletica* that copyright could protect even the functional aspects of a utilitarian work as long as courts could envision creative elements in that work.²⁴⁹ That risks making copyright design protection cheap indeed, while eliminating the filters on scope that prevented every copyright in a utilitarian work from becoming an automatic backdoor utility patent.²⁵⁰ It's not clear that the Court intended to dismantle the functionality screen in copyright, rather than simply concluding that there was *something* worth protecting in a simple design for a cheerleader uniform. And it is entirely possible that courts interpreting *Star Athletica* will grant protection to such works but narrow the scope of that protection to avoid effectively copyrighting function.²⁵¹ That's what we think they should do, if the case isn't going to be changed by statute.²⁵² Doing so would reduce the incidence of cheap copyrights with negative social value that impede the creation of others. But there is no question that *Star Athletica* made the line between design protection and functional IP rights fuzzier than ever. In an ideal world Congress would pass new legislation overriding *Star Athletica* and restoring the traditional meaning of section 101. But since that seems unlikely, courts will need to consider other options.

B. Election of Rights

A second way to tackle the problem of cheap backdoor utility patents is to focus on the problem of overlap between IP rights. As we noted in Part I, at least before *Star Athletica* different IP regimes were calibrated in different ways. Design patents were intended to be rarer, more costly, shorter, and harder to get than copyrights, but they conferred significantly stronger rights. Copyrights were cheap and simple to get, but came with significant limitations designed to prevent their use as backdoor utility patents. And trademark law has special requirements that limit its

²⁴⁸ Risch, *supra* note 205, at 73-77.

²⁴⁹ 137 S. Ct. at 1013-14.

²⁵⁰ That's not what Congress intended. Indeed, it is notable that the Court, in an opinion otherwise purportedly concerned with the plain meaning of the statute, ignored completely the most pertinent part of the very statutory section it was interpreting. 17 U.S.C. §101 (explaining that pictorial, graphic, and sculptural works "shall include works of artistic craftsmanship insofar as their form but not their mechanical or utilitarian aspects are concerned"). See also Buccafusco & Fromer, *supra* note 100.

²⁵¹ See *supra* Part II.A. (discussing the effects of *Star Athletica* on the ability to copyright functional elements).

²⁵² Buccafusco & Lemley; *supra* note 10; Lemley & McKenna, *Scope*, *supra* note 230.

use to particular circumstances in which a design is valued not for what it is, but for what it represents. In the best-case scenario, creations would be channeled to the one correct doctrinal bucket that appropriately balanced costs and benefits for designs of that type. When the channeling doctrines didn't work as well, the designer of a particular article could treat IP rights as a menu of options, choosing the IP right that provides the most valuable fit for her needs.

The concept of one choice from a menu of options was an appropriate metaphor for much of IP law's history. Under the doctrine of election, a creator had to choose one – but only one – form of protection for her work.²⁵³ We don't mean that a design couldn't fall within the subject matter of more than one IP regime; it is well established that copyright, design patent, utility patent, and trade dress might overlap in what they cover. Rather, the doctrine of election meant that where two or more IP rights did overlap, the IP owner had to choose which form of protection she wanted. Obtaining a design patent meant foregoing copyright protection for the same item, and vice versa. A copyright or design patent over a work meant the shape of the work wasn't also eligible for trade dress protection.²⁵⁴ The doctrine of election meant that there wasn't any problem of overlapping rights, because there weren't multiple rights to overlap.

