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# Progress and Competition in Design

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# PROGRESS AND COMPETITION IN DESIGN

Mark P. McKenna\*  
Katherine J. Strandburg\*\*

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## ABSTRACT

*This Article argues that applying patent-like doctrine to design makes sense only for a design patent system premised on a patent-like conception of cumulative progress that permits patent examiners and courts to assess whether a novel design reflects a nonobvious step beyond the prior art. If there is a meaningful way to speak of such an inventive step in design, then design patent doctrine should be based on that conception. But if nonobviousness has no sensible meaning in design, then a patent system cannot work for design. At present, design patent doctrine is in disarray because it is unmoored from any conceptual underpinnings. Design patents are not needed to incentivize technological innovation, because that kind of innovation is the subject of utility patent law. Because aesthetic expression is not susceptible of an “inventive step” judgment, progress in aesthetic expression is not appropriately incentivized by a patent-like system. Indeed, copyright long has rejected the very possibility of incentivizing aesthetic progress with a “creative step” requirement because it has found no metric along which to measure aesthetic progress.*

*If there is any type of cumulative progress to be sought in design it must therefore involve the interplay between aesthetics and utilitarian function. Aesthetics and utility intersect at the integration of form and function and that, we argue, is where design patents must be justified, if they can be justified at all. Once stated, this point is intuitively appealing. The integration of form and function is what distinguishes industrial design both from purely artistic expression (for which we have copyright) and from technological invention (for which we have utility patent). The converse also follows: if there is no workable means to assess the nonobviousness of a given design’s integration of form and*

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*function, there can be no sensible design patent system.*

#### TABLE OF CONTENTS

INTRODUCTION.....	2
I. PROGRESS AND COMPETITION IN IP DOCTRINE .....	5
A. <i>Progress and Competition in Patent Doctrine</i> .....	5
B. <i>Progress and Competition in Copyright Law</i> .....	10
C. <i>Trademark and Competition</i> .....	16
II. “FUNCTIONALITY” DOCTRINES: PROGRESS, COMPETITION AND THE INTERSECTIONS BETWEEN IP REGIMES .....	18
A. <i>A (Utility) Patent Law Supremacy Principle</i> .....	18
B. <i>Grappling with the Interplay Between Trade Dress and Aesthetic         Expression</i> .....	24
III. THE INHERENT CONTRADICTIONS OF THE DESIGN PATENT SYSTEM .....	31
A. <i>The Patent and Copyright Context at the Birth of the Design Patent         System</i> .....	32
B. <i>The Design Patent Treadmill</i> .....	36
1. <i>Design patents pre-1952</i> .....	36
C. <i>The Conceptual Incoherence of the Modern Design Patent Regime</i> .....	38
IV. INTEGRATION OF FORM AND FUNCTION: A SENSIBLE DESIGN PATENT GOAL? .....	44

#### INTRODUCTION

Design patents are hot. Applicants are seeking design patents at record rates, and design patents are increasingly important parts of companies’ patent portfolios. Indeed, design patents are at the heart of the multibillion dollar “smartphone war” between Apple and Samsung. One reason for the growing importance of design patents is that, since about 1990, they appear to have become substantially easier to obtain than utility patents. About 10% of patents issued by the PTO since 1990 have been design patents.<sup>1</sup> Until recently, however, design patents have received little scholarly attention. As a result, a number of basic theoretical questions remain unanswered. Indeed, in our view, no persuasive first-principles justification for design patents has been offered.

In this Article, we begin to address the most foundational theoretical

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1. Prior to 1990, the ratio of design patents issued to design patent applications each year roughly tracked the ratio for utility patents. In 1990, however, the ratio of issued design patents to applications jumped from 50% to 70% and averaged 77% between 1990 and 2012. During the same period, the ratio for utility patents declined from about 60% to about 45%. Consequently, the ratio of design patents issued to utility patents issued, which had hovered near 6% since around 1960, jumped to about 10%, peaking at 16% in 2008. Over the period from 1990 to 2013, approximately 10% of all issued patents were design patents. *See Patent Statistics*, U.S. PAT. & TRADEMARK OFF. (Apr. 4, 2015, 5:19 PM), <http://www.uspto.gov/patents/stats/index.jsp> (providing data on which these calculations are based).

question: What are design patents for? Or, to be a bit more precise, when, if ever, do *patents* make sense as incentives for “progress” in industrial design? This is a vexing question because, while the Constitution tells us that patents are intended to promote progress, the design patent system lacks a coherent stated, or even implicit, conception of “progress.” Without such a conception, and some sense of how it relates to the “progress” promoted by the copyright and utility patent systems, it is difficult to determine the need for, or evaluate the benefits of, design patent protection.

We argue that a cumulative notion of progress is deeply embedded in the patent system, especially in the requirement of nonobviousness or “inventive step.” Moreover, patent doctrine assumes that competition plays a dynamic role in producing a baseline of innovation in addition to its static role of reducing prices and increasing quality. Because of the cumulative nature of technological progress, exclusive rights over obvious improvements create both dynamic and static harms.

The copyright system’s focus on copying and its low “originality” threshold for coverage reflect different underlying premises about how best to incentivize “progress” in aesthetic expression.<sup>2</sup> Copyright law makes no attempt to assess the size or value of the “creative step” taken by an expressive work. Moreover, copyright doctrine for the most part discourages, rather than encourages, expression that builds on particular previous works. Where copyright doctrine accommodates the need to incorporate aspects of earlier creative work, it focuses on relatively general concepts. Overall, copyright doctrine displays much less concern for the effects of more granular exclusivity on dynamic progress. Instead, copyright doctrine promotes a conception of progress based on quantity and variety of independently created works.<sup>3</sup>

Applying patent-like doctrine to design makes sense only if a design patent system is premised on a patent-like conception of cumulative progress that permits patent examiners and courts to assess whether a novel design reflects a step of some magnitude beyond the prior art. If there is a meaningful way to speak of an inventive step in design, then design patent doctrine should be

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2. There are at least three ways one might look at this observation as a normative matter. Perhaps there is no meaningful conception of “progress” in aesthetic expression, or at least there are no judicially manageable standards for assessing such progress. Alternatively, it might be that aesthetic progress exists but that its path is so unpredictable and long term that it is too difficult to evaluate whether one work takes a bigger “creative step” than another until long after the fact. Finally, it might be that copyright doctrine is simply mistaken in this regard and society would benefit from some kind of “creative step” requirement. For the most part, we assume in this discussion that one of the first two perspectives is correct, though we comment briefly on how the analysis here might contribute to the normative debate about copyright doctrine.

3. This is not to say that we are convinced that it is possible to design a copyright system that maximizes quantity and variety overall, as opposed to maximizing the quantity of particular kinds of works.

based on that conception. If nonobviousness has no sensible meaning in design, however, then a patent system makes no sense for design. At present, design patent doctrine is in disarray because it is unmoored from any conceptual underpinnings. It goes astray primarily for two reasons. First, design patent law lacks a coherent mechanism for limiting the scope of its subject matter. While courts attempt to distinguish design patent from utility patent by interpreting the ornamentality requirement to rule out “functional” designs, this distinction has never proven to be a stable one. Second, design patent law errs by attempting to impose a nonobviousness requirement on primarily aesthetic expression. The copyright system long has rejected the very possibility of incentivizing aesthetic progress with such a “creative step” requirement because it has found no metric along which to measure aesthetic progress. It is no wonder that the design patent system’s attempt to impose such a requirement has been an utter failure.

Our earlier question thus can be rephrased this way: Is there a form of “inventive step” that a patent system might incentivize with respect to design? Design patents are not needed to incentivize technological invention, because that kind of innovation is the subject of utility patent law. And because aesthetic expression is not susceptible of the same sort of “inventive step” judgment, progress in aesthetic expression is not appropriately incentivized by a patent-like system. If there is any type of cumulative progress to be sought in design it must therefore involve the intersection between aesthetics and utilitarian function. Aesthetics and utility intersect at the integration of form and function, and that, we argue, is where design patents must be justified, if they can be justified at all. Once stated, this point is intuitively appealing. The integration of form and function is what distinguishes industrial design from both purely artistic expression (for which we have copyright) and technological invention (for which we have utility patent). Consequently, design patents could fill a niche in the intellectual property system if progress in design can be assessed in integrationist terms. The converse also follows: If there is no workable means to assess the nonobviousness of a given design’s integration of form and function, there can be no sensible design patent system.

Before we dive in, an important caveat is in order. Our suggestion that a design patent system might sensibly focus on incentivizing nonobvious steps in integrating form and function is preliminary. We take no position at this point as to whether it is *feasible* to ground a nonobviousness inquiry on the integration of form and function, or as to whether design patents are *necessary* to incentivize progress in the integration of form and function. We thus take no position as yet on the ultimate question of whether there should be a design patent system at all. We do, however, argue that under current law and doctrine the design patent system is doomed to fail. And we further argue that only by focusing on the unique role design patent law *could* play can we actually address the question of whether such a system is needed. One cannot ask whether design patents are needed without asking what they would be needed

*for.* As things currently stand, there is no coherent answer to that question.

Part I of this Article describes how particular conceptions of progress and competition are embedded in the doctrines of patent, copyright, and trademark law. Part II explores how those conceptions relate to the functionality doctrines that apply at the intersections of these systems and discusses how they inform the subject matter of design patent. Part III critiques the design patent system in light of the conceptions of progress and competition reflected in other forms of IP law, focusing especially on the design patent doctrine of nonobviousness. It argues that, as a historical matter, the design patent doctrine's lack of a coherent conception of cumulative progress has put it on a treadmill in which utilitarian aspects of design are repeatedly thrown out of the system only to re-enter through the back door. Part IV argues that the integration of form and function must be the focus of any theoretically coherent design patent system and discusses some of the potential implications of such a focus.

## I. PROGRESS AND COMPETITION IN IP DOCTRINE

In this Part, we analyze the conceptions of progress and competition reflected in patent, copyright, and trademark law. Specifically, we argue that patent law embeds a cumulative conception of technological progress, which is accompanied by a dynamic conception of competition. Copyright doctrine is not focused on cumulative progress. Instead, it reflects an approach to progress perhaps best described as “let a thousand flowers bloom.” In line with this conception, copyright seeks to ensure that potential creators have access to a palette of high level aesthetic elements, but it limits access to specific elements of prior expressive works. Trademark law is concerned primarily with facilitating static competition by ensuring that consumers are not misled about the products and services they purchase. Importantly, however, we argue that trademark law subordinates its static competition goals to the patent and copyright systems' judgments about how to encourage inventive and creative progress and promote dynamic competition.

### A. *Progress and Competition in Patent Doctrine*

Utility patent doctrine is shot through with the assumption that technological progress is cumulative. Patent opinions repeatedly refer to the patent system's promotion of “improvements,” “advances,” “progress,” and the solution of “problems.”<sup>4</sup> Because of this conception of progress, patent doctrine

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4. *See, e.g.,* KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 417, 419-20 (2007) (“[A] court must ask whether the improvement is more than the predictable use of prior art elements . . . . Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress . . . . One of the ways in which a patent's subject

is parsimonious, in that it is always cognizant of the need to balance incentives between generations of inventors. While commentators and courts may disagree strongly about what patentability standards would achieve the most appropriate balance, there is widespread agreement that balance is necessary. A few doctrinal examples will make the point.

Patent law's disclosure requirement, implemented by the written description and enablement doctrines, seeks to ensure that potential inventors can learn from the previous work of others. But patent law does not reward mere reinvention of the wheel. Not only are duplicative patents denied even to independent inventors, but those independent inventors may be sued for infringing others' patents that cover their inventions.<sup>5</sup>

The cumulative notion of progress underlying the patent system is most evident in the novelty and nonobviousness requirements. Because patentability is judged with reference to prior art, inventors are encouraged to acquaint themselves with pre-existing technology and to "design around" or build upon it.<sup>6</sup> The nonobviousness requirement (evocatively called "inventive step" in most other jurisdictions<sup>7</sup>) adds a quantitative dimension to the patentability determination. To be patentable, an invention must not only be different from

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matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution . . ."). A LexisAdvance search of Federal Circuit patent cases, for example, uncovered 725 opinions referring to "improvements," 1,227 opinions referring to "advances," 238 opinions referring to "progress," and 579 opinions referring to "problems" in the same sentence as "solve" or "solution." LexisNexis Grp., LEXISADVANCE, <https://advance.lexis.com/GoToExperienceBarPageResearch> (last visited Dec. 29, 2013) (log-in; then search for "improvements"; then filter by "Cases-Court: Federal Circuit Court of Appeals" and "Practice Areas & Topics: Patent Law"; then repeat the process for the search terms "advances," "progress," and "problems w/sent (solve or solution)").

5. Patent law thus expects potential follow-on inventors to search patent disclosures before investing. The reasonableness of that expectation has been challenged, especially in the information technology arena, and commentators have suggested various accommodations for independent inventors who are not copyists. *See, e.g.*, Mark A. Lemley, *Should Patent Infringement Require Proof of Copying?*, 105 MICH. L. REV. 1525 (2007); Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 UC IRVINE L. REV. 265 (2011); Samson Vermont, *Independent Invention as a Defense to Patent Infringement*, 105 MICH. L. REV. 475 (2006). The 2011 American Invents Act included a very minimal prior user defense. *See* Leahy-Smith America Invents Act of 2011, Pub. L. No. 112-29, sec. 5, § 273, 125 Stat. 284, 297-99 (codified at 35 U.S.C. § 273 (2011)).

6. This is, of course, not necessarily to suggest that inventors *do* familiarize themselves with prior art. In some cases the burden of doing so may seem insurmountable. *See* Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19.

7. *See, e.g.*, Agreement on Trade-Related Aspects of Intellectual Property Rights art. 27, § 1, Apr. 15, 1994, 33 I.L.M. 1197, 1208, *available at* [http://www.wto.org/english/tratop\\_e/trips\\_e/t\\_agm0\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm) ("[P]atents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they . . . involve an inventive step . . .").

what has been done before, it must be “different enough.”<sup>8</sup>

Patent law’s comfort with assessing the “size” of technological advances no doubt stems not only from a recognition of the importance of cumulative invention, but also from the fact that it is reasonably feasible. We often can agree on how to assess technical improvement—the computer runs faster, has more memory, is cheaper or more durable, etc. Patent doctrine has backed away from requiring that a patentable invention be “better” than what came before, largely rejecting the notion that patent examiners and courts can, as a practical matter, accurately assess the potential commercial or social benefits of particular inventions.<sup>9</sup> However, the focus on technological advance does not reflect a retreat from patent law’s cumulative conception of progress. Even if we do not think it is possible at the time of patenting to evaluate the amount that a particular step contributes to the public good over the long term, it is sensible to believe that denying patents to technologically obvious changes is likely to result in greater progress.<sup>10</sup> That belief continues to permeate both doctrine and rhetoric.

The notion of cumulative progress turns patents into double-edged swords, leading to doctrinal obsession with balancing the needs of current and future inventors. If progress is cumulative, it will not be enough for follow-on inventors to learn from and then “design around” earlier inventions. In many cases, they will need to incorporate aspects of earlier inventions into their own inventive output. Thus, inventors may patent “improvements” that incorporate earlier patented inventions<sup>11</sup> without any authorization from earlier patentees.<sup>12</sup>

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8. See *KSR*, 550 U.S. at 427 (holding the claimed adjustable gas pedal with electronic sensor obvious in light of prior art adjustable gas pedals and prior art electronic sensors because the combination was “well within the grasp of a person of ordinary skill in the relevant art”).

9. Courts have made this clear in modern utility cases, in contrast to earlier cases in which courts would deny patentability because the claimed invention was no better than the prior art. See, e.g., *Brenner v. Manson*, 383 U.S. 519, 528-36 (1966) (finding a patent was rightfully denied on utility grounds).

10. That we see technical progress over time does not tell us, of course, that such progress can be attributed to patent law particularly, since we cannot know how much improvement we would have seen without the availability of patent law.

11. 35 U.S.C. § 101 (2011) (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, *or any new and useful improvement thereof*, may obtain a patent therefor, subject to the conditions and requirements of this title.” (emphasis added)); see also 1 DONALD S. CHISUM, CHISUM ON PATENTS, § 1-GLOS (Matthew Bender, 2011) (“An inventor may patent an improvement on an existing product or process [ ]whether or not it is patented . . . . An invention claimed in one patent may require for its practice use of another invention claimed in another patent. In such a case of blocking patents, common subject matter may be used only with the concurrent authority of both patent owners.”).

