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## Aesthetic Functionality at a Crossroads: What a Troublesome Doctrine Can Learn from Its Past

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## Aesthetic Functionality at a Crossroads: What a Troublesome Doctrine Can Learn from Its Past

### Cover Page Footnote

Thanks to Professor Paul Heald, Professor Peter Maggs, and Professor Christopher Buccafusco

# AESTHETIC FUNCTIONALITY AT A CROSSROADS: WHAT A TROUBLESOME DOCTRINE CAN LEARN FROM ITS PAST

XIAOREN WANG\*

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## I. INTRODUCTION

With the rise of branding and marketing, firms started using trade dress such as product features or packages to identify themselves. Some firms claim an exclusive trademark right on their trade dress. However, granting a trademark right to some trade dresses might hinder competition. For example, if one firm claims trademark on the heart-shaped candy box, it will prevent others from using the same package to compete in the Valentine's Day sweets market.<sup>1</sup> So U.S. courts developed a doctrine called aesthetic functionality to avoid the competition hindrance consequence. Aesthetic functionality refers to the situation where a trade dress has the aesthetic value and consumers buy the product largely due to that value.<sup>2</sup> Once a court decides a trade dress, such as the heart-shaped box, is aesthetically functional, the trade dress cannot be a trademark owned by any one firm, and every firm can use it in the market. U.S. courts use aesthetic functionality as a legal ground to reject trademark protection of a trade dress when granting such protection would unfairly disadvantage competitors.<sup>3</sup>

However, since the birth of the aesthetic functionality doctrine, commentators and judges have criticized it for two primary reasons. First, the doctrine does not provide a clear test when the competition is hindered. McCarthy insisted that "aesthetic functionality is an inappropriate response to a valid concern."<sup>4</sup> Litman asserted "no tests can properly determine the functionality in the aesthetic sense."<sup>5</sup> Tal contended "It should not be within the purview of a judge to determine when some aesthetic feature is so desirable as to prevent others from entering the marketplace and when it is not."<sup>6</sup> Other commentators have frequently observed that courts applied the doctrine inconsistently,<sup>7</sup> which highlights the lack of guidance provided by the doctrine.

1. RESTATEMENT (FIRST) OF TORTS §742 cmt. a (AM. LAW INST., 1938).

2. *Id.*

3. *Qualitex Co. v. Jacobson Products Co.*, 514 U.S. 159 (1995).

4. J. Thomas McCarthy, *McCarthy on Trademarks and Unfair Competition*, § 7.81 at 256-57 (4th ed. 2010).

5. Jessica Litman, *The Problem of Functional Features: Trade Dress Infringement under Section 43 (a) of the Lanham Act*, 82 COLUM. L. REV. 77, 88 (1982).

6. Noa Tal, *Aesthetic Functionality: Trademark Law's Red Herring Doctrine*, 22 TEX. INTELL. PROP. L.J. 25, 45 (2013).

7. Mark P. McKenna, *(Dys) functionality*, 48 HOUS. L. REV. 823, 824 (2011); Justin Hughes, *Cognitive and Aesthetic Functionality in Trademark Law*, 36 CARDOZO L. REV. 1227, 1229 (2014).

Second, an overbroad application of the doctrine might threaten the protection for trade dress as a source indicator and therefore undermine the legitimate source identification goals of trademark law.<sup>8</sup> For example, if courts use the doctrine to reject trademark protection for T-Mobile's magenta color and other phone service stores can use the same color, then consumers will spend more time trying to identify T-Mobile stores. Tal argued that denying protection to attractive product or service features "will simply force buyers and sellers to invent new methods for proving and displaying authenticity . . . [that will] certainly be more costly."<sup>9</sup>

Despite these criticisms, courts continuously use this doctrine to police competition.<sup>10</sup> A recent case, *In re Florists' Transworld Delivery, Inc* ("*Florists*")<sup>11</sup>, demonstrates this trend. Florists' Transworld Delivery, Inc., claimed trademark rights in their black packaging box, which it used to hold and transport flowers. The Trademark Trial and Appeal Board (TTAB) of United States Patent and Trademark Office (USPTO) refused the registration, claiming the color black was aesthetically functional because "[B]lack communicates elegance or luxury. . . Besides, the evidence reflects that black has significance on somber occasions such as in the context of death."<sup>12</sup> Were black registered and protected as a color trademark, the trademark owner would capture many consumers preferring flowers in black boxes, especially in the funeral context. Moreover, the trademark owner