The doctrine of election was rejected by the Court of Customs and Patent Appeals in 1974 in *In re Yardley*.²⁵⁵ That case held that a watch featuring a caricature of then-Vice President Spiro Agnew could be both copyrighted and design patented. *Yardley* was based on the (correct) proposition that different IP rights have different purposes, and if a work has many parts it may be appropriate to protect different parts with different regimes. We have no quarrel with that reasoning. Indeed, utility patents and design patents have long protected different aspects of the same product.²⁵⁶ But the absence of a doctrine of election has increasingly meant

²⁵³ See Douglas R. Wolf, *The Doctrine of Elections: Has the Need to Choose Been Lost?*, 9 CARDOZO ARTS & ENT. L.J. 439, 439 (1991) (“Historically, the Doctrine of Elections (“Doctrine”) limited the creator of an ornamental design to only one form of protection. Over time, the Doctrine has been substantially abandoned.”). For a detailed discussion of this history, see Jason du Mont & Mark D. Janis, *U.S. Design Patent Law: A Historical Look at the Design Patent/Copyright Interface*, in *The Copyright/Design Interface: Past, Present & Future* (Estelle Derclaye ed.) (Cambridge Univ. Press, forthcoming 2017).

²⁵⁴ *In re Blood*, 23 F.2d 772 (D.C. Cir. 1928); *Korzybski v. Underwood Underwood, Inc.*, 36 F.2d 727 (2nd Cir. 1929); *De Jonge Co. v. Breuker Kessler Co.*, 182 F. 150 (3rd Cir. 1910); *Jones Bros. Co. v. J.W. Underkoffler et al.*, 16 F. Supp. 729 (D.D.C. 1936); *Taylor Instrument Cos. v. Fawley-Brost Co.*, 139 F.2d 98 (7th Cir. 1943); *Ex parte Guild*, 98 U.S.P.Q. 464 (Pat. Off. Bd. App. 1952), *aff'd* on other grounds, *In re Guild*, 204 F.2d 700 (C.C.P.A. 1953); *William A. Meier Co., Inc. v. Anchor Hocking Corp.* 95 F. Supp. 264 (W.D. Pa. 1951); *In re Thorington*, 418 F.2d 528 (C.C.P.A. 1968) (no design and utility patent on same attribute).

²⁵⁵ *In re Yardley*, 493 F.2d 1389 (C.C.P.A. 1974).

²⁵⁶ *E.g.*, *Samsung v. Apple*, 137 S. Ct. 429, 433-35 (2016) (noting that the same devices can be protected by both design patents and utility patents).

that IP owners use different IP regimes to protect *the same aspects* of their works, leading to overlapping protection.²⁵⁷ Thus, a designer might obtain a design patent with its relatively strong rights, then claim a copyright in the same aspects of the work once the design patent expires, and even claim a trademark in the design should the copyright ever expire.²⁵⁸ As we described in Part III, this allows a designer to leverage the advantages of all of these systems simultaneously, rather than accepting the limitations of a given system as the price of obtaining its benefits.²⁵⁹ The result is a further increase in the power of design rights created purely by this option value.

Perhaps it is time to bring back the doctrine of election, at least to the extent that any particular design feature may be protected by only one form of IP.²⁶⁰ The fact that it is too cheap and easy to get strong protection for designs means we want some way to limit the power IP grants over design. An election doctrine would not solve all the problems we identified in Part III. If it is too easy to get design patents, the fact that a designer can't *also* get copyright protection on the work doesn't fix that. And if it is too easy to protect functionality through copyright, the fact that a designer can't *also* obtain a design patent doesn't fix that either. But requiring election would solve an important class of cases in which we make design protection too cheap and too strong – cases in which the IP owner benefits from layering different protections to avoid the limits of each doctrine. That is particularly true when short-term rights like utility and design patents expire. Giving long-term or even perpetual protection through copyright or trade dress to elements that also got the benefits of strong patent rights undoes the public benefit of the patent bargain: the promise that the world will have access to the design once the patent expires.

Bringing back election would not necessarily require legislative action. The history of the election doctrine is curious, because its demise in the copyright and design patent context can be traced to one case from a single court of appeals, *In re Yardley*.²⁶¹ True, that court—the Court of

²⁵⁷ See *Quan v. Ty, Inc.* supra note XX.