12. In this situation, the later inventor may not be able to use her invention without incurring liability, but neither can the earlier inventor use the improvement without infringing the later inventor’s patent.



The assumption is that such “blocking patents” will lead to socially beneficial licensing agreements.<sup>13</sup> Blocking patents impose costs on downstream inventors, however, and patent doctrine attempts to lower the costs for follow-on inventors in various ways. For example, utility patents have a relatively short twenty-year-from-application term<sup>14</sup> and expire earlier if maintenance fees are not paid.<sup>15</sup>

Most importantly, patent doctrine protects follow-on inventors by seeking to award patents only when they are needed. This goal underlies the nonobviousness requirement. The denial of patents for insufficient advances reflects an assumption that “ordinary innovation” will occur without the need for a patent incentive—competition (and other motivations) will produce a dynamic baseline level of technological progress without any need for exclusive rights. The nonobviousness doctrine thus seeks to reserve patents only for those inventions that reflect “ingenuity and skill” beyond that of the “ordinary mechanic.”<sup>16</sup> As the Supreme Court explained in *KSR v. Teleflex*, its most recent opinion on nonobviousness:

We build and create by bringing to the tangible and palpable reality around us new works based on instinct, simple logic, ordinary inferences, extraordinary ideas, and sometimes even genius. These advances, once part of our shared knowledge, define a new threshold from which innovation starts once more. And as progress beginning from higher levels of achievement is expected in the normal course, the results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts.<sup>17</sup>

Because cumulative innovation depends as much on the availability of unpatented technology for use by inventors as it does on protection for nonobvious advances, patent doctrine seeks to ensure untrammelled access to obvious and otherwise unpatentable advances. Thus, for example, patents may

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13. See, e.g., Robert P. Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75 (1994); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 860-61 (1990). There are various problems with the assumptions underlying the blocking patents approach, as discussed by one of us in earlier work, see Strandburg, *supra* note 5, but the point for present purposes is that this doctrine reflects a theory of progress as cumulative advance.

14. 35 U.S.C. § 154(a)(2) (patents expire twenty years after date the application was filed).

15. 35 U.S.C. § 41(b)(2) (“Unless payment of the applicable maintenance fee under paragraph (1) is received in the Office on or before the date the fee is due or within a grace period of 6 months thereafter, the patent shall expire as of the end of such grace period.”)

16. *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 267 (1850); see also Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590 (2011) (arguing that the nonobviousness requirement should be interpreted such that only inventions for which a patent was necessary to induce the invention are patentable).

17. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007).

be challenged by litigants and invalidated years after they were issued.<sup>18</sup> Moreover, states are preempted from offering patent-like protection to inventions that are unpatentable under federal law.<sup>19</sup>

These are just a few examples of patent law's concern with the balance between generations of inventors, which runs throughout the doctrine.<sup>20</sup> Indeed, surprisingly few patent doctrines focus on static competition. We assume that, because patents are relatively short in duration, products embodying inventions will eventually become available at competitive prices. Given the pace and cumulative nature of technological change, however, the expiration of one patent often leaves users not with access to unpatented products, but with access to new and improved patented products. Drugs are obviously a potential exception here,<sup>21</sup> though pharmaceutical companies do their best to market patented "improvements."<sup>22</sup> Likewise, patent law pays very little attention to users. The relatively few and weak exemptions that might benefit users are aimed at promoting follow-on invention,<sup>23</sup> and compulsory licensing is strongly disfavored.<sup>24</sup> Subject matter doctrines precluding the

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18. See, e.g., *United States v. Glaxo Grp. Ltd.*, 410 U.S. 52, 69 (1973) ("[T]here is a public interest favoring the judicial testing of patent validity and the invalidation of specious patents."); *Lear, Inc. v. Adkins*, 395 U.S. 653, 670 (1969) (noting "public interest" in invalidating patents so as to permit "full and free competition in the use of ideas which are in reality a part of the public domain")

19. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 152 (1989). States may, however, offer trade secret protection to undisclosed inventions that might be patentable subject matter. *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257 (1979). The legitimacy of that protection is directly related to the undisclosed nature of the invention, however.

20. This is an observation, rather than a normative endorsement, of course.

21. See, e.g., Rochelle C. Dreyfuss, *TRIPS and Essential Medicines: Must One Size Fit All? Making the WTO Responsive to the Global Health Crisis*, in *INCENTIVES FOR GLOBAL PUBLIC HEALTH: PATENT LAW AND ACCESS TO ESSENTIAL MEDICINES* (Thomas Pogge, Matthew Rimmer & Kim Rubenstein eds., 2010); Smita Narula, *The Rights-Based Approach to Intellectual Property and Access to Medicine: Parameters and Pitfalls*, in *BALANCING WEALTH AND HEALTH: GLOBAL ADMINISTRATIVE LAW AND THE BATTLE OVER INTELLECTUAL PROPERTY AND ACCESS TO MEDICINES IN LATIN AMERICA* (Rochelle Dreyfuss & César Rodríguez Garavito, eds., forthcoming March 2014), manuscript available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1923299](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1923299).

22. See, e.g., WORLD HEALTH ORG., WORLD INTELLECTUAL PROP. ORG. & WORLD TRADE ORG., *PROMOTING ACCESS TO MEDICAL TECHNOLOGIES AND INNOVATION: INTERSECTIONS BETWEEN PUBLIC HEALTH, INTELLECTUAL PROPERTY, AND TRADE* 131 (2012), available at [http://www.wipo.int/export/sites/www/freepublications/en/global\\_challenges/628/wipo\\_pub\\_628.pdf](http://www.wipo.int/export/sites/www/freepublications/en/global_challenges/628/wipo_pub_628.pdf).

23. See 35 U.S.C. § 287(c) (2011) (exempting medical and surgical procedures from liability); *Madey v. Duke Univ.*, 307 F.3d 1351, 1362 (Fed. Cir. 2002) (limiting the experimental use defense to cases in which the defendant's use is for purely philosophical inquiry).

24. The Supreme Court's decision in *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) altered the balance here to some extent since it reinforced that injunctions would not

patenting of abstract ideas, natural phenomena, and products of nature also seem to aim primarily at facilitating downstream invention,<sup>25</sup> though they may play some role in facilitating static competition by assuring that certain “basic tools” are available to all market participants.<sup>26</sup>

### B. *Progress and Competition in Copyright Law*

Copyright law, despite having the same constitutional mandate to promote “progress,” takes a very different approach. Basic copyright doctrine does not incentivize authors to be aware of others’ work or to strive to design around or build upon it. To the contrary, since copyrights are infringed only by copying (and not by independent creation), the doctrine may even incentivize authors to avoid awareness of others’ work.<sup>27</sup> Certainly, copyright law rewards independent creation. Whereas patent law allows, and perhaps even encourages, inventors to build upon others’ work by awarding “blocking patents” on improvements, copyright currently incorporates an exclusive right to make “derivative works” that actively discourages authors from building on others’ previous works. Under § 103(a), “protection for a work employing preexisting material in which copyright subsists does not extend to any part of the work in which such material has been used unlawfully.”<sup>28</sup> Thus, rather than award a “blocking copyright,” the Copyright Act denies protection to unauthorized derivative works even when those works add considerable originality.<sup>29</sup> Copyright’s long (and growing) term of protection similarly

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automatically issue in patent cases. *See id.* at 393-94.

25. *See* Katherine J. Strandburg, *Much Ado About Preemption*, 50 Hous. L. Rev. 563 (2013) (discussing and critiquing the Supreme Court’s patentable subject matter doctrine and its relationship to downstream innovation); Rochelle C. Dreyfuss & James P. Evans, *From Bilski Back to Benson: Preemption, Inventing Around, and the Case of Genetic Diagnostics*, 63 STAN. L. REV. 1349 (2011) (same); Mark A. Lemley et al., *Life After Bilski*, 63 STAN. L. REV. 1315 (2011); *see also* Ass’n for Molecular Pathology v. Myriad Genetics, 133 S. Ct. 2107, 2116 (2013) (“Laws of nature, natural phenomena, and abstract ideas are not patentable. . . . As the Court has explained, without this exception, there would be considerable danger that the grant of patents would tie up the use of such tools and thereby inhibit future innovation premised upon them.”).

26. *See, e.g., Bilski*, 130 S. Ct. at 3255 (Stevens, J., concurring) (“Business methods are . . . the basic tools of commercial work.” (emphasis omitted)); Rochelle C. Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 SANTA CLARA COMPUTER & HIGH TECH. L.J. 263, 276-77 (2000) (arguing that patents on business methods disrupt the competitive market).

27. Many have suggested that this is precisely what happens in the software industry, where companies put their developers in “clean” rooms and hope they will not become aware of other code. *See, e.g.,* Roger D. Blair & Thomas F. Cotter, *Strict Liability and Its Alternatives in Patent Law*, 17 BERKELEY TECH. L.J. 799, 814-15 (2002).

28. 17 U.S.C. § 103(a) (2011).

29. *See, e.g.,* *Bucklew v. Hawkins, Ash, Baptie & Co., LLP.*, 329 F.3d 923, 930 (7th Cir. 2003) (finding infringement because “[v]ariants that result from tinkering with a copied

suggests a relative lack of concern that later creators might need to incorporate earlier expression into their work.<sup>30</sup>

Nor does copyright doctrine contain anything analogous to patent law's nonobviousness requirement. The threshold for copyrightability is "originality," which the Supreme Court has interpreted to mean only that "the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity."<sup>31</sup> These are not difficult requirements to meet. According to the Court, "the requisite level of creativity is extremely low; even a slight amount will suffice. The vast majority of works make the grade quite easily, as they possess some creative spark, 'no matter how crude, humble or obvious' it might be."<sup>32</sup> To put it plainly, originality does not entail difference. "Originality does not signify novelty; a work may be original even though it closely resembles other works so long as the similarity is fortuitous, not the result of copying."<sup>33</sup>

These pervasive differences between patent and copyright doctrine reflect fundamentally different intuitions about the ways in which expressive and inventive creativity function and how they benefit society. As Barton Beebe has persuasively argued, we have never had a good metric for evaluating progress of the fine arts.<sup>34</sup> Copyright doctrine thus appears designed to encourage a profusion of independent works, rather than works that incorporate and build upon the work of previous authors. Perhaps the implicit theory is that promoting the independent expressions of a large, diverse group of creators will benefit society by appealing to a wide variety of aesthetic sensibilities.<sup>35</sup> Or

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form are derivative works from that form, and it is a copyright infringement to make or sell a derivative work without a license from the owner of the copyright on the work from which the derivative work is derived"); *Anderson v. Stallone*, 11 U.S.P.Q.2d (BNA) 1161 (C.D. Cal. 1989) (finding Anderson's "treatment" for Rocky IV not to be copyrightable because it was an unauthorized derivative of the Rocky characters).

30. Copyright for any work created after January 1, 1978 endures for the life of the author plus 70 years. 17 U.S.C. § 302(a). Copyright in works made for hire endure for the shorter of 95 years from the date of publication or 120 years from the date of creation. § 302(c).

31. *Feist Pub'ns, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 345 (1991).

32. *Id.* (quoting 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 1.08[C][1] (1990)).

33. *Id.* at 345-46 ("To illustrate, assume that two poets, each ignorant of the other, compose identical poems. Neither work is novel, yet both are original and, hence, copyrightable.").

34. Barton Beebe, Bleistein, *Copyright Law, and the Problem of Aesthetic Progress* 13-14 (unpublished manuscript) (on file with authors).

35. There is, of course, a major debate about whether the current contours of copyright are appropriate to its purpose, whether its current scope of protection is necessary to produce a socially beneficial profusion of creative expression, and the extent to which later creative expression should be permitted to appropriate and build upon earlier expression. We mention those debates here for the most part only in passing and certainly do not intend to take a position on them in this Article. Our point is simply that the two doctrinal channels reflect

perhaps the underlying notion is that the most valuable expression is created by a “romantic author” whose work is guided not by reference to the work of others, but by attending to an internal muse. Whatever the reason, copyright law seems to have settled on a quantitative, rather than a qualitative, conception of progress.

Equally importantly, courts have concluded that is impossible to measure the extent to which a particular combination of previous expression has advanced over the prior works. As the Supreme Court stated more than one hundred years ago, in *Bleistein v. Donaldson Lithographing Co.*:

It would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of pictorial illustrations, outside of the narrowest and most obvious limits. At the one extreme some works of genius would be sure to miss appreciation. Their very novelty would make them repulsive until the public had learned the new language in which their author spoke. It may be more than doubted, for instance, whether the etchings of Goya or the paintings of Manet would have been sure of protection when seen for the first time. At the other end, copyright would be denied to pictures which appealed to a public less educated than the judge. Yet if they command the interest of any public, they have a commercial value—it would be bold to say that they have not an aesthetic and educational value—and the taste of any public is not to be treated with contempt.<sup>36</sup>

Consistent with its interest in promoting quantity and variety, copyright law is unforgiving (particularly as compared with patent law) regarding incorporation of prior work. Specifically, copyright doctrine permits creators to use high level aesthetic conceptions from previous works, primarily through the idea-expression doctrine and related concepts of merger and *scènes à faire*.<sup>37</sup> But these doctrines do not allow use of more particular expression, exempting only stock characters, plot types, and relatively high-level ideas from copyright protection.<sup>38</sup>

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very different theories of “progress.”

36. 188 U.S. 239, 251-52 (1903).

37. See, e.g., *Bucklew v. Hawkins, Ash, Baptie & Co., LLP*, 329 F.3d 923, 929-30 (7th Cir. 2003) (“[A] copyright owner can’t prove infringement by pointing to features of his work that are found in the defendant’s work as well but that are so rudimentary, commonplace, standard, or unavoidable that they do not serve to distinguish one work within a class of works from another.”); *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (Upon any work . . . a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. . . . [T]here is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his “ideas,” to which, apart from their expression, his property is never extended.”).

38. A second thread of idea-expression doctrine distinguishes copyrightable expression from uncopyrightable facts and methods. See, e.g., *Feist Pub’ns, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340 (1991); *Lotus Dev. Corp. v. Borland Int’l, Inc.*, 516 U.S. 233 (1996) (per curiam) (mem), *aff’g* 49 F.3d 807, 815 (1st Cir. 1995) (holding that a computer menu command hierarchy is an uncopyrightable “method of operation”); *Baker v. Selden*,

Copyright's fair use doctrine also reflects this conception of progress as profusion. The statute sets out four factors to be considered in determining whether a use is fair:

- (1) The purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes;
- (2) The nature of the copyrighted work;
- (3) The amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) The effect of the use upon the potential market for, or value of, the copyrighted work.<sup>39</sup>

For the most part, these factors focus on whether the use in question disrupts the copyright holder's present market for the existing work, rather than on the value of building on that existing work. Indeed, the Supreme Court has stated that effect upon the original author's potential market is "the single most important element of fair use."<sup>40</sup>

One potential exception to this static focus is "transformative use." While the copyright statute defines an infringing derivative work as one which "recast[s], transform[s], or adapt[s]" preexisting works,<sup>41</sup> courts have recently interpreted the first statutory fair use factor to favor "transformative uses" of preexisting works.<sup>42</sup> For the most part, "transformative use"-based fair use has not aimed to promote "progress" by the incorporation of previous works. While transformativeness is sometimes used to protect free speech interests, courts' analyses in these cases tend to turn on the extent to which the defendant's use "usurps" the (static) market for the original work. Thus, uses that critique, parody, or otherwise "comment on" an existing work generally are deemed "fair" because courts assume that those uses do not substitute for the original, even if they might affect demand for it.<sup>43</sup> In other cases, courts have used

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101 U.S. 99, 100-01 (1879) ("Where the truths of a science or the methods of an art are the common property of the whole world, an author has the right to express the one, or explain and use the other, in his own way."). This thread is related to the boundary between the coverage of patent and copyright. *See, e.g., Baker*, 101 U.S. at 102-03.

39. 17 U.S.C. § 107 (2011).

40. *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 566 (1985). The Court has since tried to soften that statement, *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 591 (1994), but the effect on the market continues to dominate in most cases. *See* Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978-2005*, 156 U. PA. L. REV. 549, 587 (2008) ("It is certainly interesting to observe, now based on empirical evidence, that the outcome of the fourth factor appears to drive the outcome of the test, and that the outcome of the first factor also appears to be highly influential.").

41. 17 U.S.C. § 101 (2011).

42. *See, e.g., Beebe, supra* note 40, at 404-06.

