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TRADEMARK AND COPYRIGHT: HOW INTIMATE SHOULD THE CLOSE ASSOCIATION BECOME?

Lee B. Burgunder*

I. INTRODUCTION

Recently the courts have significantly expanded the scope of copyright protection, especially in the computer and high technology realms.1 Similarly, the judiciary has interpreted federal trademark law so as to increasingly protect a wider realm of product characteristics.2 The latter trend has taken on added importance in light of the Trademark Law Revision Act of 1988, which provides this trend with a congressional stamp of approval.3 The obvious concern raised by these movements, as with any instance of property expansion, is whether they may lead to a fundamental conflict between the roles of separate intellectual property systems.

Copyright and trademark, along with patent law, coexist within

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2. See, e.g., Brunswick Corp. v. Spinit Reel Co., 832 F.2d 513 (10th Cir. 1987) (protection extended to cone shaped reel); Hartford House, Ltd. v. Hallmark Cards, Inc., 647 F. Supp. 1533 (D. Colo. 1986) (protection extended to emotionally expressive non-occasion greeting card); W.T. Rogers Co. v. Keene, 778 F.2d 334 (7th Cir. 1985) (protection extended to trays with hexagonal end panels); LeSportsac, Inc. v. K Mart Corp., 754 F.2d 71 (2d Cir. 1985) (protection extended to color coordinated bag made of parachute nylon with hollow rectangular zippers).


Any person who uses in commerce on or in connection with any goods or services, or any container for goods, any word, term, name, symbol, or device or any combination thereof, or who shall engage in any act, trade, practice, or course of conduct, which (A) is likely to cause confusion or to cause mistake or to deceive as to the affiliation, connection, or association of such person with another . . . shall be liable in a civil action . . .

Id. § 28.
a tripartite schema of federal intellectual property protection. Patents are designed to offer creators of useful or ornamental inventions the substantial incentives required to bring those ideas to the marketplace. The purpose of the copyright system is to provide sufficient incentives for artists to share their creations with the public. The federal trademark laws ensure that customers can easily find the products they seek. Each system has a different role to play, but all are intended to increase the creative and distributional efficiency of market participants. Based on this mutual goal, parallels can be drawn between the rules used in the separate systems to accomplish their respective tasks. However, while acknowledging these analogies, care must be taken not to extend the protection offered by one system into that which should be delivered by another.

The purpose of this article is to consider certain analogies which can appropriately be made between the trademark system and the copyright system. To this end, there first will be a discussion of the federal intellectual property concept, and how trademarks and copyrights properly fit within it. Next, the article will address one of the most controversial elements of computer technology copyright protection—the spectrum analysis used to distinguish protectable expressions from unprotectable ideas. Here, parallels with the functionality and genericide doctrines of trademark law will be examined. Finally, the functionality considerations of trademark law will be referred back to concepts introduced by copyright. The article concludes that trademark functionality is subject to a spectrum analysis that is substantially equivalent to that used in defining expressions for copyrights.

II. FEDERAL INTELLECTUAL PROPERTY PROTECTION: AN OVERVIEW

A. Competition and the Right of Product Imitation

The backbone of the United States market economy is competition. The unhindered ability to compete allows one to further his or her self-interest by making improvements on products already placed in the economy. This, in turn, advances the welfare of society as a whole, since the improvements, by definition, better meet the per-

4. See, e.g., Eastern Wine Corp. v. Winslow Warren, Ltd., 137 F.2d 955, 988 (2d Cir.), cert. denied, 320 U.S. 758 (1943) ("[T]here is a basic public policy, deep-rooted in our economy and respected by the courts, resting on the assumption that social welfare is best advanced by free competition . . . ."), Vegetal v. Guntner, 44 N.E. 1077, 1079 (Mass. 1896) ("[F]ree competition is worth more to society than it costs.").
ceived needs of consumers. Thus, assuming that inventors have the proper incentives to disclose their products to the public, free competition based on those products will best serve the economic interests of society. For this reason, it is well established that there exists a fundamental right in this country to compete through imitation of a competitor's product once it has been offered to the public.

Although the economy depends on competitive imitation, mechanisms must be established to ensure that product ideas are publicly disclosed by their creators. Creation requires investment. Yet, without safeguards, any creation may be costlessly imitated by competitors as soon as the novelty is openly displayed. Thus, the creator who has expended time and capital to develop the invention may be unable to recoup such investments because competitive imitators will be able to take a free ride on them. Faced with such a possibility, a prospective inventor might choose to wait for others to create desired products in order to take advantage of their efforts. This may result in an unwillingness to make the investments needed to bring new concepts to the marketplace.

The federal intellectual property laws ensure that inventors have the incentives to publicly disclose their ideas by granting limited exceptions to the fundamental notion of free competition through imitation. The patent, copyright and trademark laws are designed to provide, in an integrated fashion, the incentives required under the respective contextual circumstances to sustain creation and disclosure.

B. The Patent System

One objective of the patent system is to encourage the development and disclosure of useful and functional product ideas. To this end, a creator whose invention meets the prerequisites for utility pat-

5. Such improvements include lowering the costs of production, lowering the price of the product, and increasing the desirability of the product. See, e.g., Burgunder, Trademark Registration of Product Colors: Issues and Answers, 26 SANTA CLARA L. REV. 581, 582-84 (1986).


7. See, e.g., To Promote the Progress . . . Useful Arts, REPORT OF THE PRESIDENT'S COMM'N ON THE PATENT SYSTEM 1-3 (1966) (cited in P. GOLSTEIN, COPYRIGHT, PATENT, TRADEMARK AND RELATED STATE DOCTRINES 19 (1973)); Kahn, The Role of Patents (cited in MILLER, COMPETITION, CARTELS AND THEIR REGULATION 311 (1962)).
ent protection is entitled to a seventeen-year period of exclusivity during which no other person may compete through imitation or use of that functional idea. Another goal of the patent system, to encourage the creation of novel ornamental designs, is achieved through design patents which bestow a similar, although shorter, period of exclusivity. In both situations, the patent holder enjoys monopoly status with respect to the protected invention or design, and is legally entitled to earn monopoly returns during the protected period.

The potential monopoly profits achievable through patent protection are designed to compensate the creator for investments in innovation. However, the rights to such profits must be carefully bestowed since the concept of monopoly is antithetical to the fundamental notion of free competition. Thus, a patent may be obtained only after the inventor undertakes a lengthy and expensive process to establish that the idea is novel and nonobvious. In addition, the period of exclusivity, whether it be seventeen years for a utility patent, or fewer for a design patent, is intended to provide an appropriate level of incentive while minimizing the detrimental impact on the market economy.

Given the care with which patents are granted, it is necessary to ensure that similar rights to exclusivity are not acquired by other routes which are less costly to transverse or which confer protection for longer periods of time. For example, neither the copyright nor the trademark system should allow the creator of a useful or ornamental idea to earn monopoly profits since protection under these systems is easier to obtain and has a longer life.

C. The Copyright System

Artistic creations, just as utilitarian inventions, are subject to free ride problems. Original expression, whether it be composition, sculpture or graphic art, is not spontaneously generated, but rather requires human investment. Therefore, artists need certain assurances that others cannot costlessly copy their works before embarking on their creative endeavors. The copyright laws were drafted to

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9. Id. §§ 171-173.
10. Id. §§ 102-103. The statutory minimum fees for receiving a patent are $800 before the patent issues plus $2,400 to maintain the seventeen-year protection period. Id. § 41. Also, attorneys' fees often total in the tens of thousands of dollars. Note, Defining the Scope of Copyright Protection for Computer Software, 38 STAN. L. REV. 497, 504 (1986).
11. See Goldstein, supra note 7, at 8-19; Note, Does Form Follow Function? The Idea/Expression Dichotomy in Copyright Protection of Computer Software, 35 UCLA L.
encourage investments in creative expression by carving a limited exception to the overriding right of competitive imitation. Specifically, a validly obtained copyright protects an original expression fixed in a tangible medium by preserving to the author the right to copy that expression for his or her life plus fifty years.\footnote{12}

Whereas the process of obtaining a patent is expensive and arduous, a copyright is easily procured. Assuming that the artist’s expression has some small degree of creativity, the artist need only place the proper form of copyright notice on the work to receive protection from imitation.\footnote{13} A copyright is relatively simple to acquire since the potential rewards from it are less than those from a patent. A patent, by restricting an entire conceptual idea to an inventor, legally allows that inventor to corner a competitive market. Thus, monopoly profits may be derived for the patent protection period.