²⁵⁸ The oldest of us is fifty years old, and copyrights have never expired in any of our lifetimes because Congress keeps retroactively extending copyright terms. The most recent extension added twenty years to copyright terms, and that was nineteen years ago. We'll see this year if it happens again.

²⁵⁹ *OddzOn v. Oman*, 924 F.2d 346 (D.C. Cir. 1991) (refusing Koosh ball copyright registration where product was already patented; patentee wanted the benefits of easier enforcement through copyright).

²⁶⁰ For an early suggestion that we should do something similar with software, see Michael J. Kline, *Requiring an Election of Preemption for Patentable/Copyrightable Computer Programs*, 6 COMP. L.J. 607 (1986).

²⁶¹ To the extent Congress thought about the issue at all, it seems to have assumed that copyright protection was possible for utilitarian works only if the IP owner had not obtained a design patent for the same work. Herbert Putnam, Esq., then Librarian of Congress and active in the movement to amend the copyright laws, told the joint meeting of the House and Senate Committees:

Claims and Patent Appeals—heard all appeals from the Patent and Trademark Office, but at the time it didn't even hear infringement suits. Meanwhile, at the time of *Yardley* the regional circuits and district courts had unanimously adopted the doctrine of election. Nonetheless, the influential Nimmer treatise endorsed *Yardley*,²⁶² and after *Yardley* people just started taking it for granted that a designer could protect the same design element using multiple IP regimes. The Copyright Office acquiesced in 1995, allowing registration of works that had already been patented.²⁶³

Since *Yardley*, the IP world has taken for granted that overlapping protection is the norm. But the Supreme Court has never endorsed the elimination of the election doctrine. Indeed, there are good reasons to think it would not do so. Election is a commonplace in other areas of IP. Anyone who files for a patent must elect to forego trade secret protection, and choosing trade secrecy similarly prevents later obtaining a patent.²⁶⁴ In one important decision the Court seemed to implement an election doctrine between copyright and trademark, sharply limiting the ability of IP owners to assert trademark claims that effectively protected copyrighted works once those copyrights had expired.²⁶⁵ In another, the Court held that an expired utility patent was strong evidence that a design feature was functional and could not be protected by trademark law.²⁶⁶ And it has repeatedly held that design patents preempt state design-like rights because of concerns that overlapping protection would allow IP owners to circumvent the requirements of federal design patent law.²⁶⁷ Congress too endorsed the doctrine of election when it created a new IP right covering boat hulls, expressly providing that obtaining a design patent prevented the designer from also obtaining or enforcing a registered right for boat hulls.²⁶⁸ While

The term 'works of art' is deliberately intended as a broader specification than 'works of the fine arts' in the present statute with the idea that there is subject-matter (for instance, of applied design, not yet within the province of design patents), which may properly be entitled to protection under the copyright law.

Quoted in *Mazer v. Stein*, 347 U.S. 201 (1954).

²⁶² DAVID NIMMER & MELVILLE NIMMER, *NIMMER ON COPYRIGHT* §2.19 (1994 ed).

²⁶³ Copyright Office Circular, 60 Fed. Reg. 15605 (Mar. 24, 1995), <https://www.gpo.gov/fdsys/pkg/FR-1995-03-24/html/95-7363.htm>.

²⁶⁴ See PETER S. MENELL ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 2017 ch. 2.

²⁶⁵ *Dastar Corp. v. Twentieth Century Fox Film Corp.*, 539 U.S. 23 (2003).

²⁶⁶ *Traffix Devices, Inc. v. Marketing Displays, Inc.*, 532 U.S. 23 (2001).

²⁶⁷ *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234 (1964); *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964); *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989).