43. *See, e.g., Campbell*, 510 U.S. at 579-81; *Brownmark Films, LLC v. Comedy Partners*, 682 F.3d 687, 693-94 (7th Cir. 2012); *Suntrust Bank v. Houghton Mifflin Co.*, 268 F.3d 1257, 1268-69 (11th Cir. 2001). To the extent courts' conclusions that parodies do not substitute for the original are meant to be empirical rather than normative, it is not clear they

“transformativeness” to preclude liability for uses that seem far removed from incentives to create new expressive works, such as the use of thumbnail images in search results.<sup>44</sup>

Several recent cases involving “appropriation art” are particularly instructive regarding copyright’s conception of progress. These cases are interesting because, while copyright generally assumes that a profusion of new works is possible as long as relatively high-level concepts are available to new creators, appropriation art is defined by its reuse of earlier works.<sup>45</sup> In some of these cases, courts have used “transformative use” as a hook for finding a fair use right to reuse specific pieces of prior expressive works. But even in these cases we can see stark differences between copyright and patent, since courts in these cases focus on *transformation* and *difference* rather than on *improvement* and *advance*.

*Blanch v. Koons*, for example, involved a piece entitled “Niagara” by Jeff Koons, a “visual artist” whose “work has been exhibited widely in museums and commercial galleries.”<sup>46</sup> Koons based Niagara on a collage of images, one of which was from a photograph used in an advertisement for Gucci sandals. In finding fair use, the court noted that the doctrine “mediates” between “the property rights [copyright law] establishes in creative works, which must be protected up to a point, and the ability of authors, artists, and the rest of us to express them—or ourselves by reference to the works of others . . . .”<sup>47</sup> Specifically regarding the transformativeness of Koons’s use, the court concluded that Koons had a “genuine creative rationale for borrowing Blanch’s image.”<sup>48</sup> Koons and Blanch (the owner of the copyright in the photograph) had “sharply different objectives” in creating their works, with Koons using Blanch’s photograph as “fodder for his commentary on the social and aesthetic consequences of mass media” rather than merely “repackag[ing]” it.<sup>49</sup> The court described the transformation from “a fashion photograph created for publication in a glossy American ‘lifestyles’ magazine” into “part of a massive painting commissioned for exhibition in a German art-gallery space.”<sup>50</sup>

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are necessarily correct. See Bruce P. Keller & Rebecca Tushnet, *Even More Parodic than the Real Thing: Parody Lawsuits Revisited*, 94 Trademark Rep. 979, 995-96 (2004) (noting that the claim that owners would not license parodies is demonstrably false in at least some cases). Thus, transformativeness is likely serving interests other than market preemption, even if not entirely transparently.

44. *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1164-68 (9th Cir. 2007).

45. Appropriation art is not alone in this respect. Entire categories of music are based on combining digital samples of earlier works. See generally PETER DiCOLA, *CREATIVE LICENSE: THE LAW AND CULTURE OF DIGITAL SAMPLING* (2011).

46. 467 F.3d 244, 246 (2d Cir. 2006).

47. *Id.* at 250.

48. *Id.* at 255.

49. *Id.* at 253.

50. *Id.*

Similarly, in *Cariou v. Prince*,<sup>51</sup> the Second Circuit granted summary judgment of fair use with respect to 25 pieces of appropriation art that were based on photographs. The court opined that the defendant's artwork was transformative because it "manifest[ed] an entirely different aesthetic" than the original photographs.<sup>52</sup> While the original photographs were "serene and deliberately composed," the appropriation works were "crude and jarring," "hectic and provocative."<sup>53</sup>

And finally, in *Morris v. Guetta*,<sup>54</sup> the court summarized the fair use standard for appropriation art in this way: "[a]n artist is not required to compromise his or her artistic vision merely because the artist could have made a similar statement in a non-infringing way. However, the artist must provide a sufficient justification for using another's copyrighted material in effecting the artist's vision."<sup>55</sup> In *Morris*, however, the court's "independent review" concluded that Guetta's appropriation art, which was based on Morris's photographs of Sid Vicious of the Sex Pistols, was not sufficiently transformative.<sup>56</sup> According to the court, Vicious was "making a distinct facial expression" in Morris's photo, and Guetta's works showed the same expression.<sup>57</sup> Though Guetta had added "certain new elements," his works "remain[ed] at their core pictures of Sid Vicious," which did not convey "sufficient new meaning" to be transformative.<sup>58</sup> The "new elements" Guetta introduced included "higher black and white contrast," "less subtle detail," "splashes of brightly colored paint," "sunglasses," "a backdrop with the character Snoopy and palm trees," a "mole on the image of the face . . . and an overlay of blonde hair in a different style," and being "made out of broken vinyl records."<sup>59</sup>

These cases are of interest to us here for two reasons. First, they nicely illustrate *Bleistein*'s concern that it is a "dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth" of aesthetic expression.<sup>60</sup> Indeed, these decisions suggest that the courts may well have fallen prey to exactly the kind of bias against popular taste that concerned

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51. 714 F.3d 694 (2d Cir. 2013).

52. *Id.* at 709.

53. *Id.* at 706. The court remanded for the district court to assess whether the "relatively minimal alterations" to five additional photographs were sufficiently transformative. *Id.* at 711.

54. No. LA CV12-00684 JAK (RZx), 2013 U.S. Dist. Lexis 15556 (C.D. Cal. Feb. 4, 2013).

55. *Id.* at \*26.

56. *Id.* at \*27-28.

57. *Id.* at \*28.

58. *Id.*

59. *Id.* at \*3-4.

60. *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903).



the Court in *Bleistein*, since “appropriation art” is often, though not always, deemed fair use,<sup>61</sup> while even minimal digital sampling (mostly for hip-hop music) generally is not excused.<sup>62</sup>

Second, these cases illustrate the continued difference between patent law’s cumulative conception of progress and copyright’s focus on quantity and variety. Even when courts allow reuse of specific pieces of prior expression, they do so because they focus on *transformation* and *difference* rather than on *improvement* and *advance*. Patent law’s nonobviousness inquiry, which focuses on whether the combination of prior elements would have emerged even in the absence of intellectual property protection, simply has no purchase in this context.

Thus, despite the recent appropriation art cases, we think that as a matter either of principle or of practicality, the copyright system will continue for the foreseeable future to be imbued with a conception of progress as quantity and diversity.

### C. Trademark and Competition

Unlike patent and copyright, trademark law does not focus on creativity or innovation but instead on improving static competition by preventing certain misleading uses of a trademark that might interfere with consumers’ purchasing decisions.<sup>63</sup> There are tradeoffs in trademark law’s pursuit of this goal. When one producer is awarded exclusive rights to particular marks, others are necessarily deprived of the use of those words, symbols, and so forth in

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61. *See, e.g.*, *Cariou v. Prince*, 714 F.3d 694 (2d Cir. 2013); 467 F.3d 244 (2d Cir. 2006); *Mattel, Inc. v. Walking Mountain Prods.*, 353 F.3d 792 (9th Cir. 2003).

62. *See, e.g.*, *Bridgeport Music, v. UMG Recordings*, 585 F.3d 267, 278 (6th Cir. 2009) (upholding jury verdict that use of short section from the song “Atomic Dog” in “D.O.G. in Me” was not fair use, despite finding that “‘D.O.G. in Me’ is certainly transformative (first factor), having a different theme, mood, and tone from Atomic Dog”); *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d 792, 803 n.18 (6th Cir. 2005) (no de minimis exception to copyright infringement for “the taking of a millisecond of sound from another’s copyrighted recording, or the taking of a more extensive portion that has been modified to the point of being completely unrecognizable or impossible to associate with the copied recording”). *But see* *Newton v. Diamond*, 388 F.3d 1189, 1192 (9th Cir. 2003) (finding no infringement of underlying musical composition in case where sound recording was licensed).

63. *See, e.g.*, *Dastar Corp. v. Twentieth Century Fox Film Corp.*, 539 U.S. 23, 34 (2003) (“Federal trademark law ‘has no necessary relation to invention or discovery, but rather, by preventing competitors from copying a source-identifying mark, reduce[s] the customer’s costs of shopping and making purchasing decisions, and helps assure a producer that it (and not an imitating competitor) will reap the financial, reputation-related rewards associated with a desirable product.’” (citations omitted) (internal quotation marks omitted)); *TrafFix Devices, Inc. v. Marketing Displays, Inc.*, 532 U.S. 23, 34 (2001) (“The Lanham Act does not exist to reward manufacturers for their innovation in creating a particular device; that is the purpose of the patent law and its period of exclusivity.”).

communicating with consumers about their own products. Many trademark doctrines aim to police these tradeoffs between a mark's value as an exclusive indication of source and its broader communicative value. Thus, for example, trademark law prefers marks that are "inherently distinctive" because protection of those marks impinges less on communicative value.<sup>64</sup> Descriptive marks must acquire "secondary meaning" before they can receive legal protection—meaning they must, over time, acquire source significance among the relevant consuming public.<sup>65</sup> Moreover, trademarks that are or become "generic," in that they are used to identify a type of product rather than its source, are never protected.<sup>66</sup> The descriptive and nominative fair use doctrines recognize the value to consumers of communicative and critical uses of otherwise protected marks,<sup>67</sup> and courts use a variety of tools to insulate certain uses from liability because of free speech concerns.<sup>68</sup>

Of particular relevance to design, trademark law has recently become more reticent to protect product design features. In general, trademark law extends protection to at least two species of trade dress: product packaging and product design. The Supreme Court, however, has expressed skepticism about the likelihood that consumers will view product design primarily as an indicator of source. According to the Court in *Wal-Mart Stores, Inc. v. Samara Brothers, Inc.*, product packaging, is used "most often to identify the product's source of the product."<sup>69</sup> By contrast, "[c]onsumer predisposition to equate [product design features] with the source does not exist" because "[c]onsumers are aware of the reality that, almost invariably, even the most unusual of product designs—such as a cocktail shaker shaped like a penguin—is intended not to identify the source, but to render the product itself more useful or more

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64. See 2 J.T. MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 11:18 (4th ed. 2013).

65. *Wal-Mart Stores, Inc. v. Samara Bros., Inc.*, 529 U.S. 205, 211 (2000) ("[A] mark has acquired distinctiveness, even if it is not inherently distinctive, if it has developed secondary meaning, which occurs when, 'in the minds of the public, the primary significance of a [mark] is to identify the source of the product rather than the product itself.'" (second alteration in original) (quoting *Inwood Labs., Inc. v. Ives Labs., Inc.*, 456 U.S. 844, 851 n.11 (1982)).

66. MCCARTHY, *supra* note 64, § 12:1.

67. See *KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc.*, 543 U.S. 111, 123 (2004) (holding that a descriptive use may be considered fair under 15 U.S.C. § 1115(b)(4) even in the face of some amount of confusion); *Toyota Motor Sales, U.S.A., Inc. v. Tabari*, 610 F.3d 1171, 1775-83 (9th Cir. 2010) (applying the nominative fair use doctrine to insulate from liability use of the Lexus trademark in the domain name "buyalexus.com"); see also William McGeeveran & Mark P. McKenna, *Confusion Isn't Everything*, 89 NOTRE DAME L. REV. 253 (2013) (describing the importance of these defenses and advocating for doctrines that protect these interests more effectively).

68. *Rogers v. Grimaldi*, 875 F.2d 994, 997-1002 (2d Cir. 1989); *Louis Vuitton Malletier S.A. v. Warner Bros. Entm't Inc.*, 868 F. Supp. 2d 172, 174-75 (S.D.N.Y. 2012).

69. 529 U.S. 205, 212 (2000).

appealing.”<sup>70</sup> As a result, unlike product packaging, which can be inherently distinctive, trade dress protection is available for product design only upon a showing of secondary meaning. This differential treatment is particularly appropriate, according to the Court, because a producer “can ordinarily obtain protection for a design that is inherently source identifying (if any such exists), but that does not yet have secondary meaning, by securing a design patent or a copyright for the design.”<sup>71</sup>

Trademark protection for design is also limited by the functionality doctrine, which, like the useful article doctrine in copyright, refuses protection to certain useful product features. As we describe in the next Section, the functionality doctrine reflects trademark law’s subordination of its own static competition goals to patent law’s dynamic competition goals.

## II. “FUNCTIONALITY” DOCTRINES: PROGRESS, COMPETITION AND THE INTERSECTIONS BETWEEN IP REGIMES

Product design lies at the intersection of the patent, copyright, and trademark regimes. Useful articles often have both utilitarian and aesthetic aspects, and at times their features serve as source identifiers in the marketplace. Patent, copyright, and trademark also have very distinct purposes, as we have discussed in Part I: patent law seeks to promote cumulative technological progress; copyright law seeks to promote quantity and variety of expression; and trademark law seeks to prevent parties from misleading purchasers about the source of their products. Each of these regimes balances exclusive rights with untrammelled availability in a different way that reflects its particular goals. When applied to product design, however, these regimes can work at cross-purposes, necessitating doctrinal mechanisms to sort things out. The primary means for doing so in the product design context are so-called “functionality” doctrines.<sup>72</sup> Unfortunately, these doctrines are confusing and confused. We argue here that the analysis of Part I can be used both to make sense of these doctrines and to critique them.

### A. *A (Utility) Patent Law Supremacy Principle*

The primary principle underlying all of these doctrines (and the reason for referring to these rather disparate rules as “functionality” doctrines) is what one might call a “patent law supremacy” principle, or more particularly, a “*utility*

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70. *Id.* at 212-13.

71. *Id.* at 214.

72. As mentioned earlier, *see supra* notes 37-38, copyright’s idea-expression distinction also polices the boundary between patent and copyright, but we do not discuss it in detail here.

patent law supremacy” principle. Copyright, trademark, and design patent each in their own way refuse protection to “useful” or “functional” features because those features are the exclusive province of utility patent law. Put differently, each of those systems subordinates its own policy goals to the dynamic competition goals of utility patent law, reserving to utility patent the responsibility for determining the circumstances under which utilitarian features may be copied by others.

In copyright law, this principle goes back to the Supreme Court’s opinion in *Baker v. Selden*, which held that copyright would not extend to useful processes even if those processes were described in a work of authorship.<sup>73</sup> As the Court explained:

To give to the author of the book an exclusive property in the art described therein, when no examination of its novelty has ever been officially made, would be a surprise and a fraud upon the public. That is the province of letters-patent, not of copyright. The claim to an invention or discovery of an art or manufacture must be subjected to the examination of the Patent Office before an exclusive right therein can be obtained; and it can only be secured by a patent from the government.<sup>74</sup>

Only patent law, with its requirement of novelty and thorough examination process, can be used to protect the system described in the book.<sup>75</sup> And the lack of patent protection means more than just that the inventor cannot prevent others’ use *via patent law*—it means that the system “is open and free to the use of the public,”<sup>76</sup> a conclusion copyright law may not undermine. Patent law’s primacy is due precisely to its cumulative view of technological progress, which requires not only that patentees have exclusive rights to what is patented but, equally importantly, that unpatented utilitarian elements remain available for use.

The Supreme Court’s seminal 1954 *Mazer v. Stein* opinion<sup>77</sup> also highlights copyright’s deference to *utility* patent law in particular, and its refusal to defer to design patent law. In *Mazer*, the Court held that statuettes designed to be used as lamp bases were copyrightable based in part on the conception of progress as diversity. Thus, the statuettes were copyrightable “works of art” because “[i]ndividual perception of the beautiful is too varied a power to permit a narrow or rigid concept of art.”<sup>78</sup> But consistent with *Baker*

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73. 101 U.S. 99 (1879).

74. *Id.* at 102.

75. The current statute expressly excludes from copyright protection “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.” 17 U.S.C. § 102(b) (2011).

76. *Id.* at 104.

77. 347 U.S. 201, 212-14 (1954).

78. *Id.* at 214.

*v. Selden*'s concern about trenching on utility patent law, the Court emphasized that copyright protection extended only to the expression embodied in the statuettes, not to the ideas or "mechanical or utilitarian aspects" embodied in them when used as lamp bases. The latter could be protected only by patents.<sup>79</sup>

In notable contrast, the Court expressly rejected the argument that the statuettes should be denied copyright protection because the design of useful articles was the subject matter of *design* patents.<sup>80</sup> According to the Court, "[n]either the Copyright Statute nor any other says that because a thing is patentable it may not be copyrighted. We should not so hold."<sup>81</sup> This logic is, of course, quite contrary to *Baker v. Selden*, where the fact that the system potentially was patentable was precisely the reason the Court held that it could not be copyrighted. Thus, the Court's statement in *Mazer* can only be understood as making a radical distinction between utility and design patents: for the Court, copyright protection for *useful* features presents irreconcilable conflict, while copyright for the design of articles of manufacture presents no conflict at all.