8. Some courts and scholars also mentioned that overboard aesthetic functionality would disincentivize the creation of designs: "The difficulty with accepting such a broad view of aesthetic functionality. . . is that it provides a disincentive for development of imaginative and attractive design." *Keene Corp. v. Paraflex Industries, Inc.*, 653 F.2d 822, 825 (3d Cir. 1981). However, this argument has been rejected by U.S. Supreme Court in *Qualitex*, 514 U.S. at 1262 ("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.").

9. Tal, *supra* note 6, at 51 (alteration in original).

10. Courts applied the doctrine in many cases from early 20 century to today. See *Flagg Mfg. Co. v. Holway*, 178 Mass. 83, 59 N.E. 667 (1901); *Viavi Co. v. Vimedia Co.*, 245 F. 289, 293 (1917); *Ainsworth v. Gill Glass & Fixture Co.*, 26 F. Supp. 183, 187 (E.D. Pa. 1938); *JC Penney Co. v. HD Lee Mercantile Co.*, 120 F.2d 949, 954 (8th Cir. 1941); *Pagliari v. Wallace China Co.*, 198 F.2d 339 (9th Cir. 1952); *Keene Corp. v. Paraflex Industries, Inc.*, 653 F.2d 822, 825 (3d Cir. 1981); *In re Mogen David Wine Corporation*, 328 F.2d 925,931-933 (C.C.P.A. 1964); *In re DC Comics, Inc.*, 689 F.2d 1042, 1048-1049 (C.C.P.A. 1982); *Ideal Toy Corp. v. Plawner Toy Mfg. Corp.*, 685 F.2d 78, 81 (3d Cir. 1982); *Hartford House, Ltd. v. Hallmark Cards, Inc.*, 846 F.2d 1268 (10th Cir. 1988); *Qualitex Co. v. Jacobson Products Co.*, 514 U.S. 159 (1995); *Sabert Corp. v. Ullman Co.*, 53 U.S.P.Q.2d 1597 (1999); *Johnson & Johnson v. Actavis Group hf*, 87 U.S.P.Q.2d 1125, 2008 WL 228061, 2 (S.D. N.Y. 2008), as corrected, (Feb. 21, 2008); *Christian Louboutin v. Yves Saint Laurent America*, 696 F.3d 206 (2d Cir. 2012).

11. *In re Florists' Transworld Delivery, Inc.* 106 U.S.P.Q.2d (BNA) 1784, 1796-1797 (T.T.A.B. 2013).

12. *Id.*

would be able to raise prices, as other flower service suppliers could not legally sell flowers in black boxes.

The tension between the aesthetic functionality doctrine's usefulness and criticisms of this doctrine follows from the doctrine's historical development. By tracing historical cases, this article answers the following questions: Should courts stick to this doctrine despite the criticisms? What are the doctrine's problems today? Where should the doctrine be headed? This article argues that courts should keep this doctrine because (1) the doctrine's necessity roots in a valid concern of monopoly; and (2) courts have gradually developed three elements (inquiries) to determine whether a trade dress is aesthetically functional: (a) Does the disputed trade dress confer a de-facto aesthetic advantage? (b) Are alternative designs sufficient substitutes for the disputed trade dress? (c) Is the disputed trade dress's attractiveness due to the producer's reputation? These three elements constitute a clear test for courts to apply the doctrine. And the third element reduces the doctrine's threat on trade dress as a source indicator.

Unfortunately, the current judicial treatment of the three elements of the aesthetic functionality test is intuitive and speculative. This article argues all three elements require adequate empirical evidence. In the absence of an expressly empirical approach, the doctrine has stagnated. But this problem is not unsolvable in the future. To improve this doctrine, the article suggests empirical methods to test the three issues.