²⁶⁸ 17 U.S.C. §1329.

the Court has not considered the overlap problem in the context of copyright law,²⁶⁹ we think it should draw the same conclusions there.²⁷⁰

Reinvigorating the doctrine of election is somewhat more complicated since the 1976 Copyright Act, because copyright protection is automatic. Surely one does not “elect” copyright over design patent protection merely by creating a work that the law deems automatically within the scope of copyright. We think the doctrine of election should attach at the time a designer files for a design or utility patent on a product attribute. Doing so should represent a choice not to enforce any copyright claim on that attribute. Our proposal is that courts should dismiss copyright lawsuits or applications for registration that are brought on the basis of elements that are already protected by an existing (or pending) patent. The creator would still own the copyright and remain an author of the work. But she could not enforce that copyright in court. Similarly, the Copyright Office should refuse to register a copyright on subject matter for which a patent has already been filed.

Conversely, bringing (or perhaps threatening) a copyright lawsuit based on a product attribute should estop later efforts to patent (or enforce a patent on) that product attribute. The PTO should also dismiss any patent application that tries to claim an element that has already been the subject matter of a copyright registration or litigation. We focus here upon registration, litigation, and application because they are public acts that occur at discrete moments in time. It would be comparatively difficult (or impossible) to base election on the moment at which a copyright is created, simply because copyrights spring into existence instantaneously the moment that an author creates a work. Registration and litigation are when

²⁶⁹ *Mazer v. Stein* acknowledged the doctrine of election in the case law but declined to rule on it one way or the other. 347 U.S. 201, 205 (1954).

²⁷⁰ Indeed, in *Wal-Mart Stores, Inc. v. Samara Brothers, Inc.*, 529 U.S. 205 (2000), the Court restricted the scope of trademark protection for product configurations because it was concerned that trademark law could otherwise be used to circumvent the limitations then imposed by copyright law. It is true that in *Star Athletica* the Court allowed for the possibility that design patent and copyright could protect the same utilitarian articles:

Moreover, we have long held that design patent and copyright are not mutually exclusive. See *Mazer*. Congress has provided limited copyright protection for certain features of industrial design, and approaching the statute with presumptive hostility toward protection for industrial design would undermine Congress’ choice.

Star Athletica at 1016. But that statement is not inconsistent with the doctrine of election. The Court held that the fact that something was eligible for design patent protection didn’t disqualify it from copyright protection. But it did not hold that IP owners could hold both forms of protection over the same element at the same time. The same is true of *J.E.M. Ag. Supply v. Pioneer Hi-Bred Int’l*, 534 U.S. 124 (2001), which held that the developers of new plants could choose utility patents rather than plant patents or a plant variety protection certificate. Election necessarily presupposes that the IP owner has more than one type of right it could employ; the point is that it must choose between them.

that copyright becomes publicly known and reified. There is of course the possibility that parties might try to game this rule, particularly during the period during which a patent application is held secret. But we think it will function well in most circumstances. And it is certainly an improvement on the status quo.

We think election must be limited to individual features of a product, rather than necessarily encompassing the product as a whole. Complex products can have different attributes for which different IP rights are appropriate. The design of an iPhone is different from the operation of the WiFi technology inside that phone, and enforcing rights in one shouldn't prevent enforcement of the other. By contrast, there is no reason for Apple to be able to use design patent, copyright, and trademark to enforce rights in the same design element (the shame of the phone). Election would prevent disturbing results such as what occurred in *Apple v. Samsung*, where a failed trade dress case nonetheless prevailed under a design patent theory.²⁷¹

C. Narrowing the Scope of Design Rights

A final approach to the problem of too-powerful design rights would be to narrow the scope and power of the rights we grant. The functionality screens in copyright and design patent were intended to do that,²⁷² but as we have seen, they aren't working. Congress could, however, impose limits on the strength of design patent rights to better align private and social value. One possibility is to change the current rule on design patent damages. Unlike every other area of IP, a finding of design patent infringement entitles the plaintiff to capture the defendant's entire profit from the "article of manufacture" without any consideration of how valuable the design actually was or what else contributed to the price of the defendant's product.²⁷³ As one of us has observed elsewhere, that rule makes no sense.²⁷⁴ The Supreme Court may have narrowed its reach in *Samsung v. Apple* by permitting courts to define "article of manufacture" narrowly,²⁷⁵ but a rule that doesn't consider the relative value of the design patent and other features of a product is absurd. Eliminating it and applying the normal rules of IP damages would help tackle the problem of overpowered design patents.