The extension of copyright to expressive aspects of useful articles created a difficult problem, however. How could the courts ensure that copyright did not ensnare utilitarian elements? Courts have attempted to answer this question with the doctrine of "separability," a concept that has now been codified in the Copyright Act.<sup>82</sup> As the Second Circuit explained in *Carol Barnhardt, Inc. v. Economy Cover Corp.*,<sup>83</sup> "Congress has explicitly refused copyright protection for works of applied art or industrial design which have aesthetic or artistic features that cannot be identified separately from the useful article. Such works are not copyrightable regardless of the fact that they may be 'aesthetically satisfying and valuable.'"<sup>84</sup> The mannequins at issue in that case thus were not copyrightable because their features could not "be conceptualized as existing independently of their utilitarian function."<sup>85</sup>

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79. *Id.* at 212.

80. *Id.* at 217 ("We do hold that the patentability of the statuettes, fitted as lamps or unfitted, does not bar copyright as works of art.").

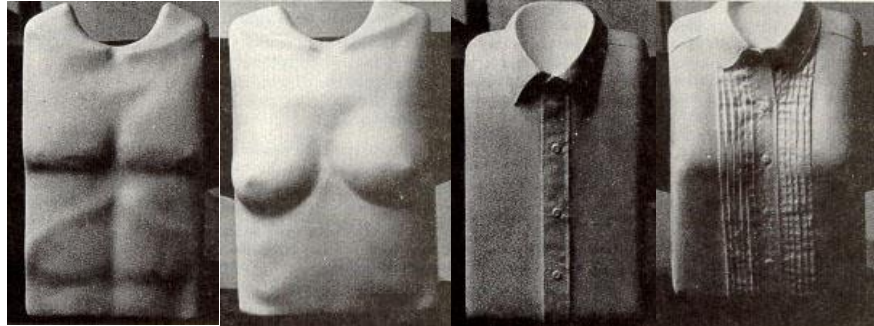
81. *Id.*

82. 17 U.S.C. § 101 ("[T]he design of a useful article, as defined in this section, shall be considered a pictorial, graphic, or sculptural work only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.").

83. 773 F.2d 411 (2d Cir. 1985).

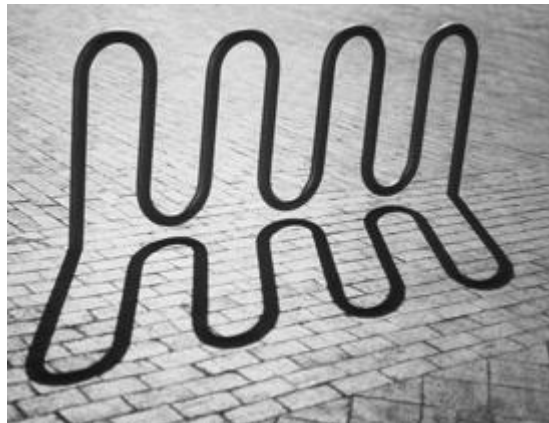
84. *Id.* at 418 (quoting H.R. REP. No. 94-1476, at 55 (1976)).

85. *Id.*



*Mannequins at issue in Carol Barnhardt*<sup>86</sup>

*Brandir International, Inc. v. Cascade Pacific Lumber Co.*<sup>87</sup> addressed the copyrightability of an aesthetically pleasing bike rack:



*Bike rack at issue in Brandir*<sup>88</sup>

The Second Circuit clarified that the requisite separability between aesthetic and utilitarian elements could be either physical or conceptual, and it adopted a test of conceptual separability that it derived from an article by Professor Denicola: “[I]f design elements reflect a merger of aesthetic and functional considerations, the artistic aspects of a work cannot be said to be conceptually separable from the utilitarian elements. Conversely, where design elements can be identified as reflecting the designer’s artistic judgment exercised

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86. *Id.* at 425-26 figs.1, 2, 3 & 4.

87. 834 F.2d 1142 (2d Cir. 1987).

88. JOANNE GERE, BRANDIR INT’L, INC., THE ORIGINAL RIBBON BIKE RACK, at 2 (2010) (brochure), available at <http://www.ribbonrack.com/pdfs/01%20RIBBON%20RACK%20CATALOG.pdf>.

independently of functional influences, conceptual separability exists.”<sup>89</sup>

There is considerable debate about the proper test for conceptual separability. Professor Nimmer’s treatise on copyright, for example, put it somewhat differently: “conceptual separability exists where there is any substantial likelihood that even if the article had no utilitarian use it would still be marketable to some significant segment of the community simply because of its aesthetic qualities.”<sup>90</sup> And the district court in *Pivot Point* preferred Professor Goldstein’s test: “a pictorial, graphic or sculptural feature incorporated in the design of a useful article is conceptually separable if it can stand on its own as work of art traditionally conceived, and if the useful article in which it is embodied would be equally useful without it.”<sup>91</sup> For present purposes, however, the point is that, however formulated, copyright’s separability doctrine is intended to ensure that utilitarian aspects of useful articles are kept free from copyright exclusivity.

Trade dress protection for product design presents much the same issue. Trade dress serves its source-indicating function only if its use is exclusive. On the other hand, trade dress protection, like copyright, has the potential to extend exclusive rights to unpatented utilitarian elements of an industrial design. This might occur when patented aspects of a product’s appearance become signifiers of source during the patent term, when the patentee is the exclusive provider of the patented goods. In those circumstances, enforcing exclusive rights through trade dress law undermines the balance contemplated by patent law, which presumes that those useful features will pass into the public domain when the patent expires. As the Court said in *Singer Manufacturing Co. v. June Manufacturing Co.*:

It is self evident that the expiration of a patent the monopoly created by it ceases to exist, and the right to make the thing formerly covered by the patent becomes public property. It is upon this condition that the patent is granted. It follows, as a matter of course, that on the termination of the patent there passes to the public the right to make the machine in the form in which it was constructed during the patent.<sup>92</sup>

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89. *Id.* at 1145 (construing Robert C. Denicola, *Applied Art and Industrial Design: A Suggested Approach to Copyright in Useful Articles*, 67 MINN. L. REV. 707, 709-17 (1983)); see also *Pivot Point Int’l, Inc. v. Charlene Prods., Inc.*, 372 F.3d 913, 920-31 (7th Cir. 2004) (surveying “the key stages of doctrinal development” in separability case law, and ultimately applying Denicola’s conceptual separability test to conclude that the expression on a mannequin’s face was entitled to copyright protection).

90. 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.08[B] (2009), quoted in *Pivot Point Int’l, Inc.*, 372 F.2d at 923; *Carol Barnhart*, 773 F.2d at 421.

91. *Pivot Point*, 372 F.3d at 917 (quoting 1 PAUL GOLDSTEIN, COPYRIGHT: PRINCIPLES, LAW & PRACTICE § 2.5.3, at 109 (1989)).

92. 163 U.S. 169, 185 (1896); see also *Kellogg Co. v. Nat’l Biscuit Co.*, 305 U.S. 111 119-20 (1938) (Where shredded wheat was made in a “pillow-shaped” form during the terms of relevant utility and design patents, “upon expiration of the patents the form, as well as the

Because “unpatented design and utilitarian conceptions” provide “the baseline of free competition”<sup>93</sup> that produces the “ordinary innovation” upon which the patent incentive builds,<sup>94</sup> trade dress law subordinates its static competition goals to patent law’s dynamic goals. It does so now primarily through the functionality doctrine, which polices the boundary between trade dress and patent, declaring patent law’s competition norms supreme with respect to certain features—only patent law can alter the competitive baseline for functional features, with respect to which parties are otherwise free to compete on price and quality even if those features indicate source.

In *TrafFix Devices, Inc. v. Marketing Displays, Inc.*,<sup>95</sup> the Court emphasized that “[trade dress protection] does not exist to reward manufacturers for their innovation in creating a particular device; that is the purpose of the patent law and its period of exclusivity.”<sup>96</sup> For this reason, “[a] utility patent is strong evidence that the features therein claimed are functional [and thus trade dress protection is unavailable].”<sup>97</sup> Importantly, however, the Court also made clear that the patent system trumped trade dress even for unpatented utilitarian elements because “[a]llowing competitors to copy will have salutary effects in many instances.”<sup>98</sup> Thus, “[w]hether a utility patent has expired or there has been no utility patent at all, a product design which has a particular appearance may be functional because it is ‘essential to the use or purpose of the article’ or ‘affects the cost or quality of the article.’”<sup>99</sup> Patent law, not trade dress law, determines whether a utilitarian element is available for use by follow-on inventors, whether or not the element has ever been patented, and it does so regardless of whether alternative designs are available to reach the same utilitarian result.<sup>100</sup> If technological progress depends on cumulative invention, this “supremacy principle” is eminently reasonable. There are other options available for indicating source to consumers—including product packaging, labeling, and the like.

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name, was dedicated to the public”).

93. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 156 (1989).

94. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2006).

95. 532 U.S. 23 (2001).

96. *Id.* at 34.

97. *Id.* at 29.

98. *Id.* at 29.

99. *Id.* at 35 (quoting *Inwood Labs., Inc. v. Ives Labs., Inc.*, 456 U.S. 844, 850 n.10 (1982)).

100. *Id.* at 33-34 (“Here, the functionality of the spring design means that competitors need not explore whether other spring juxtapositions might be used. The dual-spring design is not an arbitrary flourish in the configuration of MDI’s product; it is the reason the device works. Other designs need not be attempted.”).



B. *Grappling with the Interplay Between Trade Dress and Aesthetic Expression*

There is much less clarity regarding the scope of trademark protection for aesthetic expression, whether or not that expression is protected by copyright. In *Dastar Corp. v. Twentieth Century Fox Film Corp.*,<sup>101</sup> the Supreme Court denied relief under the Lanham Act for the sale of a documentary film that was essentially an unattributed edited version of a television program. The television program had fallen out of copyright and into the public domain because the copyright owner failed to renew.<sup>102</sup> The Court decided the case by narrowly construing the “origin of goods” language in § 43(a) of the Lanham Act,<sup>103</sup> holding that only confusion about the origin of tangible goods (rather than regarding the origin of the creative content) counted for Lanham Act purposes.<sup>104</sup> But this construction was clearly motivated by a principle of copyright supremacy. Citing *Kellogg* and *TrafFix*, the Court declared that “[t]he right to copy, and to copy without attribution, once a copyright has expired, like ‘the right to make [an article whose patent has expired]—including the right to make it in precisely the shape it carried when patented—passes to the public.’”<sup>105</sup> Allowing false designation of origin claims for unattributed copying of creative content would undermine copyright’s limitations, in the Court’s view, just as allowing the trade dress claim in *TrafFix* would have undermined the limitations of patent law.

Despite the Supreme Court’s discussion in *Dastar* and its recognition in *Wal-Mart* of the role that product design plays in rendering products “more useful or more appealing,”<sup>106</sup> trade dress doctrine has not given the same level of deference to either copyright or design patent law as it has to utility patent law. The primary tool for limiting trade dress protection of aesthetic product design features is the semantically awkward “aesthetic functionality” doctrine. While earlier cases had treated design patents and utility patents equivalently, during the last half of the twentieth century courts relaxed their previous general insistence that unpatented designs be available for copying.<sup>107</sup> Rather

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101. 539 U.S. 23 (2003).

102. *Id.* at 26.

103. Lanham Act § 43(a), 15 U.S.C. § 1125(a) (2011) (“Any person who, on or in connection with any goods or services . . . uses in commerce . . . any false designation of origin . . . , which (A) is likely to cause confusion, or to cause mistake, or to deceive as to the . . . origin . . . of his or her goods . . . , or (B) . . . misrepresents the . . . geographic origin of his or her or another’s persons goods . . . shall be liable . . .”).

104. *Dastar*, 539 U.S. at 37.

105. *Id.* at 33 (alteration in original) (quoting *Sears, Roebuck & Co. v. Stiffel Co.*, 374 U.S. 225, 230 (1964)).

106. *See supra* notes 69-71 and accompanying text.

107. Under this old view, unfair competition law could, at most, require labeling. *See Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 232-33 & n.9 (1964); *Compco Corp. v.*

than working from a competitive baseline of free copying,<sup>108</sup> courts increasingly sought to determine, on a case-by-case basis, whether trade dress protection of particular features would impose competitive harm in the static market for the particular type of product. A feature would be “functional” under this rubric only if it was a “competitive necessity” in the present market, meaning that alternatives were unavailable.<sup>109</sup>

While *TrafFix* rejected this view with respect to mechanical functionality and emphasized the functionality doctrine’s channeling function vis-à-vis utility patent law,<sup>110</sup> courts have more uniformly adopted the competitive necessity approach to “aesthetic” design features (the color of a pill, the shape of a stacking tray, etc.).<sup>111</sup> This is the approach the Supreme Court seemed to endorse in *TrafFix* by stating that “[i]t is proper to inquire into a significant non-reputation-related disadvantage in cases of aesthetic functionality.”<sup>112</sup> As explained in an extensive and influential opinion by Judge Posner, for example, an aesthetic feature would be deemed functional only if “without it other producers of the product could not compete effectively.”<sup>113</sup> In other words, the aesthetic functionality doctrine considers whether trade dress protection for particular aesthetic elements will reduce the market availability of consumers’ preferred options enough to give the trade dress owner an unfair advantage (and, presumably, harm consumers by allowing the owner to charge monopoly rents). Courts adopting the competitive necessity approach embrace product differentiation, which trade dress protection promotes, so long as the alternative

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Day-Brite Lighting, Inc., 376 U.S. 234, 238 (1964); *Kellogg Co. v. Nat’l Biscuit Co.*, 305 U.S. 111, 120 (1938); see also Ralph S. Brown, *Design Protection: An Overview*, 34 UCLA L. Rev. 1341 (1987); Mark P. McKenna, *(Dys)functionality*, 48 HOUS. L. REV. 823 (2011).

108. Paul Goldstein, *Copyright*, 55 LAW & CONTEMP. PROBS. 79, 84 (1992); McKenna *supra* note 107, at 836-43.

109. *In re Morton-Norwich Prods., Inc.*, 671 F.2d 1332, 1339, 1341 (C.C.P.A. 1982).

110. Some courts have clung to the competitive need view of functionality even after *TrafFix*, see *Valu Eng’g, Inc. v. Rexnord Corp.*, 278 F.3d 1268, 1276-77 (Fed. Cir. 2002), but most courts have now come to understand *TrafFix* as rejecting that view, see, e.g., *Groeneveld Trans. Efficiency, Inc. v. Lubecore, Int’l, Inc.*, 730 F.3d 494, 506-07 (6th Cir. 2013) (rejecting the plaintiff’s “invitation to drift back into the error of inquiring about possible alternative designs”); *Jay Franco & Sons, Inc. v. Franek*, 615 F.3d 855, 857 (7th Cir. 2010) (“[P]atent law alone protects useful designs from mimicry; the functionality doctrine polices the division of responsibilities between patent and trademark law by invalidating marks on useful designs.”); *Tie Tech, Inc. v. Kinedyne Corp.*, 296 F.3d 778, 786 (9th Cir. 2002) (“[A] product’s manufacturer ‘does not have rights under trade dress law to compel its competitors to resort to alternative designs which have a different set of advantages and disadvantages. Such is the realm of patent law.’” (quoting *Leatherman Tool Grp., Inc. v. Cooper Indus., Inc.*, 199 F.3d 1009, 1014 n.7 (9th Cir. 1999))).

111. See, e.g., *Inwood Labs., Inc. v. Ives Labs., Inc.*, 456 U.S. 844, 853 (1982) (affirming a district court’s finding that pill colors were functional); *W.T. Rogers Co., Inc. v. Keene*, 778 F.2d 334, 338-41 (7th Cir. 1985).

112. *TrafFix Devices, Inc. v. Mktng. Displays, Inc.*, 532 U.S. 23, 33 (2001).