Copyrights, as opposed to patents, do not apply to ideas.\footnote{14} Rather, an author may receive copyright protection only for expressions of ideas. Assuming that an idea may be expressed in numerous desirable ways, the copyright holder may face competitors who use alternative expressions. In addition, a copyright only insulates the author from acts of copying, while a patent extends to similar inventions that are independently created.\footnote{15} Thus, a copyright holder may even face competition from a work identical to his own as long as the competitor developed his work independently. Therefore, the potential rewards provided by copyrights are considerably less than monopoly profits. Instead, they can be likened to the benefits enjoyed by an oligopolist who must compete in the relevant market with sellers of other products which are similar, although not identical to its product in terms of physical and psychological characteristics.

Based on the above considerations, it follows that a copyright should never be held under circumstances that would enable the holder to achieve a long-term monopoly status in the relevant market. If, for instance, an idea can only be expressed in one or in a very

\footnotesize{Rev. 723, 762-65 (1988).
13. Id. § 401.
14. Id. § 102(b) ("In no case does copyright protection for an original work of authorship extend to an idea . . . .").
15. See, e.g., Whelan Assocs. v. Jaslow Dental Laboratories, 797 F.2d 1222, 1227 n.7 (3d Cir. 1986) ("The independent creation of even identical works is therefore not a copyright infringement, and independent creation is a complete defense to a claim of copyright infringement."); Fred Fisher, Inc. v. Dillingham, 298 F. 145, 147 (S.D.N.Y. 1924) ("[T]he law imposes no prohibition upon those who, without copying, independently arrive at the precise combination of words or notes which have been copyrighted.").}
few ways which are preferred by consumers, that expression should not be entitled to copyright protection. Rather, the author should have to comply with the more stringent patent procedures to receive protection. As shall be pursued further in part III of this article, this is the course followed by the courts when interpreting the intellectual property laws.

D. The Trademark System

The trademark system is primarily designed to increase the distributional efficiency of the marketplace and to ensure that manufacturers receive returns on their investments in goodwill. In an environment of perfect imitation, producers investing in services such as quality control may have difficulty retaining customers who desire their products because low-cost imitators can easily duplicate all identifying features on the products, thereby diverting unsuspecting buyers to their inferior alternative offerings. Energetic customers may devise techniques to locate products from the desired manufacturer by engaging in various forms of "search," but these may be expensive and inefficient. Thus, the right to product imitation may lead to two undesirable results: (1) quality conscious producers may suspend investments in goodwill rather than face losses at the hands of free riders, and (2) customers who value products backed by an array of goodwill services must waste resources to find them.

16. See, e.g., Herbert Rosenthal Jewelry Corp. v. Kalpakian, 446 F.2d 738, 742 (9th Cir. 1971) ("When the 'idea' and its 'expression' are thus inseparable, copying the 'expression' will not be barred, since protecting the 'expression' in such circumstances would confer a monopoly of the 'idea' upon the copyright owner free of the conditions and limitations imposed by the patent law.").


18. See S. REP. No. 1333, 79th Cong., 2d Sess. 1 (1946), reprinted in 1946 U.S. CODE CONG. & ADMIN. NEWS 1274, 1275 ("Trade-marks [sic] encourage the maintenance of quality by securing to the producer the benefit of good reputation which excellence creates. To protect trade-marks [sic], therefore, is . . . to secure to the business community the advantages of reputation and good will by preventing their diversion from those who have created them to those who have not.").

19. Id. at 1274 ("Where the owner of a trademark has spent energy, time and money in presenting to the public the product, he is protected in his investment from its misappropriation by pirates and cheats.").

20. See Folsom & Teply, supra note 17, at 1336; Burgunder, Economic Approach, supra note 17, at 392-93; Landes & Posner, supra note 17, at 269.
Protection of certain identifying product characteristics from imitation serves to solve these two problems. Customers who are pleased by products made by a particular manufacturer can locate them simply by seeking the identifying characteristic which belongs exclusively to those goods. Consequently, low-cost imitators who intend to free ride on the desired services will be frustrated because of the identifying feature which they cannot duplicate. Thus, distributional efficiency is served and goodwill investments are protected, while perfect competition in the marketplace remains unscathed.

The federal trademark system, as derived from the Lanham Act, achieves these ends by granting exclusivity to product symbols, characteristics and features by which the goods of the producer may be distinguished from all other similar goods. The system establishes a registration mechanism through which nationwide notice of such exclusive rights is provided. In addition, section 43(a) of the Act has been interpreted to incorporate state unfair competition doctrines, which similarly protect unregistered features from those who knowingly use confusingly similar characteristics on their goods. As mentioned previously, the Act has recently been amended to explicitly extend federal protection in this regard.

Although the trademark system, like the patent and copyright systems, is intended to curtail free ride problems, there is an essential difference regarding trademark protection which, as shall be developed later, is often overlooked. Both patents and copyrights are designed to provide incentives to develop the protected creation itself. Patents do so by offering potential monopoly profits from the invention, while copyrights allow possible oligopoly returns. Under the trademark system, however, the purpose of protecting identifying features is not to provide manufacturers with the incentive to develop those features. Rather, the incentives properly nurtured through this system are toward investments in goodwill. Indeed, it is now clearly established through economic analysis that it would be inefficient and counterproductive to protect product features when there exists a

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21. See Burgunder, Economic Approach, supra note 17, at 396.
23. Id. §§ 1052, 1127.
24. Id. §§ 1072, 1115.
26. See Trademark Law, supra note 3, and accompanying text.
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possibility that supranormal returns (sometimes called "economic rents") might be garnered solely because of attributes inherent in those features. It follows, then, that it would be inappropriate to rely on the trademark system to induce producers to create especially attractive product features. This does not mean that protected characteristics must be totally devoid of attractive or useful qualities. Rather, they cannot be more desirable than a multitude of other identifying characteristics which potentially could be used by competitors.

The Supreme Court has recognized the danger of allowing the trademark system to protect product features under circumstances that yield economic rents. Since trademark protection may be everlasting, the patent and copyright laws, which have limited time frames of protection, might be circumvented if profitable designs and inventions could be perpetually insulated from competition by the trademark system. Thus, the Court in the companion cases of Sears, Roebuck & Co. v. Stiffel Co. and Compco Corp. v. Day-Brite Lighting Co., forbade protection by state unfair competition laws of product features that served more than identification purposes because such protection would be contrary to the federal intellectual property incentive systems.

Although it can be argued that the federal trademark system is exempt from this preemption-based ruling, this would not make for coherent policy since there is no conceptual difference, outside of federal registration, between the federal trademark system and state unfair competition laws. Therefore, when determining the potential scope of protection offered by the federal trademark system, one must be mindful of the interplay between the three intellectual property systems in terms of the potential for long-term profits. In this regard, a seller should never be entitled to trademark protection of a product design, symbol or feature when such protection would provide a competitive advantage yielding supranormal profits.

27. For a thorough discussion of the concept of economic rents with regard to trademarks, see Landes & Posner, supra note 17, at 281-84.
28. W.T. Rogers Co. v. Keene, 778 F.2d 334, 343 (7th Cir. 1985). See Landes & Posner, supra note 17, at 297-99. Cf. Prufrock, 781 F.2d at 133 ("If an element of the trade dress is unrelated to the consumer demand for the product and serves merely to identify the source of the product, then a prohibition against imitation will not hinder honest competition.").
1. The Trademark Genericism Doctrine

The genericism doctrine provides one example of how the trademark system polices itself. It has been thoroughly documented in the economic literature that trademark protection of generic words, symbols, or designs offers the potential for economic rents. A generic symbol is defined as that name or characteristic which consumers expect all products within the product class to possess. If a seller were entitled to the generic symbol it would enjoy certain marketing advantages. For instance, shoppers who rely on the symbol to identify the relevant class of products for which they are searching may be reluctant to consider competing brands which do not share the symbol. For this reason, the Lanham Act has been interpreted to forbid the registration of generic marks, and to otherwise deny them protection.