²⁷¹ Apple, 786 F.3d at 987.

²⁷² Buccafusco & Lemley, *supra* note 10; Lemley & McKenna, *Scope*, *supra* note 230.

²⁷³ 35 U.S.C. §289.

²⁷⁴ Mark A. Lemley, *A Rational System of Design Patent Remedies*, 17 STAN. TECH. L. REV. 219 (2013).

²⁷⁵ 137 S. Ct. 429 (2016).

Second, we might consider introducing an independent invention defense to design patents, as we have in copyright law. The ease of obtaining design patents and the ability to seek profits way out of proportion to the value of the design has led some to worry about the problem of “design patent trolls,” plaintiffs who use their design patents to try to strategically capture value in others’ similar designs rather than simply preventing knock-off products.²⁷⁶ The rise of patents on individual images rather than the shape of an overall product exacerbates this risk.²⁷⁷ Scholars have debated whether utility patents should have a defense for independent invention.²⁷⁸ But even if they shouldn’t, such a defense might make sense for design patents, which are closer in purpose to copyright than to utility patent. A design patent shouldn’t inhibit design simply to allow its owner to engage in rent seeking; the right’s real purpose is to prevent close imitation from destroying the incentives to invest in design. Requiring plaintiffs to prove copying would be consistent with that purpose. Doing so would, however, require Congress to act.

There may be other ways to narrow the scope of design rights. The current practice of “dotted line” drawings allows patentees to claim a particular curve or feature divorced from the product as a whole.²⁷⁹ And the use of black-and-white drawings means that designs can infringe even if the colors of the plaintiff’s and defendant’s actual products are not particularly similar.²⁸⁰ We might instead require the plaintiff to submit a photo or a CAD drawing of the actual or intended product. Doing so would require more similarity between the plaintiff’s design and the defendant’s product before finding infringement.

D. *Raising the Cost of Design Protection*

A different set of solutions to the problem of socially harmful design rights involves not weakening those rights but making the screening mechanism for design protection more effective. Doing so would make obtaining design rights more costly, and perhaps impossible for some claimants. This might dissuade firms from filing applications for especially dubious design patents, reducing the number of low private value/negative

²⁷⁶ See Sparapani, *supra* note 167 (discussing this problem).

²⁷⁷ Du Mont & Janis, *Virtual Designs*, *supra* note 205, at 114-16.

²⁷⁸ For proposals for an independent invention defense, see Samson Vermont, *Independent Invention as a Defense to Patent Infringement*, 105 MICH. L. REV. 475 (2006); Carl Shapiro, *Prior User Rights*, AM. ECON. REV., May 2006, at 92, 95; cf. Mark A. Lemley, *Should Patent Infringement Require Proof of Copying?*, 105 MICH. L. REV. 1525 (2007) (noting the benefits of but also some potential problems with such an approach); Samson Vermont, *The Angel is in the Big Picture: A Response to Lemley*, 105 MICH. L. REV. 1537 (2007).

²⁷⁹ Burstein, *Patented Design*, *supra* note 18, at 182-83.

²⁸⁰ Jeanne C. Fromer & Mark P. McKenna, *Claiming Design* (working paper 2017).

social value patents in existence and mitigating the design patent troll problem.

One way to start is to improve the examination process. As we have seen, design patents are virtually never rejected at the PTO on the merits because of similarity to other designs. While this is not proof that the PTO, as currently constituted, is poorly equipped to examine design patents, there are reasons to think that the agency is in fact hamstrung. The PTO likely has a very difficult time locating relevant design prior art. And it rarely issues even initial rejections, suggesting that the PTO isn't simply narrowing design patents to appropriate scope before allowing them. This situation might have been tolerable at some point in the past, but even if so, it is no longer. As the scope and power of design patents expand, the PTO's ability to locate prior art needs to expand as well. We might invest in improved search tools designed to find prior art and pay more attention to novelty in the examination process.²⁸¹ Examiners should also properly apply the ornamentality and functionality requirements, weeding out claims that are not properly the subject of design patent protection at all.