113. *W.T. Rogers*, 778 F.2d at 346.

designs available to competitors are not so inadequate as not to be meaningful alternatives at all.<sup>114</sup>

Is trade dress law's disparate treatment of utilitarian and aesthetic features consistent with the distinction we have made between patent law's notion of cumulative progress for utilitarian innovations and copyright law's notion of quantity and variety as definitive of aesthetic progress? We think not. To begin with, we believe that the competitive necessity test often is applied incorrectly by courts even on its own terms. In assessing competitive necessity, courts often have concluded that aesthetic features (in general, not just those at issue in specific cases) are not competitively necessary because competitors can simply develop their own, different, aesthetically pleasing features (much more easily, they imply, than they can develop mechanically functional features). This conclusion rests on a premise that there is a vast array of similarly attractive aesthetic features from which to choose.<sup>115</sup> According to Professor McCarthy, "[T]he range of possible aesthetic designs and configurations is as infinite as are the tastes that desire them, [so] according trademark protection to aesthetic features would not greatly hinder competition."<sup>116</sup>

The view that protection for aesthetic or creative features imposes little cost because of the many available alternatives also is evident in arguments about the economic consequences of copyright protection. Some commentators argue that copyrights impose no significant barriers to entry because competitors can always produce their own functionally equivalent works.<sup>117</sup>

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114. *In re Morton-Norwich Prods., Inc.*, 671 F.2d 1332, 1342-43 (C.C.P.A. 1982) (design was not functional where "the functions of appellant's bottle can be performed equally well by containers of innumerable designs and, thus, no one is injured in competition").

115. *See Kohler Co. v. Moen Inc.*, 12 F.3d 632, 633-34 (7th Cir. 1993) (rejecting the argument that trademark protection for product configurations are anticompetitive and suggesting that such protection benefits consumers and encourages creative marketing).

116. 1 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 7:81 (4th ed. 2010) (quoting Deborah J. Krieger, Note, *The Broad Sweep of Aesthetic Functionality: A Threat to Trademark Protection of Aesthetic Product Features*, 51 *FORDHAM L. REV.* 345, 380 (1982)); *see also Kohler*, 12 F.3d at 648 (Cudahy, J., dissenting) ("The argument for distinguishing between the subjects of design and utility patents is that, although freedom to copy functional features may be essential to competition, freedom to copy aesthetic features is not essential." (citing *W.T. Rogers*, 778 F.2d at 339 (trademark protection for "ornamental, fanciful shapes and patterns" does not hinder competition))).

117. *See, e.g.*, Christopher S. Yoo, *Copyright and Product Differentiation*, 79 *N.Y.U. L. REV.* 212, 218-19 (2004) (arguing that the idea-expression dichotomy, which precludes protection for the underlying ideas of a work and therefore leaves others "free to create alternative works with the same functional characteristics as any existing work," effectively "dissipates authors' monopoly power"); *id.* at 218 n.16 ("There are no barriers preventing another author from putting pen to paper and attempting to create a substitute for any written work. In other words, although copyright prohibits others from copying the specific words penned by J.K. Rowling without her permission, it does nothing to prevent any other person from writing stories about a school where children learn to perform magic. The inputs

There is, according to this argument, no competitive cost to giving J.K. Rowling exclusive rights to Harry Potter, because each of us can write our own series of novels about a wizard boy. In this view, the idea-expression dichotomy and the related exclusions of 17 U.S.C. § 102(b) adequately protect the competitive market because those rules preclude copyright protection for the really important features—the ideas and the functional aspects.

Even if progress in aesthetic expression focuses on encouraging variety and diversity, it does not follow that consumers are equally interested in the entire range of that diversity at any given time. Competitive necessity is a static notion and must be evaluated in light of the range of consumer preferences in the current market. Yet the generally dismissive view of the importance of aesthetic or ornamental features to consumers persists even in the face of clear evidence (not least of which is the fact that access to the feature is being litigated) that exclusive control of those features often gives a competitive advantage.<sup>118</sup> As one of us has previously argued, the belief that aesthetic features are sometimes competitively important is the premise of the design patent system itself:

[I]f it were generally true that competitors are at no disadvantage when they are denied access to aesthetic or ornamental features, then design patents would have little value. That we have a design patent system, and that the system is actually used by designers for the purpose of excluding others from using ornamental design features, suggests that those features sometimes are competitively significant. Indeed it seems so obviously true that ornamental design can be competitively important that the assertion to the contrary can only be seen as a normative claim that competitors should not be able to copy aesthetic features masquerading as an empirical claim about the need to do so.<sup>119</sup>

Second, the competitive necessity test is in conflict with copyright's theory of progress. The competitive necessity test may be analogized to copyright's doctrine of merger, which denies copyright protection when a particular form of expressing idea is *needed* to express the idea. Copyright has other doctrines

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needed to create substitutes for more complex media are generally freely available.”); *see also* Goldstein, *supra* note 108, at 84 (arguing that because “one author’s expression will always be substitutable for another’s” copyright will generally not create monopoly power); Edmund W. Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1730, 1734 (2000) (arguing that “copyrights do not prevent competitors from creating works with the same functional characteristics” and therefore “almost all copyrights . . . are not monopolies”); Douglas A. Smith, *Collective Administration of Copyright: An Economic Analysis*, 8 RES. IN L. & ECON. 137, 139 (1986) (“The potential monopoly power for individual holders of copyright whose works must compete with each other is in most instances not likely to be substantial.”).

118. *See* Mark A. Lemley & Mark P. McKenna, *Is Pepsi Really A Substitute for Coke? Market Definition in Antitrust and IP*, 100 GEO. L.J. 2055, 2080-91 (2012) (arguing that IP-based product differentiation has this effect more often than commonly recognized).

119. McKenna, *supra* note 107, at 847.

to promote creative progress, however. The scenes-à-faire and idea-expression doctrines deny copyright protection to basic expressive components in order to ensure that they remain broadly available to creators. Moreover, while trademark has its own fair use doctrines, they are notoriously unclear and often redundant of the likelihood of confusion inquiry,<sup>120</sup> and in any event they are much less frequently applicable to trade dress. With the possible exception of the First Amendment-related defenses, none of trademark law's defensive doctrines share copyright fair use's emphasis on transformative uses, which courts have used to facilitate diversity in cases such as the appropriation art cases discussed above. Several of copyright's doctrines limiting exclusive rights apply without reference to whether the exempted elements are "necessary" for a creator is to compete in the current market. Thus, for example, in *W.T. Rogers*, which involved a hexagonally shaped stacking tray, Judge Posner opined that "even with the hexagon appropriated," an "infinity of geometrical patterns would remain open to competitors"—for example, "an oval, a pentagon, a trapezoid, a parallelogram, an octagon, a rectangle covered with arabesques, or machicolated, or saw-toothed."<sup>121</sup> While access to these basic geometric shapes may not be a competitive necessity, they almost certainly are among the basic aesthetic elements that copyright excludes from its coverage. The Supreme Court's rejection in *Qualitex* of the argument that "colors are in limited supply" seems similarly problematic.<sup>122</sup>

Because trade dress doctrine does not recognize these limitations on copyright's coverage of aesthetic features, it can in principle be used to obtain exclusive rights that copyright doctrine (or design patent doctrine, to which we turn shortly) would preclude. This is not to suggest that it is never appropriate to grant trade dress protection to the use of a particular color on a particular good. Perhaps the use of a green-gold color on a dry cleaning pad has insufficient originality to be the subject of copyright protection and is insufficiently attractive to purchasers to provide a competitive edge. In such a case, trade dress protection may be appropriate. The point is only that grounding the doctrine of "aesthetic functionality" entirely in concerns about static competition is inconsistent with the copyright supremacy approach taken by the Supreme Court in *Dastar*.

Today's aesthetic functionality doctrine also treats utility patents and design patents entirely differently. Thus, while *TrafFix* made no explicit reference to design patents, the Court suggested that it might be possible to "carry the heavy burden of showing that [a feature claimed in a utility patent] is

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120. See McGeveran & McKenna, *supra* note 67.

121. *W.T. Rogers Co., Inc. v. Keene*, 778 F.2d 334, 343 (7th Cir. 1985); see also *Qualitex Co. v. Jacobson Prods.*, 514 U.S. 159, 168 (1995) (rejecting an argument against trademarking colors on the grounds that "normally alternative colors will likely be available for similar use by others").

122. See *Qualitex*, 541 U.S. at 168-69.

not functional, for instance by showing that it is merely an *ornamental*, incidental, or arbitrary aspect of the device.”<sup>123</sup> This dismissive treatment of “merely” ornamental features is in considerable tension with the Court’s approach the previous year in *Wal-Mart*,<sup>124</sup> in which it downplayed the need for trade dress protection for product design on the ground that those features could be protected by design patents. *TrafFix* also suggested a different test for aesthetic features, stating that the inquiry into competitive necessity would still be appropriate in (at least) cases of aesthetic functionality, which the Court suggested was the issue in *Qualitex* regarding the “green-gold color of [a] laundry press pad.”<sup>125</sup> The Court seemed simply to assume, without discussion, that aesthetic or ornamental features would not fall under *Inwood*’s rule that trade dress protection is unavailable for a feature that “is essential to the use or purpose of the article or . . . affects the cost or quality of the article.”<sup>126</sup>

Lower courts have entrenched differential treatment of design and utility patents in other ways as well. Most significantly, while *TrafFix* made clear that utility patents are strong evidence of functionality, many courts have held that design patents covering the features at issue are evidence that the design is “ornamental,” rather than “functional”—and hence weigh *against* a finding of functionality.<sup>127</sup> This differential treatment of the subject matter of utility and design patents is in significant conflict with longstanding Supreme Court precedent holding that there is a right to copy unpatented product features<sup>128</sup> because unpatented concepts “provide the baseline of free competition upon which the patent system’s incentive to creative effort depends.”<sup>129</sup> As Judge Cudahy of the Seventh Circuit argued in his well-known dissent in *Kohler*, that precedent made no distinction between utility and design patents.<sup>130</sup> Moreover,

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123. *TrafFix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23, 30 (2001) (emphasis added).

124. 529 U.S. 205 (2000).

125. *Id.* at 33 (construing *Qualitex*, 541 U.S. at 170). The Court’s characterization of *Qualitex* has been criticized heavily by some commentators, who insist that *Qualitex* was not about aesthetic functionality. See, e.g., Christopher C. Larkin, *Qualitex Revisited*, 94 TRADEMARK REP. 1017, 1032 (2004).

126. *Id.* (quoting *Inwood Labs, Inc. v. Ives Labs, Inc.*, 456 U.S. 844, 850 n.10 (1982)).

127. See, e.g., *In re Becton-Dickson*, 675 F.3d 1368, 1380 (2012) (applying *In re Morton-Norwich Prods., Inc.*, 671 F.2d 1332, 1342 n.3 (C.C.P.A. 1982)).

128. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 156 (1989); *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234, 237-38 (1964); *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 231-32 (1964); *Kellogg Co. v. Nat’l Biscuit Co.*, 305 U.S. 111, 116-17 (1938); *Singer Manufacturing Co. v. June Manufacturing Co.*, 163 U.S. 169, 185 (1896).

129. *Bonito Boats*, 489 U.S. at 156; see also McKenna, *supra* note 107, at 840-43.

130. *Kohler Co. v. Moen Inc.*, 12 F.3d 632, 648 (7th Cir. 1993) (Cudahy, J., dissenting). See Katherine J. Strandburg, *Rounding the Corner on Trade Dress: A Tribute to the Jurisprudence of Judge Richard D. Cudahy*, 29 YALE J. ON REG. 387 (2012) for a detailed exploration of this dissent and its context.

the Supreme Court's opinion in *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*,<sup>131</sup> on which it relied in *Traffix*, explicitly equated the social bargains involved in utility and design patenting, noting with respect to both that "[t]he attractiveness of [the patent] bargain, and its effectiveness in inducing creative effort and disclosure of the results of that effort, depend almost entirely on a backdrop of free competition in the exploitation of unpatented designs and innovations."<sup>132</sup>

This equation of design and utility patents was no accident, as (though it often goes unnoticed) the Supreme Court made many of its most well-known pronouncements about the importance of copying and competition in cases that involved design patents.<sup>133</sup> *Day-Brite*, for example, had received a design patent on the lighting fixture at issue in *Compco Corp. v. Day-Brite Lighting, Inc.*, and it alleged design patent infringement along with unfair competition.<sup>134</sup> The design patent claim was no longer at issue at the Supreme Court level only because the Seventh Circuit had affirmed the district court's finding that the design patent was invalid because the design was functional.<sup>135</sup> *Sears and Compco*, like a number of cases before them, were quite clear that the only role for unfair competition law was to require labeling in order to avoid passing off.<sup>136</sup> This understanding was based on the normative judgment that copying was generally legitimate if the copied design did not surmount the obviousness bar to design patenting or meet copyright's separability requirement. Current aesthetic functionality doctrine, however, places no weight on maintaining the continued availability of unpatented design elements to promote design innovation.

Whether this disparate treatment of design and utility patents is justified depends on how well design patent law is calibrated to achieve its purposes. Unfortunately, as we discuss in the next Section, design patent law lacks coherent conceptual underpinnings, which not only makes design patent doctrine problematic on its own terms, but it makes it impossible to determine the proper relationship between design patent and copyright and trademark protection.

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131. 489 U.S. 141 (1989).

132. *Id.* at 151.

133. *See, e.g., Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964); *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234 (1964), *rev'g* 311 F.2d 26 (7th Cir. 1963).

134. *Day-Brite Lighting, Inc. v. Compco Corp.*, 311 F.2d 26, 27 (7th Cir. 1963).

135. *See id.* at 28 ("The District Court's decision that the design of the cross ribs was functional and dictated by the limitations of the manufacturing process is fully supported by the evidence.")

136. *See McKenna, supra* note 107, at 836-43.

## III. THE INHERENT CONTRADICTIONS OF THE DESIGN PATENT SYSTEM

Despite its traditionally low profile, the design patent system is actually quite old. So are its problems. Throughout its history the design patent system has cycled between very low patentability thresholds, resulting in back-door intrusions into the purview of the utility patent system, and ineffective attempts to solve that problem by imposing more utility patent-like requirements for design patent protection. We argue that the root cause of the design patent system's problems is the fact that it has conceived of its subject matter in separationist terms, neglecting the intertwining of form and function that is the very hallmark of modern industrial design. The current system's failed attempt to combine a patent-based nonobviousness inquiry with a standard of evaluation based entirely on aesthetics reflects this problem.

Design patents were created to fill a perceived vacuum of protection. At the time Congress passed the first design patent statute in 1842, the design of articles of manufacture was excluded from copyright's coverage, as well as from patent and trademark (or unfair competition) protection. Many of those involved in lobbying for the 1842 design patent statute were concerned primarily with surface ornamentation,<sup>137</sup> but the statute did not limit protection to such "ornamental" designs. Instead, the statute's coverage reflected its gap-filling purpose. It covered "new and original" works created by the inventor's "industry, genius, efforts, and expense" in a hodgepodge of categories otherwise unprotected by IP at the time: designs for "manufactures," fabric designs, statues and other three-dimensional artwork, surface ornamentation of various sorts, and product "shape or configuration."<sup>138</sup> The statutory language does not seem to have been premised on any coherent foundation connecting the patentability standard to a theoretical conception of progress in industrial design. This is not especially surprising, given that copyright and patent doctrine were only beginning to develop into their present, distinct forms at the time. By the early twentieth century, however, the copyright and patent systems had largely settled into their current forms, tailored to different conceptions of

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137. See Jason J. Du Mont & Mark D. Janis, *The Origins of the American Design Patent System*, 88 IND. L.J. 837, 851-52 (2013).

138. The original statute offered design patents to those who through their own industry, genius, efforts, and expense, may have invented or produced any new and original [1] design for a manufacture, whether of metal or other material or materials, or any new and original [2] design for the printing of woolen, silk, cotton, or other fabrics, or any new and original [3] design for a bust, statue, or bas relief or composition in alto or basso relievo, or any new and original [4] impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful [5] pattern, or print, or picture, to be either worked into or worked on, or printed or painted or cast or otherwise fixed on, any article of manufacture, or any new and original [6] shape or configuration of any article of manufacture not known or used by others." Design Patent Act of 1842, ch. 263, § 3, 5 Stat. 543, 544.



progress for aesthetic expression and utilitarian technology. Unfortunately, design patent doctrine retains features of both systems without any coherent guiding principle.