A mark that becomes generic, no less than one that was initially generic, offers the same advantages to its bearer. Therefore, the Lanham Act provides for the withdrawal of protection from marks that become generic. This process, coined "genericide," has been made famous by the loss of protection for such notable names as "aspirin," "thermos," "monopoly," and "trampoline." The genericide process is one way in which the federal trademark system continuously ensures that its protections do not provide economic rents.

33. For a thorough economic analyses of generic marks, see Landes & Posner, supra note 17, at 291-96; Burgunder, supra note 5, at 594-99; Burgunder, Economic Approach, supra note 17, at 396-402; Folsom & Teply, supra note 17, at 1334-46.
34. See Burgunder, supra note 5, at 595. See, e.g., Miller Brewing Co. v. G. Heileman Brewing Co., 561 F.2d 75, 79 (7th Cir. 1977); Abercrombie & Fitch Co. v. Hunting World, Inc., 537 F.2d 4, 9 (2d Cir. 1976).
35. See Burgunder, Economic Approach, supra note 17, at 398-401; Burgunder, supra note 5, at 594-99; Folsom & Teply, supra note 17, at 1334-46.
36. Registration under the Lanham Act is denied because only marks which may serve to distinguish the goods of the applicant are subject to such registration. 15 U.S.C. § 1064(c) (1982). By definition, a generic trademark is not capable of this distinguishing function because it represents the entire product class. Likewise, section 43(a), by incorporating unfair competition principles, offers no protection to generic marks.
37. See Landes & Posner, supra note 17, at 293-94; Burgunder, supra note 5, at 600-01.
38. Lanham Act, 15 U.S.C. § 1064(c) (1982) (provides that a petition to cancel a mark may be filed "at any time if the registered mark becomes the common descriptive name of an article or substance"). Similarly, unregistered marks may lose unfair competition protection under section 43(a) if they become generic.
Significantly, it does not matter whether the feature became generic through conscious marketing efforts or through inexplicable shifting demand patterns of consumers. Rather, the focus correctly centers on the actual state of genericism and the possibility of economic rents which it breeds.

2. The Trademark Functionality Doctrine

Besides restricting genericism, trademark law will not protect product characteristics which are functional. As with the genericism doctrine, this policy is designed to ensure that the trademark laws do not enable businesses to garner economic rents. Thus, any product marking or symbol which is functional can only be protected by the patent or copyright systems.

Although not clearly articulated by the courts, functionality is analyzed in three ways. The first form of functionality can be termed “supply functionality.” Supply functionality refers to a product feature which is cheaper to manufacture than a host of others which could be used by competitors in making the product. To allow a company exclusive control of that feature would provide it with an economic advantage, and consequently with the means to earn economic rents. Courts have had no difficulty in classifying instances of supply functionality as being unworthy of trademark protection.

40. Even companies that take careful steps to ensure that their marks do not become generic will lose their exclusive rights to those marks if they become generic in spite of their efforts. See King-Seeley, 321 F.2d at 579 (“Whether the appropriation by the public was due to highly successful educational and advertising campaigns or to lack of diligence in policing or not is of no consequence . . . .”). This is economically appropriate because the market inefficiencies are the same no matter how the genericism was attained. See Posner & Landes, supra note 17, at 291-96; Burgunder, supra note 5, at 601.

41. See, e.g., Stormy Clime, Ltd. v. Progroup, Inc., 809 F.2d 971, 974 (2d Cir. 1987); Brunswick Corp. v. Spinint Reel Co., 832 F.2d 513 (10th Cir. 1987); Sno-Wizard Mfg. v. Eisemann Products Co., 791 F.2d 423 (5th Cir. 1986); In re Owens-Corning Fiberglas Corp., 774 F.2d 1116 (Fed. Cir. 1985); LeSportsac, Inc. v. K Mart Corp., 754 F.2d 71 (2d Cir. 1985); W.T. Rogers Co. v. Keene, 777 F.2d 334 (7th Cir. 1985); Ideal Toy Corp. v. Plawner Toy Mfg., 685 F.2d 78 (3d Cir. 1982); Vuitton et Fils S.A. v. J. Young Enters., 644 F.2d 769 (9th Cir. 1981); Hartford House, Ltd. v. Hallmark Cards, 647 F. Supp. 1533 (D. Colo. 1986).

42. See Landes & Posner, supra note 17, at 297-99; Burgunder, supra note 5, at 605-13.


44. See, e.g., Inwood Laboratories v. Ives Laboratories, 456 U.S. 844, 850-51 n.10 (1982) (“In general terms, a product feature is functional if . . . it affects the cost or quality of the article.”); In re Morton-Norwich Products, Inc., 671 F.2d 1332, 1341 (C.C.P.A. 1982); Schwinn Bicycle Co. v. Murray Ohio Mfg. Co., 339 F. Supp. 973, 980 (M.D. Tenn. 1971), aff’d, 470 F.2d 975 (6th Cir. 1972) (functionality exists because other bicycle rim designs are more complex and more expensive).
The second form of functionality may be called "utility demand functionality." This class of functionality includes product features which customers prefer because they can fulfill their needs better than others available to competitors. Protection of a feature with superior utility would give the trademark holder a competitive advantage solely from its exclusivity. Again, courts have recognized that the benefits from utility demand functionality should properly be achieved through copyright or patent protection.\footnote{45. See, e.g., Inwood Laboratories, 456 U.S. at 850-51 (a functional feature "is essential to the use or purpose of the article"); Sicilia Di R. Bebow & Co. v. Cox, 732 F.2d 417, 429 (5th Cir. 1984) ("To achieve the status of 'functional', a design or feature must be superior or optimal in terms of engineering, economy of manufacture, or accommodation of utilitarian function or performance."); Hartford House, 647 F. Supp. at 1538 ("The only product features which should be classified as functional, therefore, are those utilitarian aspects which are essential to the product's use.".).}

The final class of functionality may be called "aesthetic demand functionality." This refers to product features to which consumers are drawn not because of how they work, but because of how they look. Trademark protection of aesthetically pleasing designs is much more controversial in the courts. Some consider aesthetics to be irrelevant in determining functionality;\footnote{46. See, e.g., Sicilia, 732 F.2d at 429; Keene Corp. v. Paraflex Indus., 653 F.2d 822 (3d Cir. 1981); Hartford House, 647 F. Supp. at 1538.} some prohibit protection of attractive designs under any circumstances;\footnote{47. See, e.g., Prufrock, Ltd. v. Laseter, 781 F.2d 129, 131 (8th Cir. 1986); Int'l Order of Job's Daughters v. Lindeburg & Co., 633 F.2d 912 (9th Cir. 1980).} still others deny protection only if the feature is more attractive than numerous others which competitors might use.\footnote{48. See, e.g., Brunswick Corp. v. Spinit Reel Co., 832 F.2d 513, 519 (10th Cir. 1987); W.T. Rogers Co. v. Keene, 778 F.2d 334 (7th Cir. 1985); LeSportsac, Inc. v. K Mart Corp., 754 F.2d 71, 78 (2d Cir. 1985).} From an economic standpoint, aesthetic demand functionality should be treated no differently than utility demand functionality.\footnote{49. See Burgunder, \textit{supra} note 5, at 609-13; Landes & Posner, \textit{supra} note 17, at 297.} That is, companies should not be permitted exclusive control of design features which consumers find more pleasing than a large number of others available for use by competitors. Otherwise, the inherent properties of the protected feature would enhance the salability of the product relative to others which competitors might use. Such a competitive advantage is only within the province of copyright or patent to offer.

E. \textit{Federal Intellectual Property Protection: Conclusion}

The federal intellectual property laws comprise an integrated tripartite system of protection. The patent laws protect product and
design ideas and entitle holders to potential monopoly profits if stringent requirements are met. Copyrights, by granting protection only to the several ways in which an idea may be suitably expressed, bestow a lower level of profit incentive, somewhat akin to the expectations of oligopolists. At the bottom rung of the incentive ladder is the trademark system, which offers no opportunity to reap economic rents from product designs or characteristics.

Unquestionably, there is a symbiotic relationship between the three components of the federal intellectual property system. In this regard, the article next explores several analogies that can be drawn between the copyright and trademark systems within the tripartite relationship. For instance, the article demonstrates that a derivative of the trademark functionality doctrine is already being used in copyright to determine the appropriate scope of protection in computer technology cases. In conjunction, an argument is made that a form of the genericide doctrine should be borrowed from the trademark system for use in policing copyright laws. In addition, the article suggests that insights may be elicited from the copyright idea-expression spectrum in defining functionality under the trademark system. In making these and other parallels, close attention is given to preserving the ultimate incentive objectives of the separate systems. As shall be seen, courts and even the Congress have sometimes erred in this endeavor.