Simultaneously, we should increase the cost of seeking or maintaining design patent protection. This would be the most direct way of establishing a meaningful costly screen to design patents.²⁸² There is reason to be skeptical that an increase in utility patent fees will deter that much patent enforcement, because the value of utility patents is highly skewed.²⁸³ But design patents may actually be a better target for cost-based screening, both because the value of many designs is lower and because there is not a well-established market for the sale of design patents to trolls. A typical utility patent will cost roughly \$35,000 to obtain and maintain throughout its twenty-year lifetime.²⁸⁴ Perhaps design patents should not cost quite this much, but the cost should be higher than the current \$5000.²⁸⁵ In particular, while owners of utility patents must pay maintenance fees to keep a patent in force throughout its lifetime, the PTO imposes no such fees on owners of design patents.²⁸⁶ The PTO should consider imposing maintenance fees during the later part of a design patent term, just as it does for utility patents. This could prevent opportunistic enforcement while still giving design patent owners the ability to prevent rapid copying.²⁸⁷ The PTO

²⁸¹ Cf. Lemley, *Rational Ignorance*, *supra* note 75, at 1482 (noting that utility patent examination is cursory, but that even this cursory examination well exceeds the examination of design patents).

²⁸² Fagundes & Masur, *supra* note 15, at 706.

²⁸³ John R. Allison et al., *Valuable Patents*, 92 GEO. L.J. 435 (2004).

²⁸⁴ See *supra* note 204 and accompanying text.

²⁸⁵ See *supra* note 157 and accompanying text; see also Burstein, *Costly Designs*, *supra* note 29, at 122-26 (arguing that design patent fees are justified).

²⁸⁶ See *supra* note 203.

²⁸⁷ Cf. Jonathan S. Masur, *CBA at the PTO*, 65 DUKE L.J. 1701 (2016) (describing the beneficial

charges \$12,600 to maintain a utility patent over the course of its full twenty-year term.²⁸⁸ Design patents last 75% as long, and so as a rough rule of thumb the PTO should consider imposing 75% of that total, or \$9,000 in design patent maintenance fees.²⁸⁹

These two approaches are complementary. Higher examination fees would both increase the potency of design patent's costly screen and provide funding for improved substantive examination—that is, a more effective creativity screen.²⁹⁰ Moreover, they would likely do so without deterring much (if any) valuable design creation. This is only one of a menu of options that various IP policymakers could pursue. But for the reasons we have detailed, we think it is an especially promising one.

We could also increase the cost of enforcing both copyrights and design patents. While litigation is expensive for both plaintiffs and defendants, IP owners can often use the threat of litigation to scare parties making lawful uses into quitting. And the existence of contingent-fee lawyers means that litigation is often more costly for defendants than for plaintiffs. So we might increase the cost of litigation, for example by charging a substantial fee to file an IP infringement suit or perhaps even a small fee to send threat letters. Raising the cost of enforcement rather than acquisition would allow us to apply a costly screen to copyright as well as design patent law. And it might have the added benefit of parties to acquire design patents cheaply so long as they didn't use them to threaten others.

E. Optimal Design Screening

While each of these approaches would help solve the problem, their effects are cumulative, and we worry that pulling on too many levers at the same time might overshoot the mark. In this section we discuss how these different approaches might overlap.

If someone put us in charge of the world,²⁹¹ our optimal system for screening design would look something like this. For purposes of this

effects of maintenance fees as a means of eliminating harmful patents while preserving valid and valuable ones).

²⁸⁸ See *supra* note 203.