A. *The Patent and Copyright Context at the Birth of the Design Patent System*

In 1842, the domains of copyright and patent law were much less clearly delineated than they are today, both individually and with respect to one another. For example, the terms of copyright and patent were more comparable, with copyright's term being 28 years with a possibility of a 14-year renewal<sup>139</sup> and patent's term 14 years with a possible 7-year extension.<sup>140</sup> Most importantly, the basic thresholds for copyright and patent protection were much more similar (and less well-established) at the time. Courts had not yet developed patent law's nonobviousness requirement, and the patent statute required only that a patented invention be "new" and "useful."<sup>141</sup> According to Curtis's well-known 1849 patent treatise, while "mere colorable variations, or slight and unimportant changes" would not suffice, a patent would be awarded as long as the invention "ha[d] not *substantially* existed before."<sup>142</sup> To show that an invention was "substantially" new, it was enough to show that it was "better, more useful, or cheaper than the old."<sup>143</sup> Thus, at the time the design patent statute was enacted, the patentability standard appears to have required only rather minimal advances and, most importantly, paid no attention to whether the invention went beyond what the market would have produced in the ordinary course. In 1850, in *Hotchkiss v. Greenwood*, the Court raised the patentability bar and established the standard on which the present-day nonobviousness requirement is based: "unless more ingenuity and skill . . . were required . . . than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention."<sup>144</sup> By demanding an inventive step beyond what would be produced by the "ordinary mechanic," this standard recognizes the cumulative nature of technological progress.

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139. Copyright Act of 1831, ch. 16, § 2, 4 Stat. 436, 436-37.

140. Patent Act of 1836, ch. 357, §§ 6, 18, 5 Stat. 117, 119, 124-25.

141. *Id.* § 6 (making patents available to "any person or persons having discovered or invented any new and useful art . . . not known or used by others before his or their discovery or invention thereof").

142. GEORGE TICKNOR CURTIS, A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS IN THE UNITED STATES OF AMERICA 6 (1st ed. 1849) (emphasis added), available at <http://babel.hathitrust.org/cgi/pt?id=uc2.ark:/13960/t2w37v337;view=1up;seq=54>.

143. *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 255 (1850) (quoting CURTIS, *supra* note 142, at 7 n.3) (internal quotation mark omitted) (construing the plaintiff's argument).

144. *Id.* at 267.

The original subject matter of copyright—books, maps, and charts—consisted of works from which users could learn and advance “science,”<sup>145</sup> making them amenable to a conception of “progress” not so different from technological progress. In 1842, copyright was not far removed from this original conception, “historical or other print[s]” having been added to the list in 1802,<sup>146</sup> and musical compositions and “prints or engravings” added only in 1831.<sup>147</sup> Not until 1870 was the statute amended to cover “painting, drawing, chromo, statue, statuary, and . . . models or designs intended to be perfected as works of the fine arts.”<sup>148</sup>

Two opinions by Justice Story, in 1839<sup>149</sup> and 1845<sup>150</sup> respectively, considered the copyrightability of textbooks that combined excerpts from previous works. Story held that such combinations were potentially copyrightable because of the “labor[] and intellectual exertion” involved in “[t]he plan, the arrangement, and the combination” of the excerpts.<sup>151</sup> Unlike in the patent law at the time, there was no consideration of whether the new arrangements were “better or worse” than prior arrangements. Improvement was “not a material inquiry in this case,”<sup>152</sup> but something that would sort itself out in the market: “If worse, his work will not be used by the community at large; if better, it is very likely to be so used.”<sup>153</sup>

Despite this difference, the patent and copyright standards imposed similarly low thresholds for protection during this pre-*Hotchkiss* period. Interestingly, Story justified the minimal standard for copyrightability by a concept of cumulative progress, noting that “[e]very book in literature, science

145. According to Barton Beebe, “science” was “generally understood [at the founding] to refer to systematic theoretical and empirical knowledge (i.e., *Wissenschaft*)” as opposed to “useful arts” which referred to “technology or commercial practices.” See Beebe, *supra* note 34, at 3-4. Moreover, “[w]hile ‘science’ sometimes covered the ‘general principles’ of the fine as well as the useful arts, it was nevertheless understood to be fundamentally distinct from these applied arts, particularly when the term ‘science’ was used in conjunction with ‘arts.’” *Id.* at 4 (footnotes omitted).

146. Copyright Act of 1802, ch. 36, § 2, 2 Stat. 171, 171.

147. Copyright Act of 1831, ch. 16, § 1, 4 Stat. 436, 436. (“[T]he author or authors of any book or books, map, chart, or musical composition, which may be now made or composed, and not printed and published, or shall hereafter be made or composed, or who shall invent, design, etch, engrave, work, or cause to be engraved, etched, or worked from his own design, any print or engraving, and the executors, administrators, or legal assigns of such person or persons, shall have the sole right and liberty of printing, reprinting, publishing, and vending such book or books, map, chart, musical composition, print, cut, or engraving . . .”).

148. Act of July 8, 1870, ch. 230, § 86, 16 Stat. 198, 212.

149. *Gray v. Russell*, 10 F. Cas. 1035 (C.C.D. Mass. 1839) (No. 5,728).

150. *Emerson v. Davies*, 8 F. Cas. 615 (C.C.D. Mass. 1845) (No. 4,436).

151. *Gray*, 10 F. Cas. at 1037.

152. *Emerson*, 8 F. Cas. at 621.

153. *Id.*

and art, borrows, and must necessarily borrow, and use much which was well known and used before.”<sup>154</sup> He compared the textbooks at issue to other works of a scholarly nature: from commentaries and treatises, which “for the most part, consist of selections from the works and criticisms of various former authors, arranged in a new form”;<sup>155</sup> to eminent works of “antiquity,” whose authors “gathered much from the abundant stores of current knowledge and classical studies in their days”; and to maps, which are copyrightable despite the fact that all maps must “the more accurate they are, approach nearer in design and execution to each other.”<sup>156</sup> For reasons that are unclear (but perhaps had to do with copyright’s limited scope at that time), he did not concern himself with the effects of a low originality standard on the availability of excerpts to be combined by these later authors.

While generous to subject matter such as maps, charts, and “serious” books, copyright doctrine in the first half of the nineteenth century was much less hospitable to works of a commercial nature. In 1829, for example, a court denied copyright to a financial newspaper because “[copyright] is for the encouragement of learning and was not intended for the encouragement of mere industry, unconnected with learning and the sciences.”<sup>157</sup> Copyright’s connection to aesthetic expression was made only much later. While the inclusion of works of “fine art” in the 1870 statute broke the connection between copyright and “learning and the sciences,” copyright continued to emphasize intellectual pursuits. In 1884, the Supreme Court upheld the copyrightability of photographs of Oscar Wilde against an argument that they were merely copied mechanistically from nature.<sup>158</sup> The Court’s reasoning rested squarely on the photographers “intellectual invention” in “posing” the subject, “selecting and arranging the costume, draperies, and other various accessories,” “arranging the subject so as to present graceful outlines,” and so forth.<sup>159</sup> The Court therefore left undecided the question of whether copyright was available for the more “mechanical reproduction” involved in the “ordinary production of a photograph.”<sup>160</sup> Only in 1903 did the Court sweep away those distinctions entirely.

*Bleistein v. Donaldson Lithographing Co.* involved the copyrightability of circus posters depicting acts such as “an ordinary ballet,” “the Stirk family, performing on bicycles” and “men and women whitened to represent statues.”<sup>161</sup> The Court refused to distinguish between these advertisements and

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154. *Id.* at 619.

155. *Gray*, 10 F. Cas. at 1038.

156. *Emerson*, 8 F. Cas. at 619.

157. *Clayton v. Stone*, 5 F. Cas. 999, 1003 (C.C.S.D.N.Y. 1829) (No. 2,872).

158. *Burrow-Giles Lithographic Co. v. Saron*y, 111 U.S. 53, 60 (1884).

159. *Id.*

160. *Id.* at 59.

161. 188 U.S. 239, 248 (1903).

copyrightable “fine arts”:

Certainly works are not the less connected with the fine arts because their pictorial quality attracts the crowd and therefore gives them a real use—if use means to increase trade and to help to make money. A picture is none the less a picture and none the less a subject of copyright that it is used for an advertisement. And if pictures may be used to advertise soap, or the theatre, or monthly magazines, as they are, they may be used to advertise a circus.<sup>162</sup>

Thus, over time, partly through statutory amendment and partly through judicial interpretation, copyright protection was extended from its original focus on “science” to encompass first “fine arts” and then virtually any form of expression. During this expansion, the minimal originality requirement was maintained.<sup>163</sup> Importantly, however, the justification for the minimal standard shifted. Justice Story had justified his minimal originality standard on the ground that all scholarly works built upon previous work. *Bleistein*’s rationale was founded instead on the mystery of artistic expression and its deeply personal nature: “The copy [made when drawing from nature] is the personal reaction of an individual upon nature. Personality always contains something unique. It expresses its singularity even in handwriting, and a very modest grade of art has in it something irreducible, which is one man’s alone.”<sup>164</sup>

While Story insisted that it was “immaterial” to his decision whether the textbook at issue was better or worse than others, he was comfortable giving his own view that “the plaintiff’s method [was] a real and substantial improvement upon all the works which had preceded his.”<sup>165</sup> He assumed that a work’s quality would be revealed by its success in the market. The *Bleistein* court, on the other hand, embraced a low copyrightability threshold because it considered courts *unqualified* to assess the artistic merit of a work of art. Moreover, the Court had equally little confidence in the market’s ability to do so, given that works of genius may be “repulsive until the public ha[s] learned the new language in which their author spoke.”<sup>166</sup> Both the emphasis on personal expression and the concern with the unpredictability of artistic merit lead away from a patent-like conception of cumulative progress and toward the conception reflected in copyright doctrine today.

In the 1840s, however, when the design patent system was first created, neither copyright nor patent doctrine was well developed. Both systems had relatively minimal standards for obtaining protection, while both also had at least somewhat cumulative conceptions of progress. The inherent contradiction

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162. *Id.* at 251.

163. This requirement was given slightly more teeth, however, when *Feist Publications, Inc. v. Rural Telephone Service Co., Inc.*, 499 U.S. 340 (1991), undermined the “sweat of the brow” justification for copyright.

164. *Bleistein*, 188 U.S. at 300.

165. *Emerson v. Davies*, 8 F. Cas. 615, 621 (C.C.D. Mass. 1845) (No. 4,436).

166. *Bleistein*, 188 U.S. at 251.

between minimal thresholds for protection and cumulative conceptions of progress thus infected both patent and copyright at that time. By the early twentieth century, they had evolved the very distinct but more or less internally consistent approaches discussed in Part I. But design patent law never benefitted from this evolution.

## B. *The Design Patent Treadmill*

### 1. *Design patents pre-1952*

The 1842 design patent statute covered (among other things) “any new and original shape or configuration of any article of manufacture not known or used by others,”<sup>167</sup> echoing the patentability standard of the time. It also required applicants to affirm that their designs had resulted from “their own industry, genius, efforts, and expense,”<sup>168</sup> a standard which echoed the emphasis on investment of labor in some contemporaneous copyright decisions.<sup>169</sup> Little is known about how the patent office interpreted the statutory requirements during the design patent system’s first few years.<sup>170</sup> Few patents were issued and there were no reported cases dealing with patentability standards.<sup>171</sup>

The first recorded judicial interpretation of the design patentability standard was in 1865, following a revision of the statute in 1861,<sup>172</sup> which left the patentability standard intact. In *Wooster v. Crane*,<sup>173</sup> the court invalidated a design patent on a rhombus-shaped reel for storing dress trimmings. Though the court referred to design patent’s requirement of “industry, genius, efforts and expense,” the opinion did not really inquire into the difficulty of the inventive process. Instead, the court based its conclusion on the fact that the design was no better than previous designs. The court observed that “the shape [was] a common one in many articles of manufacture” and that “[n]o advantage whatever is pretended to be derived from the adoption of the form selected by the plaintiff.”<sup>174</sup> The emphasis on lack of “advantage” is reminiscent of the pre-*Hotchkiss* utility patent requirement that an invention be “better, more useful, or cheaper than the old.”<sup>175</sup> Moreover, the choice of a rhombus “was simply an

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167. Design Patent Act of 1842, ch. 263, § 3, 5 Stat. 543, 544.

168. *Id.*

169. *See, e.g.,* Lawrence v. Dana, 15 F. Cas. 26, 60-61 (C.C.D. Mass. 1869) (No. 8,136) (citing Kelly v. Morris, L.R. 1 Eq. 697 (1866)).

170. Jason J. Du Mont, *A Non-Obvious Design: Reexamining the Origins of the Design Patent Standard*, 45 GONZ. L. REV. 531, 545 (2010).

171. *Id.*

172. Design Patent Act of 1861, ch. 88, 12 Stat. 246.

173. *Wooster v. Crane*, 30 F. Cas. 612 (C.C.S.D.N.Y. 1865) (No. 18,036).

174. *Id.* at 612

175. *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 255 (1850) (quoting CURTIS,

arbitrary, chance selection of many well known shapes, *all equally well adapted to the purpose.*<sup>176</sup> Thus, this first case appears to have found the design patent invalid, at least in part, because there was no necessary relationship between form and function.

The 1869 patent commissioner opinion in *Ex parte Crane*<sup>177</sup> marked the beginning of design patent law's intrusion into the terrain of utility patents. In that case, the same Mr. Crane had applied for a design patent on a box for holding furs after his application for a utility patent was rejected under the *Hotchkiss* standard.<sup>178</sup> The design patent application initially was rejected by the examiner, a decision upheld by the appellate board, because the design was not "for ornament merely."<sup>179</sup> Had this decision stood, it would essentially have imposed a strict separability requirement, limiting design patents to features without any function whatsoever. The Patent Commissioner overturned the rejection, however, noting that the "line of distinction between what is useful and what is merely ornamental is, in some cases, very indefinite," and that "designs for utility," no less than purely ornamental designs, "add to the market value and salability" of manufactured articles.<sup>180</sup>

Later that same year, in *Ex parte Bartholomew*,<sup>181</sup> a different Commissioner went even further, stating that "no element of the artistic or ornamental" was required for design patentability.<sup>182</sup> The Commissioner in *Bartholomew* also stated explicitly that the design patent standard was much lower than the standard for utility patents: "From the nature of the subject-matter, there must always be more latitude in the issue of patents for trifling changes of form or outline, since it is only necessary that such changes should constitute a new design to entitle them to a patent of this class."<sup>183</sup>

Congress passed a number of intellectual property reforms in 1870 as part of a post-Civil War overhaul of federal legislation. The Act of 1870 included the first federal trademark provisions<sup>184</sup> and extended copyright protection to "any . . . painting, drawing, chromo, statue, statuary, [or] models or designs

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*supra* note 142, at 7 n.3) (internal quotation mark omitted) (construing the plaintiff's argument).

176. *Wooster*, 30 F. Cas. at 612 (emphasis added).

177. 1869 Dec. Comm'r Pat. 7.

178. *Id.* at 7.

179. *Id.* at 8.

180. *Id.* at 7.

181. 1869 Dec. Comm'r Pat. 103.

182. *Id.* at 105.

183. *Id.*

184. Act of July 8, 1870, ch. 230, §§ 77-84, 16 Stat. 198, 210-12. The trademark portions of the Act were struck down in *The Trade-Mark Cases*, 100 U.S. 82, 99 (1879) (invalidating the trademark legislation of 1870 and the Act of Aug. 14, 1876, ch. 274, 19 Stat. 141, which imposed criminal sanctions against those who fraudulently used, sold, or counterfeited trademarks).

intended to be perfected as works of the fine arts.”<sup>185</sup> Perhaps in an effort to distinguish the subject matter of design patents from the newly copyrightable subject matter, the reforms also redefined the categories of design patent protection to *require* that a patentable “shape or configuration of any article of manufacture” be not only “new” and “original,” but also “useful.”<sup>186</sup> The 1870 reforms thus solidified design patents’ intrusion into utility patent territory, while leaving the minimal design patentability standard in place. Under this standard, one could obtain design patents on minimally original designs, even if those designs were primarily utilitarian in nature, thereby evading the more demanding requirements of utility patentability.

Shortly after the enactment of the 1870 Act, a new patent commissioner sought to deal with this problem by simultaneously importing a *Hotchkiss*-like standard and refocusing the design patent inquiry on aesthetic, rather than utilitarian, creativity.<sup>187</sup> Though courts initially resisted importation of the *Hotchkiss* approach into design patent doctrine,<sup>188</sup> in *Smith v. Whitman Saddle*, the Supreme Court explicitly affirmed that, in order to be patentable, a design must result from “[t]he exercise of the inventive or originative faculty.”<sup>189</sup> To further clarify that design patents were not substitutes for utility patents, Congress in 1902 amended the design patent statute, removing the word “useful,” and replacing it with the word “ornamental.”<sup>190</sup> As a result, under the new statute, design patents were available to “[a]ny person who [had] invented any new, original, and ornamental design for an article of manufacture.”<sup>191</sup>

Unfortunately, while either of these two steps might have improved things if made independently, in combination they led right back into the quagmire. Having melded the *Hotchkiss* standard from utility patent law with subject matter defined by ornamentality, courts were left with the task of assessing the size of the step forward reflected in a particular aesthetic expression, a task that copyright had found impossible. Specifically, courts were required to determine whether a design reflected some inventive step beyond what came before, but there was no conceptual basis on which they could make such a judgment.