III. The Applicability of Trademark Doctrines to Copyright: The Computer Technology Cases

Copyright protects original expressions from unauthorized acts of copying. To judge whether one work infringes on another allegedly protected by copyright, a three-step process must be undertaken. First, one must determine if there is an original expression capable of protection. In this regard, the originality barrier is relatively easy to hurdle because it is met merely by showing that there is some spark of creativity. However, deciding whether the artistic elements are expressions of ideas as opposed to the ideas themselves is a much trickier enterprise. This decision is critical, because ideas enter the public domain, and thus are free for all to copy. As shall be seen, the idea-expression spectrum is an integral analytical tool in this determination.

50. See, e.g., Alfred Bell & Co. v. Catalda Fine Arts, Inc., 191 F.2d 99, 103 (2d Cir. 1951) (All that is required in terms of originality “is that the ‘author’ contributed something more than a ‘merely trivial’ variation, something recognizably ‘his own.’”).
Second, once the protectable expressions are deciphered, one must judge whether the allegedly infringing work was developed by copying those expressions. Direct evidence of copying obviously meets this step. However, such direct evidence often is not available. In these situations, copying is established by dissecting out the unprotectable ideas, and then determining whether aspects of the alternative work are substantially similar to the elements of expression. 51 Expert and nonexpert testimony generally is admissible in this evaluation. 52

Third, assuming copying is proven, the court must consider whether the existence of the alternative work will decrease the rewards from the protected work. Given that copyright is designed to provide incentives to the artist, one must evaluate the work in terms of competitive realities. 53 Will consumers purchase the alternative work instead of the protected work? The question as to competitive impact is usually answered by another substantial similarity determination. This inquiry focuses on nonexpert impressions about the overall "look and feel" of the alternative work as compared with that of the copyrighted expressions. 54 In computer technology cases, due to the complicated nature of the subject matter, this third look and feel step is incorporated into the second substantial similarity step. In this way, once the protectable expressions are dissected, their look and feel are compared to the alternative work by experts and nonexperts. 55 If the look and feel are substantially similar, infringement is

51. See, e.g., Digital Communications Assocs. v. Soflikon Distrib. Corp., 659 F. Supp. 449 (N.D. Ga. 1987) ("Because copying is ordinarily impossible to prove by direct evidence, it is usually proven indirectly by evidence of a defendant's access to the copyrighted work and substantial similarity between the plaintiff's and the defendant's work.").

52. See, e.g., Arnstein v. Porter, 154 F.2d 464, 468-69 (2d Cir. 1946); Whelan Assocs. v. Jaslow Dental Laboratories, 797 F.2d 1222, 1232 (3d Cir. 1986).

53. See Sony Corp. of America v. Universal City Studios, 464 U.S. 417, 450 (1984) ("[A] use that has no demonstrable effect upon the potential market for, or the value of, the copyrighted work need not be prohibited in order to protect the author's incentive to create."); Note, Copyright Infringement Actions: The Proper Role of Audience Reactions in Determining Substantial Similarity, 54 S. Cal. L. Rev. 385, 392-94 (1981).

54. See, e.g., Whelan, 797 F.2d at 1232; Cooling Systems & Flexibles, Inc. v. Stuart Radiator, Inc. 777 F.2d 485 (9th Cir. 1985); Sid & Marty Krofft Television Prods. v. McDonald's Corp., 562 F.2d 1157, 1167 (9th Cir. 1977).

55. See Whelan, 797 F.2d at 1233 ("We therefore join the growing number of courts which do not apply the ordinary observer test in copyright cases involving exceptionally difficult materials, like computer programs, but instead adopt a single substantial similarity inquiry according to which lay and expert testimony would be admissible."); Data East USA, Inc. v. Epyx, 862 F.2d 204 (9th Cir. 1988) ("Plaintiff's copyright has been infringed by defendant's game in that defendant's game unlawfully appropriates the total feel and concept of plaintiff's game.").
established.

The complexity of computer copyright cases has led some courts to misapply the look and feel step. Although they take the time to dissect the ideas from the expressions, they then apply the look and feel analysis to the entire work, rather than just to the expressions. However, the whole point of differentiating the ideas is to recognize which elements can be freely used by competitors. Establishing liability in this way, based on similarities which the competitor, by right, is allowed to share, subverts the copyright system. The unfortunate result is that the copyright system may unwittingly prevent others from offering products due to their use of unpatented ideas. Interestingly, as shall be discussed in part IV of this article, some courts have likewise misapplied the functionality doctrine in trademark cases by analyzing the similarity of products in terms of both functional and nonfunctional features. Again, the result may be to allow companies exclusive use of product characteristics which all competitors should be entitled to offer.

A. The Idea-Expression Spectrum: Levels of Abstraction

Since copyright protection extends only to expressions, and in no instance includes ideas, one must distinguish the idea within a work from the expression of that idea in order to determine the reach of copyright. This task is not as easy as one might think at first blush, because for every work there exists a wide spectrum of possible ways to delineate an idea from its expression. Judge Learned Hand described how literary works are subject to this phenomenon as follows:

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. The last may perhaps be no more than the most general statement of what the work is about, and at times consists only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the [author] could prevent the use of his 'ideas,' to which, apart from their expression, his property is never extended.

Judge Hand correctly observed that the idea of any work may

56. See Data East, 862 F.2d 204 (9th Cir. 1988). See also McCulloch v. Albert E. Price, Inc., 823 F.2d 316 (9th Cir. 1987); Aliotti v. R. Dakin & Co., 831 F.2d 898, 901 (9th Cir. 1987) ("similarity of expression exists only when the 'total concept and feel' of the works is substantially similar").

57. Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930)
be formulated along a continuum, ranging in terms of its abstraction, without any logical determinant of the proper abstraction level. For example, consider the script of the movie "E.T." At its least abstract level, the idea of this movie is to tell a story about a cute-in-its-own-way creature from outer space which is found by adorable children who hide the creature from mystified adults, help it communicate with its friends on the spaceship, learn of the creature's impending demise in earth's atmosphere, escape from pursuing scientists by the creature's magic, and tearfully say good-bye in the woods. At this level, the expression only consists of the exact words to tell the tale. More abstractly, the idea is about a creature from outer space which is found by children who help it to return home. Here, the expression encompasses more of the plot sequence, such as the seclusion from parents, the health concerns and the miraculous retreat from the scientists.

Continuing along the spectrum, the idea might be to tell a story about an alien, or even more abstractly, to tell a story. In the latter case, the entire plot, including the concept of an alien, is expression. The issue, of course, is deciding which abstraction is relevant, because the author's degree of protection is profoundly affected by the choice. The more abstract the idea, the more expression that is protectable by copyright.

The levels of abstraction problem is no less real in the computer technology context. Consider a possible spectrum for a word processing program, ranging from a low abstraction level to increasingly higher levels:

A. The idea is to create an efficient word processing program, marketable to a defined set of purchasers, that interacts with the user and manipulates data in a particular fashion, using a particular logic framework, which includes not only a particular structure, sequence and organization, but also particular algorithms and subroutines. The expression is the exact code only.

B. The idea is to create an efficient word processing program, marketable to a defined set of purchasers, that interacts with the user and manipulates data in a particular fashion, using a particular logic framework, which includes the particular structure, sequence and organization. The expression consists of the code.

58. For thorough discussions of copyright in the context of high technology, see Burgunder & Heckman, An Emerging Theory of Computer Software Genericism, 2 HIGH TECH. L.J. 229 (1987); Pinheiro & LaCroix, Protecting the 'Look and Feel' of Computer Software, 1 HIGH TECH. L.J. 411 (1986); Note, supra note 11, at 747; Note, Defining the Scope of Copyright Protection for Computer Software, 38 STAN. L. REV. 197 (1986).
algorithms, and subroutines.

C. The idea is to create an efficient word processing program, marketable to a defined set of purchasers. The structure, sequence and organization of the program, as well as the methods of data manipulation and user interaction, are the expression.

D. The idea is to create an efficient word processing program. In this abstraction, customer appeal is not a component of the idea.