²⁸⁹ This is a particularly rough estimate because the value of an IP right is typically front-loaded in time and does not scale linearly with the length of the right. *Supra* note 222-223 and accompanying text; Anup Malani & Jonathan S. Masur, *Raising the Stakes in Patent Cases*, 101 GEO. L.J. 637, 672 (2013). In addition, design patents, while powerful, are less powerful than utility patents. Nonetheless, absent a more precise figure, this type of maintenance fee would almost surely be an improvement upon the status quo.

²⁹⁰ Roger Ford, *The Patent Spiral*, 164 U. PA. L. REV. 827 (2016); Masur, *supra* note 15, at 699-703.

²⁹¹ If we did in fact control the government, we doubt that optimizing design protection would be high on our agenda, but we would get to it at some point, and this is what it would look like.

To be clear, we're imagining a triumvirate in which the three of us takes turns running the

exercise, we will assume that the appropriate term for IP protection is, in some cases at least, non-zero and that the current durations for IP rights are basically correct.

We would start with doctrinal screens as the first-order solution. Beginning with copyright law, we would return to a world that resembled the one that existed prior to *Star Athletica*. Copyright law should have virtually no creativity threshold and a relatively low ex ante costly screen, but it should rigorously police functionality.²⁹² Only those aspects of designs that are exclusively non-functional should be accorded copyright protection. The Second Circuit's opinion in *Brandir* and Judge Kanne's dissenting opinion in *Pivot Point International, Inc. v. Charlene Products*²⁹³ come closest to our view of copyright's optimal functionality screen.

Design patent law would then serve as the appropriate home for aspects of designs that are simultaneously functional and non-functional, but it would properly exclude features of designs that were entirely functional from both the claim construction and the infringement analysis. As a matter of functionality screening, the opinions in *Richardson* and *Apple* seem to strike the balance correctly. We would, however, impose a much stricter creativity threshold on these designs than the PTO and the courts have done. Only when a design is truly creative should design patent law accord it protection. This would help minimize the number of negative social welfare patents.

In an ideal world we might not need costly screens at all. As we explained above, however, creativity thresholds are imperfect proxies for social welfare, and we don't think courts will get it right all the time. So it makes sense to impose upon design patent claimants a substantially costly screen. This includes application and maintenance fees that more closely tracked those imposed by utility patent law and perhaps an enforcement fee as well. In addition, in a second-best world we would impose a doctrine of election that would prevent claimants from asserting both copyright and design patent rights. That wouldn't be as much of a problem if we properly defined the roles of each, but we still need to prevent inappropriate overlap.

Establishing a perfect system would require a combination of legislative, judicial, and administrative action that we suspect is unlikely to occur. But half steps are better than none, and any of the proposals we outline in this section is likely to improve social welfare.

various branches of government in three-year terms. After a round robin miniature golf tournament, we have determined that the initial distribution of responsibilities is Executive: Masur, Judiciary: Lemley, Legislative: Buccafusco. Eminem will serve as ambassador to the United Nations.

²⁹² Although copyright law might not want a costly screen for establishing rights for the reasons explained by Fagundes & Masur, *supra* note 15, it should impose increasingly costly maintenance fees over its long duration to avoid the problems associated with orphan works.

²⁹³ 372 F.3d 913, 932 (7th Cir. 2004) (Kanne, J., dissenting).

CONCLUSION

The mechanisms IP law has created to separate design protection from utility patent protection aren't working. Today it is too cheap and too easy to get design protection that is too broad. And because designers don't have to choose between IP regimes but can take advantage of all of them at once, the failure of any particular IP regime to get the balance right reverberates throughout other doctrines.

We suggest several ways to bring design protection back into balance. We can force people to choose only one form of protection for any given design element. We can make it harder to get stronger rights or rights that tread on what is properly the ground of utility patent law. And, finally, we can make it more expensive for designers to insulate themselves from competition. Perhaps perversely, one of the ways to encourage good design may be to make protecting it more expensive.