### C. *The Conceptual Incoherence of the Modern Design Patent Regime*

Design patent law’s conceptual incoherence was solidified when the 1952 Patent Act purported to apply identical novelty and nonobviousness

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185. § 86, 16 Stat. at 212.

186. § 71, 16 Stat. at 209-10.

187. See Dumont, *supra* note 170, at 568-69.

188. *Id.* at 550-51.

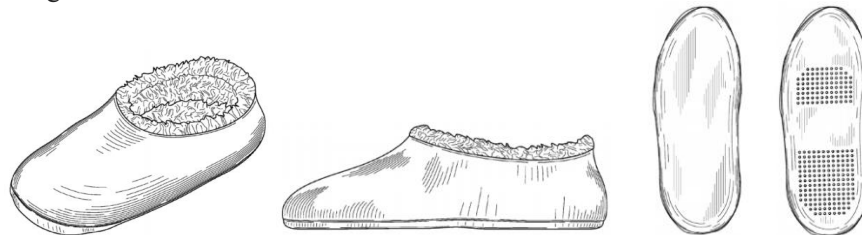
189. 148 U.S. 674, 679 (1893).

190. Act of May 9, 1902, ch. 783, 32 Stat. 193, 193.

191. *Id.*

requirements to utility and design patents. The trouble, of course, is that the nonobviousness requirement is rooted in a cumulative conception of progress. It demands that patents be awarded only when required to incentivize advances that go beyond the dynamic competitive baseline. Unfortunately, as copyright doctrine recognizes, there is no workable standard for measuring the “size” of an aesthetic advance. As a result, application of the nonobviousness requirement to utility and design patents is identical in name only. The Federal Circuit has coped with this inherent contradiction by adopting a very relaxed nonobviousness standard for design patents.<sup>192</sup>

To find a design obvious, a court must begin by identifying a single “primary reference,” the “design characteristics of which are basically the same as the claimed design.”<sup>193</sup> If and only if the court can identify such a primary reference, then other references may be used to modify it if the references are “so related [to the primary reference] that the appearance of certain ornamental features in one would suggest the application of those features to the other.”<sup>194</sup> Not surprisingly, this stringent test leads to few invalidations or rejections. To take one recent example, the Federal Circuit in *High Point Design LLC v. Buyers Direct, Inc.*,<sup>195</sup> reversed the district court’s summary judgment finding of obviousness regarding the following design, which the court characterized as disclosing “slippers with an opening for a foot that contain a fuzzy (fleece) lining and have a smooth outer surface”.<sup>196</sup>



*Slipper design at issue in High Point Design*<sup>197</sup>

The district court had identified two models of slippers sold by Woolrich as primary references—the “Penta” and the “Laurel Hill”:

192. See Janice M. Mueller & Daniel Harris Brean, *Overcoming the “Impossible Issue” of Nonobviousness in Design Patents*, 99 KY. L.J. 419, 425 (2011).

193. *Durling v. Spectrum Furniture Co., Inc.*, 101 F.3d 100, 103 (Fed. Cir. 1996) (internal quotation mark omitted).

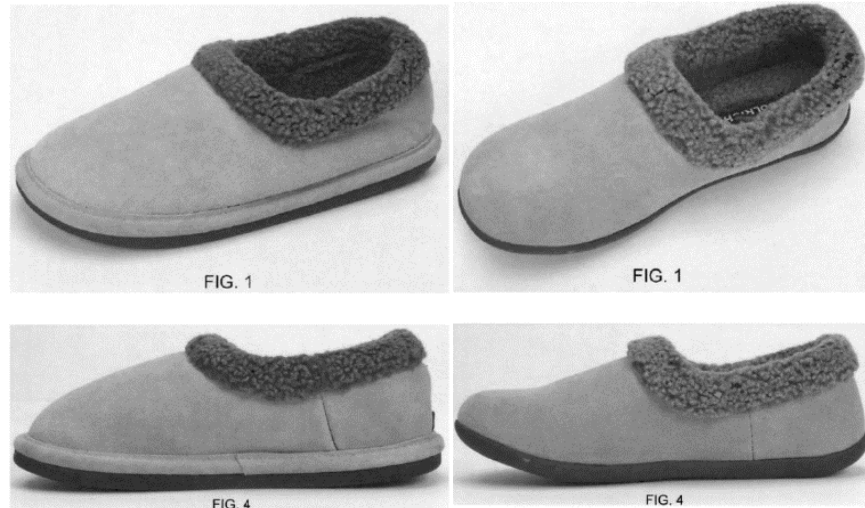
194. *Id.* (quoting *In re Borden*, 90 F.3d 1570, 1574 (Fed. Cir. 1996)) (internal quotation marks omitted).

195. 730 F.3d 1301 (Fed. Cir. 2013).

196. *Id.* at 1307.

197. U.S. Patent No. D598,183 figs.1, 4, 7 & 9 (filed Jan. 22, 2009).

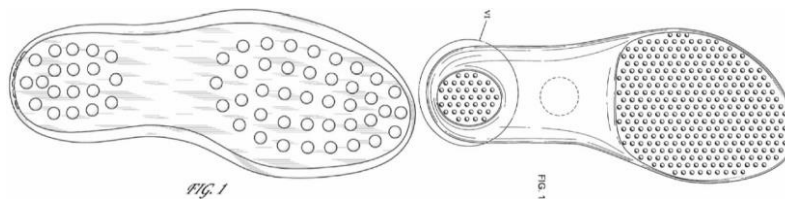




“Penta” slipper (left); “Laurel Hill” slipper (right)<sup>198</sup>

According to the district court, the Penta “look[ed] indistinguishable from the drawing shown in the ‘183 Patent,” and the Laurel Hill, “while having certain differences with the Penta slipper that [were] insubstantial and might be referred to as streamlining, nonetheless ha[d] the precise look that an ordinary observer would think of as a physical embodiment of the drawings shown on the ‘183 Patent.”<sup>199</sup>

The district court then identified the following two designs, disclosed in prior design patents, as secondary references, particularly focusing on their disclosure of small dots on the bottom surface:



Secondary References<sup>200</sup>

Combining these references, the district court found the design claimed in the ‘183 Patent obvious.<sup>201</sup> The Federal Circuit reversed, faulting the district

198. *High Point Design*, 730 F.3d at 1307-08.

199. *Id.* at 1309.

200. *Id.* at 1309-10.

201. *Id.* at 1310. The district court wrote:

court for assessing obviousness from the viewpoint of an “ordinary observer” rather than an ordinary *designer*.<sup>202</sup> The district court also erred, according to the Federal Circuit, because it failed to “translate the design of the ‘183 Patent into a verbal description”<sup>203</sup>—or perhaps more accurately, for describing the design at “too high a level of abstraction” and “failing to focus ‘on the distinctive visual appearances of the reference and the claimed design.”<sup>204</sup> And the Federal Circuit claimed that the district court failed to provide sufficient reasoning for its determination that the Penta and/or the Laurel Hill served as a primary reference that created “basically the same visual impression.”<sup>205</sup> The district court was supposed to put the claimed design side-by-side with the potential primary reference and determine whether the reference had basically the same design. It was apparently supposed to do this from the perspective of an ordinary designer, though it remains unclear whether that standard applied to each step or only to the overall determination of obviousness. And to the Federal Circuit, there was some doubt about whether the references were close enough.

This approach is striking in its failure to apply recent Supreme Court precedent interpreting the statutory nonobviousness requirement, which is common to utility and design patents. In 2007, the Supreme Court determined that the Federal Circuit had adopted an overly permissive nonobviousness test for utility patents. The rejected test had deemed an invention invalid for obviousness only if there was a “teaching, suggestion, or motivation to

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The overall visual effect created by the Woolrich prior art is the same overall visual effect created by the ‘183 patent. To an ordinary observer, they are the same slippers. The only difference between the slippers relates to the sole of the slippers, which is quite minor in the context of the overall slipper. Even if, however, this Court were to find that the differences in the sole design were of any note, the design of the dots on the ‘183 patent are anticipated by the dots on the [Secondary References].

Since both of those design patents were noted on the face of the ‘183 patent, and since both relate to slippers, they would have been available to a slipper designer skilled in the art—and would have easily suggested the addition of “dots” to the sole of a slipper. Combining the dots shown on those two design patents with the prior art in the Woolrich slipper would have been obvious to any designer. That combination would have created a slipper with a virtually identical visual impression as [the] ‘183 patent.

*Id.* (alterations in original).

202. *Id.* at 1313-15.

203. *Id.* at 1314. This criticism is in significant tension with *Egyptian Goddess*, which discouraged courts from rendering any verbal claim construction in the design patent context. *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 679 (Fed. Cir. 2010) (en banc) (“Given the recognized difficulties entailed in trying to describe a design in words, the preferable course ordinarily will be for a district court not to attempt to ‘construe’ a design patent claim by providing a detailed verbal description of the claimed design.”). For a persuasive critique of translating images to verbal descriptions, see Rebecca Tushnet, *The Eye Alone Is the Judge: Images and Design Patents*, 19 J. INTELL. PROP. L. 409 (2012).

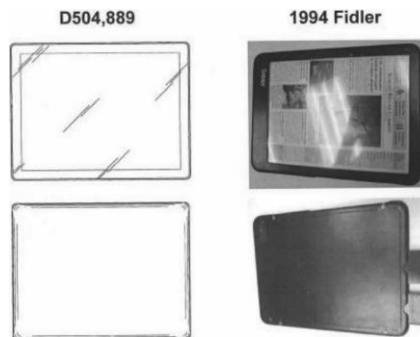
204. *High Point Design*, 730 F.3d at 1314 (quoting *Apple, Inc. v. Samsung Elecs. Co.*, 678 F.3d 1314, 1331-32 (2012)).

205. *Id.*

combine” pertinent prior art references.<sup>206</sup> In rejecting the test, the Court noted that “it often may be the case that market demand, rather than scientific literature, will drive design trends,” and that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.”<sup>207</sup>

Despite the purported applicability of the same statutory provision to design patents, it seems clear that the Federal Circuit’s standards for nonobviousness in design patent law are relatively low, as compared to utility patent standards. First, and most obviously, utility patent law has nothing analogous to the “primary reference” step the Federal Circuit requires in design patent law. Indeed, by requiring a single reference that is so close to the claimed design, the Federal Circuit’s approach comes dangerously close to collapsing obviousness and novelty altogether. Making matters worse, the Federal Circuit’s standard for deeming a prior art reference sufficiently similar to serve as a primary reference is quite high. The Federal Circuit’s conclusion in *High Point* that the primary references identified by the district court may not have been sufficiently similar attests to the stringency of this standard.

Likewise, in *Apple, Inc. v Samsung Elecs. Co.*,<sup>208</sup> the Federal Circuit held that the 1994 Fidler device was not sufficiently similar to the claimed design to count as a primary reference.<sup>209</sup> Looking at the two designs side-by-side, the Federal Circuit saw substantial differences: the Fidler tablet is not symmetrical; the frame of the Fidler tablet differs from the “unframed” Apple design; the Fidler tablet contains no thin bezel surrounding edge of the front side; one corner of the frame in the Fidler contains multiple perforations; and the sides of the Fidler reference are neither smooth nor symmetrical.<sup>210</sup>



Claimed design (left); Fidler design (right)<sup>211</sup>

206. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2006).

207. *Id.* at 418, 421.

208. 678 F.3d. 1314 (2012).

209. *Id.* at 1331.

210. *Id.* at 1330-31.

211. *Id.* at 1330.

Moreover, even assuming that the Fidler tablet qualified as a primary reference, the Federal Circuit did not think the other reference (the Hewlett-Packard Compaq Tablet TC1000) bridged the gap between the Fidler and the Apple design:

First, while the TC1000 has a flat glass front, the screen area of that device is surrounded by a gray area that frames the screen. In addition, the perimeter of the TC1000 is encircled by a wide rounded-over metallic rim. And the screen area contains indicator lights in several places, unlike the minimalist design claimed in the D '889 patent.<sup>212</sup>



*Hewlett-Packard Compaq Tablet TC1000*<sup>213</sup>

Collectively, these differences were enough that the court did not believe the two references could be combined. In a statement highly reminiscent of the old “teaching, suggestion, and motivation” test, the Federal Circuit noted that “[t]he teachings of prior art designs may be combined only when the designs are ‘so related that the appearance of certain ornamental features in one [design] would suggest the application of those features to the other.’”<sup>214</sup>

This practical evisceration of the nonobviousness requirement likely has been driven in part by courts’ understandable difficulty in measuring “progress” in aesthetic aspects of design, which is what the current interpretation of nonobviousness for designs requires. Such a minimal standard is more consistent with copyright doctrine, and perhaps it would be justified for design patents if they were limited to ornamentation or purely aesthetic aspects of design. The Federal Circuit, however, also has declined to enforce any

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212. *Id.* at 1331.

213. *Id.* at 1329.

214. *Id.* (second alteration in original) (quoting *In re Borden*, 90 F.3d 1570, 1575 (1996)).

meaningful limitation of design patent coverage to ornamental or aesthetic elements. While copyright protects only those aesthetic features that are “conceptually separable” from functional aspects of a useful article,<sup>215</sup> design patent law disqualifies a claimed design only when the design, as a whole, is “dictated by” functional considerations.<sup>216</sup> To determine whether a claimed design is functional under this standard, a court may consider:

[1] whether the protected design represents the best design; [2] whether alternative designs would adversely affect the utility of the specified article; [3] whether there are any concomitant utility patents; [4] whether the advertising touts particular features of the design as having specific utility; [5] and whether there are any elements in the design or an overall appearance clearly not dictated by function.<sup>217</sup>

Not surprisingly, courts have only very rarely found a claimed design “dictated by function.”<sup>218</sup> Design patent doctrine once again has failed to rescue the system from the problems that plagued it in 1869—design patents undermine utility patent doctrines that protect cumulative technological progress by providing “back door” protection for utilitarian features under a low patentability standard.

#### IV. INTEGRATION OF FORM AND FUNCTION: A SENSIBLE DESIGN PATENT GOAL?

Design patent’s position at the intersection between patent, copyright, and trademark looks more and more like a seat between a rock and a hard place. The design patent system is no longer needed as a gap-filler. Unlike the copyright law in effect in 1842, present-day copyright covers ornamentation of useful three-dimensional objects, separating ornamentation from functional

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215. See, e.g., *Brandir Int’l, Inc. v. Cascade Pac. Lumber Co.*, 834 F.2d 1142 (2d Cir. N.Y. 1987); see also *supra* notes 82-89 and accompanying text.

216. See, e.g., *PHG Techs., LLC v. St. John Cos.*, 469 F.3d 1361, 1366 (Fed. Cir. 2006) (“The design of a useful article is deemed to be functional when ‘the appearance of the claimed design is ‘dictated by’ the use or purpose of the article.’” (quoting *L.A. Gear, Inc. v. Thom McAn Shoe Co.*, 988 F.2d 1117, 1123 (Fed. Cir. 1993))).

217. *High Point Design LLC v. Buyers Direct, Inc.*, 730 F.3d 1301, 1315-16 (Fed. Cir. 2013) (alterations in original) (quoting *PHG Techs.*, 469 F.3d at 1366). These factors are highly reminiscent of the Federal Circuit’s *Morton-Norwich* factors, which it uses to assess functionality in the trade dress context. See *In re Morton-Norwich Prods., Inc.*, 671 F.2d 1332, 1340-41 (Fed. Cir. 1982) (factors are (1) “the existence of an expired utility patent”; (2) whether the designer “touts the utilitarian advantages through advertising”; (3) the availability of alternative designs; and (4) whether the design results from a “simple or cheap method” of manufacture). Notably, those factors were inspired by the competitive necessity view of functionality the Supreme Court downplayed in *TrafFix*. See *supra* notes 109-110 and accompanying text.