E. The idea is to create an efficient program. Word processing itself is protectable expression.\(^5\)

In the highly competitive world of computer technology, the determination of the appropriate abstraction level can mean the difference between profitability and bankruptcy. Program creators favor abstraction level E, while those that wish to build on previous developments prefer level A. Unfortunately, courts have had to make their selections in the novel and unfamiliar territory of high technology without coherent guidance from the more familiar worlds of art and literature.\(^6\) Therefore, they have sought principles which yield the proper result.

Recent cases in the computer technology arena suggest that courts are opting for a high level of abstraction, thereby abiding by the wishes of developers.\(^6\) Specifically, the trend is to settle on abstraction level D. For instance, the landmark case of *Whelan Associates v. Jaslow Dental Laboratories* held that the idea is the purpose or function of the program while the expression is everything that is not necessary to the function of the program, including structure, sequence and organization.\(^6\) Fortunately, in selecting level D, the courts have not totally neglected the purposes of copyright in the tripartite intellectual property system.

\(^{59}\) Burgunder & Heckman, *supra* note 58, at 237.

\(^{60}\) See, e.g., *Atari, Inc. v. North American Philips Consumer Elec. Corp.*, 672 F.2d 607, 615 (7th Cir., cert. denied, 459 U.S. 880 (1982) ("There is no litmus paper test by which to apply the idea-expression distinction; the determination is necessarily subjective.").

\(^{61}\) See *Frybarger v. IBM*, 812 F.2d 525 (9th Cir. 1987); *Whelan Assocs. v. Jaslow Dental Laboratories*, 797 F.2d 1222 (3d Cir. 1986); *Atari*, 672 F.2d at 615; *Data East USA, Inc. v. Epyx*, 862 F.2d 204 (9th Cir. 1988); *Digital Communications Assocs. v. Softklone Distrib. Corp.*, 659 F. Supp. 449 (N.D. Ga. 1987); *Broderbund Software, Inc. v. Unison World, Inc.*, 68 F. Supp. 1127 (N.D. Cal. 1986)

\(^{62}\) 797 F.2d at 1236.
B. Functionality and Genericism in Copyright

The copyright system was conceived to provide artists with sufficient incentives to create without allowing them to attain monopoly status in the marketplace. The idea-expression dichotomy conceptually achieves this goal because ideas usually can be expressed in several equally suitable ways. However, as the idea becomes more abstract, the range of options for potential competitors decreases. For instance, if level E is selected, the first developer to copyright a word processing program may face no competition from other word processing programs because, in the context of all computer programs, every subsequent word processing program may seem substantially similar to the original. Assuming that word processing is a relevant competitive market, this developer will enjoy monopoly profits. Therefore, there is a point in the levels of abstraction where the creator is compensated to a degree that should only be attained by a patent. In this event, a lower abstraction level is appropriate.

To account for the potential availability of monopoly profits from an abstraction level that is too high, courts have utilized the multiple expressions test as a check. That is, courts will not grant protection at the hypothesized level of abstraction if the idea may be expressed in only one or a few ways. In this manner, courts correctly hope to maintain an oligopolistic return from the copyright without raising the prospect of monopoly profits.

Although the multiple expressions test is doctrinally an appropriate vehicle to restrict excessive returns, it has not been consistently applied by the courts because they do not clearly understand its components. What the multiple expressions test strives to do is to locate those instances where protection of artistic features will put potential competitors at such a disadvantage that they will be unable to meaningfully affect the pricing decisions of the benefited firm. What follows is a demonstration that this inquiry is closely associated with the functionality doctrine used in trademark law. However, unlike

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63. A monopoly can be established only with reference to a defined competitive market. Derivation of this market is a controversial enterprise. The principles employed in antitrust law to define the market should be carried over to the copyright and trademark laws. Thus, the relevant product market should be assessed in terms of cross-elasticity of demand, ease of entry, and similar factors. The geographic market should be established in terms of buyer-seller relationships. See infra note 72.


65. See Whelan, 797 F.2d at 1237 (Factual works have limited copyright coverage because "there are only a limited number of ways to express factual material . . . .")
the doctrine in trademark law, wherein protection inures only if it will result in zero economic rents, here protection should be permitted as long as there are sufficient competitive possibilities to prevent monopoly returns.

Potential competitors may be unreasonably disadvantaged by copyright protection in various ways. First, the expression under consideration may be the most efficient way to express the idea, given the abstraction level. That is, alternative expressions of the idea, if they exist at all, may be more expensive to design. For instance, assume that the idea is to create a sculpture, and one artist is given protection for a rusted three-dimensional form. Other artists may be at a disadvantage if precluded from making rusty forms, because all other forms must be treated to withstand the elements. This in turn might add significantly to the expenses of those artists, thereby reducing their ability to meaningfully compete. Thus, the level of abstraction should be lowered so that the idea is to create a rusted sculpture.

Similarly, in the computer realm, it may be that certain algorithms are indispensable to the achievement of the abstracted objective, or that one program can be developed at a lower cost than most other alternatives. This inquiry directly mirrors the supply functionality doctrine used in the trademark system. The only difference is that in the trademark application there must be more equally efficient means to design the product than are required in copyright to express the idea.

Competitors will also be unfairly disadvantaged by copyright protection of a work if that work best meets the needs of the consuming public. In other words, if those in the relevant competitive market have a marked preference for the protected item because it is somehow more useful to them than feasible alternatives, the copy-

66. See generally Baker v. Seldon, 101 U.S. 99, 107 (1879) (form held to be an idea because there were no other ways to express an accounting idea); Herbert Rosenthal Jewelry Corp. v. Kalpakian, 446 F.2d 738, 742 (9th Cir. 1971) (design of jeweled bee pin held to be an idea because there were no alternative ways to express the idea). In both of these cases, "supply functionality" was present because the idea could be supplied in only one way.

67. See Frybarger v. IBM, 812 F.2d 525 (9th Cir. 1987); Digital Communications Assocs. v. Softklone Distrib. Corp., 659 F. Supp. 449 (N.D. Ga. 1987) ("The defendants have never contended that they could not have arranged the parameters/commands in a wide variety of patterns without hampering the operation of their program."). See also Whelan, 797 F.2d at 1238 (the existence of two other programs on the market proves that the subject program is not essential to the task). It is not clear whether the Whelan court was focusing on "supply functionality" or "utility demand functionality" in this regard. These programs may have suggested that consumers did not find the subject program to be more efficient in operations. See infra notes 70-71 and accompanying text.
right holder will be insulated from the types of competition appropriate for copyright. Such a concept parallels the utility demand functionality doctrine employed in trademark law, and some courts have acknowledged its importance. For instance, in *Whelan Associates v. Jaslow Dental Laboratories*, the court allowed copyright protection, partly because the defendant had not persuasively demonstrated that other potential file structures were less efficient in carrying out the business operations of a dental lab.\(^{68}\) It also noted that two other programs were on the market.\(^{69}\) This may have suggested to the court that these other programs equally met the needs of consumers.

Similarly, in *Plains Cotton Co-op v. Goodpasture Computer Service*, the Fifth Circuit refused protection to a cotton information computer system because it presented cotton information in the manner that the relevant purchasers most desired.\(^{70}\) However, other circuits have refused to consider the relevance of utility demand functionality. For example, the Third Circuit, in *Apple Computer v. Franklin Computer Corp.*, stated that commercial and competitive objectives do not enter into the metaphysical issue of whether particular expressions serve as ideas.\(^{71}\)

Utility demand functionality must be analyzed if courts are going to ensure that the selected abstraction level does not lead to unreasonable profits from copyright protection. In undertaking the inquiry, the courts must first define the relevant competitive market. As with antitrust law, this requires an analysis of the appropriate set of buyers and the proper geographical area.\(^{72}\) Many courts have im-

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68. 797 F.2d at 1243 n.43.
69. Id. at 1238.
70. 807 F.2d 1256, 1263 (5th Cir. 1987). The concept of utility demand functionality also explains why historical accounts are not given copyright protection. See, e.g., Hoehling v. Universal City Studios, Inc., 618 F.2d 972, 974, 979 (2d Cir.), cert. denied, 449 U.S. 841 (1980). Consumers would not find any other account but the truth to meet their needs.
71. 714 F.2d 1240, 1253 (3d Cir. 1983).
72. The methods to determine the relevant competitive product market were summarized by the Supreme Court in *Brown Shoe Co. v. United States*, 370 U.S. 294 (1962):
   The outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it. However, within this broad market, well defined submarkets may exist which, in themselves, constitute product markets for antitrust purposes. The boundaries of such a submarket may be determined by examining such practical indicia as industry or public recognition of the submarket as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors.
Id. at 325. The relevant geographic market "depends upon the geographic structure of sup-
plicitly done this. In *Whelan*, the court focused on dentists, and in *Plains Cotton*, it confined itself to cotton growers and marketers. However, in *Broderbund Software v. Unison World*, a district court found competitive potential in programs customizing greeting cards because there existed an alternative program on the market called Stickybear printer which performed the same functions as the subject program, The Print Shop. Whether these two programs were designed to be marketed to the same audience was not clearly observed by the court. For instance, it may be that one was targeted to children while the other was aimed at adults. Therefore, the copyright system would be better served by a more explicit and rigorous analysis of the relevant markets. Especially when the courts are leaning toward a highly abstract level of protection, they must seriously consider the full implications of protection on competition. This requires the type of attention already used in antitrust cases.