218. *But see Best Lock Corp. v. Ilco Unican Corp.*, 94 F.3d 1563, 1566-57 (Fed. Cir. 1996) (key blade design claimed in design patent was dictated solely by key blade’s function and thus invalid).

aspects with its useful article doctrine.<sup>219</sup> In *Mazer*, the Supreme Court missed an opportunity to address the relationship between copyright and design patents. There, the defendant had argued that copyright protection for the lamp bases should be precluded if it would interfere with the design patent system, which “require[s] the critical examination given patents to protect the public against monopoly.”<sup>220</sup> The Court simply failed to engage this issue in any meaningful way, merely stating that “[t]he dichotomy of protection for the aesthetic is not beauty and utility but art for the copyright and the invention of original and ornamental design for design patents.”<sup>221</sup> What this statement leaves entirely unanswered, of course, is the question that hangs over design patent doctrine to this day: What is “invention” in the context of design? If it is located neither in copyrightable “art” nor in patentable utility, where is it to be found?

In response to the tension between the nonobviousness doctrine’s cumulative conception of progress and the current design patent system’s sole focus on the aesthetic and “ornamental” aspects of design, several commentators have suggested that the nonobviousness requirement should be abolished or significantly weakened.<sup>222</sup> However, design patent law’s coverage of articles that combine ornamental and functional aspects (as long as design, as a whole, is not “dictated by function”) means that a weak design patent nonobviousness standard may undermine utility patent law’s balancing approach to cumulative technological progress. One solution to this problem would be to strengthen design patent law’s functionality requirement, so as to more clearly differentiate design patent law’s subject matter from that of utility patent law. But while we think there are good reasons to prevent design patent law from protecting useful features, it is not clear what a design patent system limited specifically to aesthetic expression would add to the current copyright system.<sup>223</sup>

We suggest that we can get off the design patent treadmill only if we can

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219. 17 U.S.C. § 101 (2011) (“[T]he design of a useful article, as defined in this section, shall be considered a pictorial, graphic, or sculptural work only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.”).

220. *Mazer v. Stein*, 347 U.S. 201, 215 (1954).

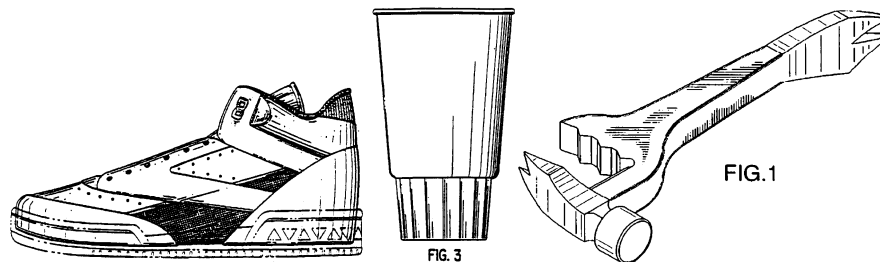
221. *Id.* at 217-18.

222. *See, e.g., Du Mont, supra* note 170, at 535 (“Applying a historical lens, this Article establishes yet another basis for policy makers to free design patents from the unworkable and inappropriate nonobviousness requirement.”).

223. This is not to say that there is anything inevitable about copyright’s current scope. It may well be more sensible, overall, to exclude design of articles of manufacture from copyright and use some other system exclusively for design. We take no position on that question here. We do, however, have real concerns about whether any such other system should be a *patent* system.

reorient the design patent system to a cumulative conception of progress that is appropriate to design. To do so, we will need to solve two related problems. First, we need some meaningful, even if approximate, metric by which to measure aesthetic progress. Without such a metric, we cannot balance the needs of current and follow-on inventors of industrial designs. Nor can we assess the costs of overlapping trade dress or copyright protection. Second, we need to find a way to consider design as an integration of aesthetic and utilitarian aspects of product configuration. Prior attempts to prevent use of the design patent system as a backdoor form of protection for useful product features, from the early attempts to impose separability to the modern ornamentality requirement, have foundered. The attempt to make a sharp distinction between the *useful* features of industrial designs, on the one hand, and their *ornamental* or *aesthetic* features, on the other, is doomed to failure because overall designs (as distinct from surface ornamentation) nearly always are, to a greater or lesser extent, *both* useful and aesthetic.

Compare, for example, the design of athletic shoes at issue in *L.A. Gear, Inc. v. Thom McAn Shoe Co.*,<sup>224</sup> the cup-to-go design in *Berry Sterling Corp. v. Pescor Plastics, Inc.*,<sup>225</sup> and Richardson's design of the "stepclaw" at issue in *Richardson v. Stanley Works, Inc.*,<sup>226</sup> depicted below from left to right:<sup>227</sup>



Each of these designs has features that are functional in the sense that they contribute to the utilitarian performance of the articles. With respect to the shoe design, the "delta wing" provides support for the foot and reinforces the shoelace eyelets; the cup's lower portion allows it to fit into most car cup holders; and the jaw of the "stepclaw" has to be opposite the hammer head so that the tool can be used as a step.<sup>228</sup> But at the same time, this particular delta wing seems clearly to have aesthetic value, and there are many other ways to

224. 988 F.2d 1117 (Fed. Cir. 1993).

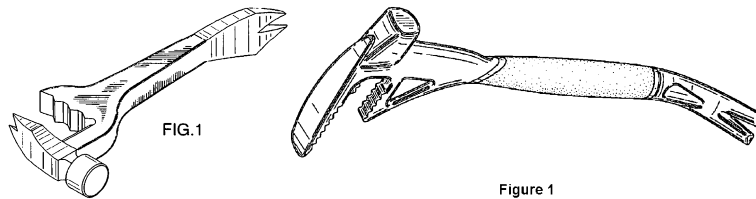
225. 122 F.3d 1452 (Fed Cir. 1997).

226. 597 F.3d 1288 (Fed Cir. 2010).

227. *L.A. Gear*, 988 F.2d at 1121 (left); *Richardson*, 597 F.3d at 1455 fig.3 (center); *Berry Sterling*, 122 F.3d at 1291 fig.1 (right).

228. *L.A. Gear*, 988 F.2d at 1123; *Richardson*, 597 F.3d at 1294; *Berry Sterling*, 122 F.3d at 1455.

support a foot or reinforce the shoelace eyelets. Likewise, cups of a variety of sizes and shapes can fit in car cup holders—indeed the designer in that case had submitted three designs to Coca-Cola, all of which had the same basic bi-level design.<sup>229</sup> Coca-Cola rejected one because it thought it was “too short, too squat, and too kind of square looking” and because it lacked “sex appeal”—all clearly aesthetic aspects of the design.<sup>230</sup> And the defendant in *Richardson* was able to produce its own, very similarly functional tool despite clear aesthetic differences between that tool and Richardson’s claimed design.<sup>231</sup>



Richardson’s “stepclaw” (left); Defendant’s tool (right)<sup>232</sup>

These examples demonstrate why the USPTO’s Manual of Patent Examining Procedures specifically recognizes that “the utility and ornamentality of an article may not be easily separable.”<sup>233</sup> Copyright’s conceptual separability test has encountered difficulties for the same reason.<sup>234</sup>

229. *Berry Sterling*, 122 F.3d at 1453.

230. *Id.*

231. The court in that case filtered out the functional elements and compared the remaining aesthetic elements to the defendant’s tool, concluding that, while the Richardson tool patent was valid, it was not infringed by the defendant’s design. *Richardson*, 597 F.3d at 1296.

232. *Id.* at 1291-92.

233. U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 1502.01 (8th ed. Rev. 9, Aug. 2012), available at <http://www.uspto.gov/web/offices/pac/mpep/s1502.html#d0e150263>.

234. We are not, of course, the first to observe this. Indeed, several decades ago a number of prominent copyright commentators lamented the difficulties associated with trying to distinguish the creative or aesthetic features of industrial design and their useful counterparts. See NIMMER, *supra* note 90, § 2.09[B][3]; Brown, *supra* note 107, at 1395-1404; Robert C. Denicola, *Applied Art and Industrial Design: A Suggested Approach to Copyright in Useful Articles*, 67 MINN. L. REV. 707 (1983); Jerome H. Reichman, *Design Protection After the Copyright Act of 1976: A Comparative View of the Emerging Interim Models*, 31 J. COPYRIGHT SOC’Y 267 (1984). Notably, those of that group who were concerned that the separability analysis not be too rigorous were quite clear their hope for copyright protection was animated by their view of the inadequacy of design patent protection. See NIMMER, *supra* note 90, § 2.08[B][3] (“Unless and until special design legislation is adopted, if the choice is full copyright protection or none at all, it may be that the former alternative is preferable.”); Reichman, *supra*, at 350 (calling the failure to achieve comprehensive short-term protection for the design of useful articles a “mutilation” that left copyright with the separability test and no effective protection for the designs excluded from



The inherent duality of industrial design is also behind the Supreme Court's skepticism about trade dress for product configuration. Design patent law's "dictated by function" test appears to recognize that product designs often link aesthetic and utilitarian aspects inextricably, but its solution to that difficulty is to raise the functionality threshold so high that it permits design patents for product designs that are primarily utilitarian in nature.

One significant thread of modern design theory suggests a possible solution to this dilemma, though one that would require a reorientation of design patent doctrine. Specifically, design patent law might be focused precisely on those design elements that *integrate* the useful and the aesthetic—those that currently bedevil intellectual property law precisely because they defy the binary distinctions the law attempts to draw in each area. To be clear, we are not sure that it is, in fact, appropriate to conceive of progress in integration of form and function in cumulative terms, as we have argued is necessary for a patent system. Nor are we sure that patent-like protection—or protection of any kind, for that matter—is necessary to incentivize investment in better integrated design.<sup>235</sup> But we do argue that integration is the right focus for a design patent system if we are to have one. First, conceiving of design patent protection in terms of integration would better align design patent law with the goals of many designers. Second, if it is possible to assess incremental improvement in integration, then it might be possible to evaluate the obviousness of a design in some coherent way. Third, this conception gives some basis for navigating design patent law's boundaries with other forms of IP protection. Fourth, and finally, identifying a specific purpose for the design patent system would allow us to ask fundamental questions about whether such protection is needed to induce investment, and if so what the scope and duration of the protection ought to be. As we suggested at the outset, it is impossible to ask whether we need a design patent system until we know what such a system would be needed *for*.

The goal of incentivizing designs that effectively integrate form and function appears to be consistent with the way that at least some designers themselves conceptualize their role.<sup>236</sup> Thus, for example, the website of the

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copyright as a result). Even Brown, who was more skeptical of design protection and more inclined to support a competitive baseline of free copying, regarded design patent protection as essentially meaningless. Times obviously have changed. Brown, *supra* note 107, at 1356 (calling design patents "a Cinderella who never goes to the ball").

235. For one thing, designs of articles of manufacture are inextricably part of products that are demanded, at least in part, for their utilitarian function. Producers of those articles will have strong incentive to make their products attractive to consumers so that consumers will demand their products rather than those of their competitors. It is hard to imagine that incentive disappearing if others copy the design—indeed copying may in many cases *increase* the incentive to produce new designs, as it seems to do in fashion. *See generally* KAL RAUSTIALA & CHRISTOPHER SPRIGMAN, *THE KNOCKOFF ECONOMY* (2012).

236. *See* Mueller & Brean, *supra* note 192, at 441-42.

Industrial Designers Society of America describes industrial design as “creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer,” while “[t]he industrial designer’s unique contribution places emphasis on those aspects of the product or system that relate most directly to human characteristics, needs and interests,” applying “specialized understanding of visual tactile, safety and convenience criteria.”<sup>237</sup> While designers are not driven by the kind of quantifiable metrics of improvement that often motivate technological innovation, they do engage in research to determine user preferences and needs, and to understand user experience with existing products. They often look to earlier designs of similar products for inspiration, though the most inspired designs often come from incorporating ideas from far afield.<sup>238</sup> Moreover, like the inventors of more traditional technologies, they are constrained in their designs by the need to accomplish utilitarian ends. Though there may be many possible ways to combine aesthetics with function, there are not an infinite number.

It seems possible, then, though not certain, that industrial design is an arena in which the cumulative progress notion underlying patent doctrine makes sense. If so, it may be possible to build a coherent and socially beneficial design patent system based on a requirement that a patentable design integrate the aesthetic and utilitarian elements of an article of manufacture in a way that would not have been obvious to a designer of ordinary skill in the art. Though there may not be a “definitive test or metric” for evaluating the nonobviousness of a design,<sup>239</sup> definitive tests for nonobviousness are hard to come by even in the utility patent arena. In any event, nonobviousness would make much more sense in a design patent system based on integration of form and function than it does in today’s muddled doctrine. The nonobviousness doctrine in a design patent system reformed along these lines would also be likely to have more bite, since we suspect that a fair amount of industrial design is sufficiently incentivized by the first mover advantages of a competitive market. The obviousness analysis almost certainly would look different from the Federal Circuit’s permissive “primary reference” approach, which seems very far removed from the way in which industrial designers go about devising designs

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237. *Fact Sheet*, INDUS. DESIGNERS SOC’Y OF AM., at 3 (Mar. 15, 2012, 6:53 PM), <http://www.idsa.org/sites/default/files/IDSAFactSheet2013.pdf>.

238. *See* Mueller & Brean, *supra* note 192, at 440. Mueller and Brean take this reliance on far-flung sources as an argument against applying the analogous arts concept from nonobviousness analysis in the utility patent realm. We see much less of a distinction. The analogous arts doctrine rewards those who look to non-analogous sources of prior art in the utility patent arena and it would seem no less appropriate to do so in the design patent arena. The trick, of course, is to define “analogous arts” in a way that reflects the common practice of inventors in the respective arenas.

239. *Id.* at 442.

that will integrate functionality and aesthetics.

A goal of promoting integration of form and function would structure the analysis of functionality and other boundary doctrines. Design patents based on nonobvious advances in integrating form and function could not be used to circumvent the strictures of utility patent law, for example. Certainly design patents would no longer be awarded to designs that merely combined utilitarian features with ornamentation in obvious ways, even if that ornamentation was highly creative and was not “dictated by function.” A design patent law focused on the way in which designers build upon prior designs to produce better experiences for product users also would not cover aesthetic aspects of useful articles that were entirely unintegrated with utilitarian aspects. Like the very first design patent case involving the rhombus-shaped ribbon reel, the doctrine would reject patents on designs in which the relationship between aesthetic and utilitarian aspects was “simply . . . arbitrary.”<sup>240</sup> Features such as surface ornamentation, for which the cumulative progress model of patent law is inapposite, would be left to the copyright system, with all of its warts.

Indeed, conceiving of design patents in terms of integration of form and function not only would give design patent law a clear domain in which it is not purely redundant of some other form of IP, but it might even help bring some coherence to copyright’s separability and trademark’s functionality doctrines. If design patents are intended to promote cumulative progress in integration of form and function, the right to copy unpatented industrial designs would be reinvigorated. Copyright and trade dress protections would be subjugated to the new design patent doctrine’s balance between the needs of current and future designers, just as they currently are subjected to utility patent’s balance. Copyright’s separability doctrine would have to be interpreted quite strictly to avoid copyright intrusion into design patent terrain. Thus, copyright might be available only for industrial designs with completely separable aesthetic features—perhaps surface ornamentation, visual patterns on fabric, etc. The approach to design patents suggested in this Article, if feasible, would reserve such patents for features that, like those claimed in utility patents, are likely to meet the *Inwood* standard for trademark functionality and unlikely to be merely “incidental” or “arbitrary.” Thus trade dress protection would be available only when the product configuration at issue not only indicated source, but also could not be the proper subject matter of either a utility or design patent. The “competitive necessity” approach to aesthetic functionality would apply at most to conceptually separable aesthetic aspects of useful articles. An approach to design patents based upon the integration of form and function would also make sense of and clarify *Wal-Mart*’s distinction between product packaging and product design, since improvements resulting from the interplay between form and function are more likely to arise in the context of product design than

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240. See *Wooster v. Crane*, 30 F. Cas. 612, 612 (C.C.S.D.N.Y. 1865) (No. 18,036).

Fall 2013]      *PROGRESS AND COMPETITION IN DESIGN*      51

in the context of product packaging.<sup>241</sup>

Of course, we may not ultimately be able to base a sensible design patent system on the goal of integrating form and function. It may turn out to be impossible to define integration in a way that courts and the PTO can operationalize. Or the task of determining whether a particular design integrates form and function in a way that would be nonobvious to a designer of ordinary skill in the art may prove to be too difficult or ill-defined. But, in our view, no other coherent justification has been offered for a design *patent* system. If it turns out that there is no workable measure of progress in integration, then our analysis leads us to conclude that there can be no sensible design patent system.

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241. Indeed, it is easy to think of changes in product packaging which have been detrimental to consumer usability, as anyone who has attempted to open a shrink-wrapped CD knows all too well.