Once the courts have determined the relevant set of buyers and area of competition, they must analyze the ability of alternative expressions to efficiently meet the needs of those purchasers. The number of required alternatives is open to debate, and this article does not address the issue beyond noting that the number is less than that demanded in the trademark system. However, the existence of one or two programs, although probative, should not be dispositive. For instance, it is possible that the other programs were on the market before the introduction of the more efficient one, thereby making their continued viability suspect.

The final area of functionality which must be addressed in computer copyright cases is aesthetic demand functionality. Here, the issue is whether the expression is preferred by the relevant consuming population for reasons other than utility. This aspect is just as important as utility demand functionality because it impacts the ability of alternative expressions to be successfully marketed as competitors. Unfortunately, this concern is sometimes ignored by the courts in computer cases. One striking example is presented by *Digital Communications Associates v. Softklone Distributing Corp.* In this

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73. 797 F.2d 1238 (3d Cir. 1986).
74. 807 F.2d at 1258. See also *Aliotti v. R. Dakin & Co.*, 831 F.2d 898, 902 (9th Cir. 1987) ("Because children are the intended market for the dolls, we must factor the intrinsic inquiry through the perception of children.")
75. 648 F. Supp. 1127, 1132 (N.D. Cal. 1986).
76. *See* *Burgunder & Heckman*, *supra* note 58, at 239.
case, the court noted that one of the prime reasons that the plaintiff's program received such widespread public support was because of its distinctively designed status screen. However, copyright protection was extended because there were several other equally efficient ways to present information on a screen. The court erred in not pursuing further whether those other screens would be marketable. It is possible, for example, that the plaintiff's screen had become so widely accepted as a standard that consumers would not be attracted to alternatives.

Somewhat related to the application of aesthetic demand functionality in copyright cases is the doctrine of genericism. For example, using the Softklone facts, consumers might not be attracted to alternative screen displays because they are not readily aware that the alternatives perform the same functions. Rather than undertaking search costs to learn about the other methods, consumers might opt for the program having the generic features with which they are comfortable. This mirrors the genericism problem of trademarks, and it engenders the same potentially harmful effects. In essence, a generic feature should be treated as an idea which is not protected by copyright.

Some courts, in trademark cases, have made the connection between demand functionality and genericism. For instance, in Prufrock Ltd., Inc. v. Lasater, the district court denied protection to certain restaurant features having clear commercial appeal because "by protecting the trade dress that creates the concept, this court would be protecting the concept itself." Also, in United States Golf Association v. St. Andrews Systems, Data-Max, trade dress protection was not bestowed on a golf handicap formula because that

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78. Id. at 452.
79. Id. at 455.
80. See Burgunder & Heckman, supra note 58, at 244.
81. See Burgunder & Heckman, supra note 58, at 246. That scenes a faire are not afforded copyright protection can be understood in terms of genericism principles. See, e.g., Hoehling v. Universal City Studios, Inc., 618 F.2d 972, 979 (2d Cir.), cert. denied, 449 U.S. 841 (1980). Such scenes are those stock or standard devices that consumers expect in the treatment of a given topic.
82. The connection between genericism and protectability has been noted in copyright cases as well. For instance, courts give more protection to "fanciful" and "imaginative" expressions than to those that are common. See Atari, Inc. v. North American Consumer Elec. Corp., 672 F.2d 607, 617-18 (7th Cir.), cert. denied, 459 U.S. 880 (1982); Data East USA, Inc. v. Epix, 862 F.2d 204, 209 (9th Cir. 1988). This mirrors the spectrum of protection in trademark which ranges from common or generic names, which receive no protection, to descriptive, arbitrary, and then to fanciful and imaginative names which receive the greatest protection. See, e.g., Abercrombie & Fitch Co. v. Hunting World, Inc., 537 F.2d 4, 9-11 (2d Cir. 1976).
83. 781 F.2d 129, 134 (8th Cir. 1986).
formula had become a standard in the industry.\textsuperscript{84} As the court correctly observed, "[t]o allow a monopoly over such a standard would defeat the policy of fostering competition that underlies the functionality doctrine."\textsuperscript{85}

It should be noted that when extending trademark genericism principles to copyright, it makes no difference why the feature is generic or how it became so. Thus, if an expression is the first to be marketed and becomes the industry standard through its sole use by consumers, protection should be lost even though no conscious marketing efforts were made to predispose consumers to the concept. This can be analogized to the application of genericide principles to trademarks which once designated the source of patented goods.\textsuperscript{86} Here, the mark becomes generic because of its association with the only available product in its class. Likewise, companies should lose protection of expressions if their marketing efforts lead consumers to believe that available alternatives are so distinctly different that they are not even in the same class. Such principles simply follow the classic genericide approach.\textsuperscript{87}

In sum, courts may be providing developers with too much protection from the copyright system by working with the wrong abstraction level. At a minimum, courts should move from abstraction level D to abstraction level C. In this way, both efficiency (in the supply and demand sense) and marketability are acknowledged as components of the idea. This will result in the proper application of the multiple expressions test, which will in turn preserve the appropriate level of incentives from the copyright system.

\section*{IV. The Applicability of Copyright Doctrines to Trademark: The Trade Dress Cases}

The most important recent developments in trademark law probably include the expansive protection granted to a product's configuration, or as it is often called, its trade dress, through section 43(a) of the federal trademark statute.\textsuperscript{88} Such protection leads to a

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\item \textsuperscript{84} 749 F.2d 1028, 1034 (3d Cir. 1984).
\item \textsuperscript{85} Id.
\item \textsuperscript{86} See, e.g., Bayer Co. v. United Drug Co., 272 F. 505 (S.D.N.Y. 1921) ("aspirin"); Haughton Elevator Co. v. Seeberger, 85 U.P.Q. (BNA) 80 (Comm. Pat. 1950) ("Escalator").
\item \textsuperscript{87} See, e.g., King-Seeley Thermos Co. v. Aladdin Indus., 321 F.2d 577, 579 (2d Cir. 1963) (The word "thermos," although fanciful when first registered, became generic over time, partly due to marketing efforts by the registrant. Thus, the word, with limited restrictions, became free for all competitors to use.).
\item \textsuperscript{88} 15 U.S.C. § 1125(a) (1982). Section 43(a) also protects services, such as sales tech-
potential disruption of the tripartite federal intellectual property scheme because different product features can be viewed as alternative expressions of the product idea. Thus, without care, the trademark system could offer exclusivity to creations which should only be protected by the copyright or patent systems.

A. Incentives For Creative Product Designs

The trademark system is designed to reduce search costs and reward investments in goodwill.88 Distributional efficiency is furthered when the system achieves these goals without bestowing supranormal profits. On the other hand, when the system allows a company to derive profits from its exclusive rights to the protected feature, the costs to society may outweigh the benefits. Therefore, to ensure that the system achieves its objectives, protection should be granted only when there is no potential for supranormal returns. As previously discussed, the functionality doctrine, as well as genericism principles, were developed in trademark law to obtain this result.

Unfortunately, a very threatening trend appears to be emerging. Several courts have articulated that it is proper for the trademark system not only to improve efficiency, but also to provide incentives toward the creation of attractive product designs. For instance, a Colorado district court held that “one salutary purpose of the Lanham Act . . . is to protect a creative artist's rights in his or her creation and thus provide incentive to be creative.”90 Also, in Brunswick Corp. v. Spinit Reel Co., the Tenth Circuit criticized one version of the aesthetic demand functionality doctrine because “it would be a disincentive to creative design . . . .”91 Similarly, the Ninth Circuit, in Fabrica, Inc. v. El Dorado Corp., announced that “[t]his court . . . has specifically rejected the notion that a design feature is functional by definition if it increases appeal and sales of the product.”92 However, permitting the trademark system to provide incentives to creativity or to increase the relative salability of a product is
tantamount to having it confer supranormal profits. A correct formulation of the role of trademarks with regard to attractive designs is provided in *W.T. Rogers Co. v. Keene*. Judge Posner, writing for the Seventh Circuit, stated that trademarks may protect an attractive product feature as long as there are sufficient equally desirable alternatives such that effective competition will not be impaired. This does not mean that the system is providing an incentive to the creative act. Indeed, the fact that an economic advantage is not obtained precludes the possibility. Rather, it simply means that “it would be unreasonable to deny trademark protection to a manufacturer who had the good fortune to have created a . . . design that became valued by the consuming public for its intrinsic pleasiness,” unless that design were more pleasing than available alternatives.

That courts are allowing the trademark system to provide incentives toward creative product designs may be, in part, a consequence of frustration with copyright law. Given the spectrum of protection provided by the intellectual property systems, copyrights or design patents are the appropriate vehicles for conferring such incentives. However, the patent process may be too costly for these types of product creations. If forced to rely on a patent to protect the creation, the manufacturer might not invest in the creative efforts at all. Thus, the manufacturer must depend on the copyright system if it expects any rewards from creativity. The problem is that copyrights protect designs “that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.” Since product designs are not separable in this way, the statute offers them no protection. Therefore, investments in these product designs might be stifled altogether unless another means, such as the trademark system, is extended to protect them.

Nevertheless, allowing the trademark system to provide incen-

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93. 778 F.2d 334 (7th Cir. 1985).
94. Id. at 340, 346.
95. Id. at 340 (emphasis added).
97. See, e.g., Fabrica, Inc. v. El Dorado Corp., 697 F.2d 890, 893-94 (9th Cir. 1983). For a thorough discussion of the design separability issue in copyright, see Brown, *Design Protection: An Overview*, 34 UCLA L. Rev. 1341, 1344-55 (1987). On the other hand, some courts, in trademark cases, consider product designs to be the equivalent of packaging, thereby implying that the design is somehow separable. See, e.g., Stormy Clime, Ltd. v. Progroup, Inc., 809 F.2d 971, 974 (2d Cir. 1987) (“[T]he design of a product may function as its ‘packaging’, thereby entitling the manufacturer to trade dress protection for the appearance of the product.”); LeSportsac, Inc. v. K Mart Corp., 754 F.2d 71, 75 (2d Cir. 1985); Harlequin Enterprises, Ltd. v. Gulf & Western Corp., 644 F.2d 946, 949 (2d Cir. 1981).
tives toward creative investments should not be tolerated, regardless of the reasons. Such a result skews the tripartite system. A future consequence, based on the precedents set in the product configuration cases, may be that both the trademark and copyright systems will simultaneously be capable of protecting creations under circumstances yielding supranormal profits. However, as between the two, copyright would be the least important form of protection since that offered by the trademark is both longer and stronger. Thus, the copyright system may be eclipsed by trademark.

The courts should not use the trademark system to correct possible deficiencies in copyright law. If, indeed, this is the motivation behind the protection now being permitted, it would be better to return the trademark system to its proper role and put the burden on Congress to revise the copyright statute. Such an amendment would permit companies to obtain copyrights on original product configurations, even when the features are not separable from the utilitarian aspects of the article. This move would not be unprecedented. For instance, Congress already has amended the copyright statute to allow for protection of computer programs, although it is difficult to conceive of how a program is separable from the operation of the machine. Thus, it would be a small step for Congress to make the same extension to product configurations.

B. Functionality: Parallels with Copyright

The goal of the trademark functionality doctrine, when correctly applied with reference to all three of its possible forms, is to ensure that a company's exclusive rights to a product design or fea-

98. Trademark protection may last perpetually, and it guards against both instances of copying and those of independent creation.


100. It is possible that some courts would have moved in this direction even without the copyright bar to protection. For example, some courts offer more protection to product packaging than to product designs. See Fabrica, 697 F.2d at 895; Audio Fidelity, Inc. v. High Fidelity Recordings, 283 F.2d 551 (1960). This cannot be explained under the text's hypothesis since packaging, unlike product designs, theoretically can be protected by copyright. Bills dealing with the protection of product designs have been introduced repeatedly in Congress. See Brown, supra note 97, at 1395. The most recent bill is modeled on copyright protection. See Brown, supra note 97, at 1398.

The doctrine does not allow it to earn supranormal profits. The doctrine is properly incorporated into trademark protection analysis in the following way. First, the functional elements of the trademark should be dissected. These are the components which, based on supply functionality, utility demand functionality and aesthetic demand functionality, would give the manufacturer a comparative advantage over numerous competitors because there are insufficient viable and distinctly different alternatives. As shall be seen, the determination of the functional aspects actually parallels the idea-expression test in copyright law. Next, the defendant’s product should be compared to the plaintiff’s to determine if it is confusingly similar. As with copyright law, this comparison should be carried out while ignoring the dissected functional parts. However, in trademark law as in copyright, the courts mishandle this step.

Suppose a company wants section 43(a) protection from imitation for a pear shaped bag with a zipper on the side. The first task is determining what components of this bag are functional. As with ideas and expressions in copyright, there are several possible ways to conceptually discriminate between the functional “product ideas” and the nonfunctional “expressive” features, ranging from least to most abstract. For example, the pear shaped bag could be analyzed for functionality on any of the following levels:

A. A bag of any shape, including pear shaped, with a zipper in any location, including on the side, is functional. Other elements of this bag must serve the trademark purpose.

B. A bag of any shape, including pear shaped, with a zipper is functional. A zipper positioned on top also is functional. A zipper on the side, but not the existence of a zipper, may serve a trademark purpose because it is not on top.

C. A bag of any shape, including pear shaped, with a zipper is functional. A zipper on the side, but not the existence of a zipper, may serve a trademark purpose. This would have been true even had the zipper been on top.

D. A bag having certain shapes, with a zipper is functional. The pear shaped bag may serve a trademark purpose if it is not one of those certain shapes. A zipper may serve a trademark purpose as in C.

E. A bag with a zipper is functional. The pear shaped bag, but not the existence of the bag, and a zipper on the side, but not

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102. See supra notes 42-50 and accompanying text.
the existence of a zipper, may serve trademark purposes.

F. A bag is functional. Everything besides the existence of the bag may serve a trademark purpose. This includes the existence of a zipper on the bag.

G. A means of portage is functional. Everything, including that the item is a bag and that it has a zipper, may serve a trademark purpose.

As with copyright, there is a division of interests regarding which level is appropriate. The manufacturer of the pear shaped bag is most protected by abstraction level G, while competitors have the most freedom with level A. Moreover, there is no magical way to choose the appropriate level. In a trend similar to that in copyright, courts have been using increasingly more abstract levels, thereby allowing more of the product to receive protection. For instance, only technical marks once received protection from the trademark system, while now various features of the product design, including its shape, components and color may acquire exclusivity.103

As courts increase the level of abstraction, they must ensure that there are sufficient competitors at the selected level so that the protection offered does not entitle manufacturers to supranormal profits. Thus, the analysis is very similar to that used in copyright cases. The only difference is that there should be a wider set of alternative possibilities which are not confusingly similar to each other.

As with copyright, the effect on competition cannot be properly measured without first determining the relevant competitive market. Most courts implicitly perform this step, although with little analytical rigor. For instance, in Hartford House Ltd. v. Hallmark Cards, the court defined the product market, without justification, as the “emotionally expressive non-occasion greeting card market.”104 Likewise, in Stormy Clime Ltd. v. Progroup, Inc., functionality was con-

103. Trademark law once only protected marks which identified the source of the product with a technical symbol. See, e.g., In re Owens-Corning Fiberglas Corp., 774 F.2d 1116, 1119 (Fed. Cir. 1985) ("This provision was a departure from the past, as prior statutes only permitted registration of 'technical' common law trademarks."); Hanover Star Milling Co. v. Metcalf, 240 U.S. 403, 412 (1916) ("The primary and proper function of a trademark is to identify the origin or ownership of the article to which it is affixed."). Now a wide range of product features are protectable, including color, Owens-Corning, 774 F.2d at 1116 ("pink"); shapes, In re Mogen David, 328 F.2d 925 (C.C.P.A. 1964), aff'd, 372 F.2d 539 (C.C.P.A. 1967) ("decanter shaped wine container"); packaging, In re Swift & Co., 223 F.2d 950 (C.C.P.A. 1955) ("polka dot bands on packaging"); and sales techniques, Original Appalachian Artworks, Inc. v. Toy Loft, 684 F.2d 821 (11th Cir. 1982) ("adoption techniques associated with doll").

sidered with respect to the needs of golfers. Similarly, the Second Circuit, in *LeSportsac, Inc. v. K Mart Corp.*, apparently defined the market as all bags, with little discussion of the possibility of smaller relevant submarkets, such as lightweight nylon bags with a Parisian flair.

Once the competitive market is defined, the selected abstraction level can be evaluated with reference to it. For instance, the *Hallmark Cards* court selected a highly abstract level by concluding that the functional elements of greeting cards are paper, verse and ink. The issue is whether protection of the other elements used by the plaintiff would bestow upon it a competitive advantage over other sellers in servicing the emotionally expressive nonoccasion greeting card market, given that the only direct similarity to be permitted in their cards is the use of paper, verse and ink. If certain features are necessary for effective competition in the relevant market, the court should use a less abstract level which includes those items as functional. These, then, would be free for all competitors to use. Interestingly, the district court did not consider any other elements of these cards to be functional, in spite of evidence that greeting card sales result from impulse purchases based on the cards’ content and design.

The Second Circuit carefully performed this analysis in *Stormy Clime*. It first hypothesized a somewhat abstract level by defining functionality as items to keep golfers dry, free to move and comfortable during rain showers. However, it judged that trademark protection of shingles and vents in particular locations on jackets, high-sheen waterproof fabrics and hoods would give the plaintiff an advantage in marketing to golfers. Therefore, the court moved to a less abstract level, including these items as functional. It also questioned whether any shingled rain jacket would not appear confusingly similar, thereby indicating that a less abstract level might be

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105. 809 F.2d 971, 976 (2d Cir. 1987).
106. 754 F.2d 71, 76 (2d Cir. 1985). The court seemed to raise the possibility that the bag defined its own product market ("Are consumers likely to purchase a LeSportsac bag rather than that of a competitor principally because they find LeSportsac’s particular combination of design features aesthetically pleasing . . .?"). *Id.* at 78
109. *Stormy*, 809 F.2d at 976 (The purpose of the product is “to keep golfers dry, free to move, and comfortable during rain showers, all at low cost.”).
110. *Id.* ("The arrangement of the principal features common to both . . . rainjackets—shingles/vents, high sheen waterproof fabric and hood—appear to be dictated by the purpose of providing a low-cost, unencumbering, waterproof jacket for wear while playing golf and other sports.").
required.  

However, this circuit was less cautious in its analysis in LeSportsac, where the court indicated that certain design features of LeSportsac's bag, such as the hollow rectangular zipper pull, cotton carpet tape and use of a repeating logo might be functional.  

Later, however, it claimed that the defendant could have used solid or nonrectangular zippers to differentiate its bag. Why, though, should the defendant do these things if the items are functional, and thus free for it to use? Furthermore, the court failed to strictly consider whether the locations or particular combinations of these elements might be functional. Conceivably the use of hollow zippers is so overpowering that most bags using such zippers, no matter where located or how shaped, would seem confusingly similar. On a positive note, the court did correctly acknowledge the importance of aesthetic demand functionality by instructing the trial court to determine whether consumers prefer the LeSportsac bag primarily because it is aesthetically pleasing. Similarly, the trial court should determine whether the combination of bag features are somehow preferred because they have become generic, thereby making the bag a product class in and of itself. If either of these are the case, as with the other instances just listed, a less abstract level of functionality is appropriate.

C. Substantial Similarity: Parallels with Copyright

Once the proper level of functionality has been identified, it is necessary to consider whether consumers would be confused as to the source of the defendant's product because it has features which are substantially similar to those of the plaintiff's good. This comparison should be undertaken with the functional elements factored out of the analysis. After all, the inquiry into functional features occurs under the theory that they can be freely imitated unless protected by another federal system. However, some courts, after taking the time to judge functionality, test substantial similarity without...

111. Id. at 978 ("In the instant case, the District Court does not appear to have considered whether any feasible shingled rainjacket could be manufactured that would not appear similar in key respects to Stormy Clime's COOL IT rainjacket.").
112. 754 F.2d 71, 76 (2d Cir. 1985).
113. Id. at 77.
114. Id. at 78.
116. See supra notes 41-45 and accompanying text.
ing the functional elements. For instance, in *Hartford House Ltd. v. Hallmark Cards*, the court rejected dissection “as alien to the policies of the Lanham Act.” Rather, it preferred an “aggregate approach to deciding the functionality question,” wherein functional elements can be rearranged so that the overall appearance of the product is different.

If the courts are truly allowing comparison of functional elements, they are engaging in the same error made in copyright cases when ideas are not dissected prior to the substantial similarity determination. However, it may be that the courts simply are not explicitly analyzing functionality with the appropriate detail. It is possible, for instance, that courts employing the “aggregate approach” to functionality have implicitly judged that certain features are functional, but that their locations are not functional. Thus, they may be operating on abstraction level E. This may be appropriate, as long as competitive realities with regard to potential alternate positions of the features are correctly considered. However, the decisionmaker must consider substantial similarity with a full understanding of the limits of functionality for each feature. For instance, in *LeSportsac, Inc. v. K Mart Corp.*, the judge should have clearly provided that his determination of substantial similarity was in no way supported by the existence of hollow rectangular zippers in each bag. Likewise, juries must be instructed regarding how functional features and relationships should be incorporated in their evaluation of similarity. The result will not only be better decisions, but also more consistency in the courts’ approach to customer confusion.

With regard to substantial similarity, one last interesting parallel with copyright has arisen. Courts in trademark cases now are asking whether the defendant’s product design has the same “look” as that of the plaintiff. This obviously mirrors the look and feel language of copyright. The danger here is that the substantial simi-

117. 647 F. Supp. at 1539.
118. *Id.* See also Stormy Clime, Ltd. v. Progroup, Inc., 809 F.2d 971, 977 (2d Cir. 1987) (“In conducting its inquiry, the District Court should assess . . . the feasibility of alternative arrangements of functional features that would not impair the utility of the product.”); *LeSportsac, Inc. v. K Mart Corp.*, 754 F.2d 71, 76 (2d Cir. 1985) (“But by breaking LeSportsac’s trade dress into its individual elements and then attacking certain of those elements as functional, K Mart misconceives the scope of the appropriate inquiry.”); *American Greetings Corp. v. Dan-Dee Imports*, Inc., 619 F. Supp. 1204, 1220 (D.N.J. 1985) (“[D]efendants’ products could and should have been designed to minimize confusion with plaintiff’s products by . . . combining functional elements in a different manner.”).
119. 754 F.2d 71 (2d Cir. 1985).
larity test serves different purposes in its respective contexts. In copyright, substantial similarity is a proxy for potential interference with investment returns; in trademark, it is a factor in deciding the likelihood of confusion. The apparent blurring of the separate doctrines is another indication that the trademark system may be overstepping its proper boundaries and moving into the realm rightfully controlled by copyright.

V. Conclusion

Copyright and trademark each have their respective roles in the federal intellectual property system. Neither is designed to interfere with patent system policies, and each has mechanisms to ensure this result. Although these approaches have evolved into somewhat equivalent investigations regarding functionality, important distinctions must remain. Most critically, a feature is functional within the trademark system if exclusive rights to it would yield any supranormal profit potential, whereas in copyright, functionality occurs when monopoly profits may be realized. The trend advocating that creative incentives should be provided by the trademark system undermines this distinction and jeopardizes the integrity of the copyright system. Therefore, the time has come to fully recognize the growing parallels between the two systems so that appropriate limits can be concretely established.