## II. MONOPOLY CONCERN AND THE FUNCTIONALITY DOCTRINE'S NECESSITY

The doctrine of (aesthetic) functionality was necessary from the inception of trademarks and trademark law. In medieval England, trademark evolved from production mark, which was the monopoly tool of medieval guilds in England. At the time, some judges recognized trademarks to be a form of monopoly. Monopoly concerns existed inherently in early trademark infringement cases. Later, these concerns materialized in the doctrine of (aesthetic) functionality in trade dress protection.

*A. The Early History of Trademark Law – What is a Trademark in Modern Common Law?*

In medieval England, marks called “merchants’ marks” and “production marks” were attached to products.<sup>13</sup> Merchants’ marks were used by merchants to indicate ownership of the physical goods in transit.<sup>14</sup> By these marks, the merchants claimed physical goods shipped at sea.<sup>15</sup>

A production mark, on the other hand, was attached to a product to indicate which craftsman manufactured the product; this was often called a “mark of origin.”<sup>16</sup> If the product was ill-made, the craftsman could be tracked down and punished by his guild.<sup>17</sup> In addition, guilds also used production marks to control the output and to prevent competition from craftsmen outside the guild.<sup>18</sup>

However, neither merchants’ marks nor production marks were true modern trademarks. A modern trademark (1) indicates the source of the goods rather than evidences ownership of the goods;<sup>19</sup> and (2) represents a positive asset (good will or reputation) rather than a potential liability to a controlling guild.<sup>20</sup> Merchants’ marks were not used to show consumers the source/producer but served as ownership evidence of physical goods. Production marks were marks of origin, but goodwill/reputation did not necessarily attach to production marks. They were merely a private means of internal control.

Modern trademarks evolved from production marks.<sup>21</sup> The change began before 17<sup>th</sup> century in England<sup>22</sup>, when national and international markets first developed. Production marks became valuable symbols representing goodwill/reputation.<sup>23</sup> Protecting a trademark as a right against counterfeits became necessary. In a

13. Frank I. Schechter, *THE HISTORICAL FOUNDATIONS OF THE LAW RELATING TO TRADEMARKS* 4-40 (1925).

14. *Id.*

15. *Id.*

16. *Id.*

17. *Id.*

18. *Id.*

19. *Id.* at 20.

20. *Id.* at 38.

21. *Id.* at 128-131.

22. *Id.* at 128-131.

23. *Id.* at 129.

statute<sup>24</sup> aimed at the textile trade, Parliament indicated that a mark was a privilege instead of a mandatory duty, saying “it shall and may be lawful to and for every trader, dealer and weaver of linen manufacture, to weave his name, or fix some known mark in any piece of linen manufacture by him made, if he shall so think fit”,<sup>25</sup> and if someone infringes such a mark, redress should be made to the owner: “[H]e shall forfeit; the sum of one hundred pounds, for the use of the person, whose mark shall be so counterfeited. . .”.<sup>26</sup>

The seeds of modern trademark law were sowed even earlier than the 17<sup>th</sup> century. The first common law action protecting a trademark was *JG v. Samford* in 1584, a case involving an infringement on a clothier’s trademark.<sup>27</sup> The plaintiff clothier had gained an outstanding reputation, and another clothier used the plaintiff’s mark on his ill-made cloth to pretend the cloth was the plaintiff’s. The judge decided that the case was actionable. The case was cited in dictum in *Southern v. How* in 1618, relating to sales of counterfeit jewels.<sup>28</sup> Another two 17<sup>th</sup> century cases related to trademarks were *Waldron v. Hill* in 1659, involving a scythe-maker, who brought an action for the use of his mark, and *W.E. v. R. M.* in 1670 relating to cheese-making.<sup>29</sup>

Since modern trademarks evolved from production marks, some early modern trademarks still had the function of facilitating guilds in order to control production. So judges of that time considered trademarks monopolies. Thus, monopoly concern inherently existed in early trademark cases, as presented in *Darcy v. Allen* in 1602<sup>30</sup> and *Blanchard v. Hill* in 1742.<sup>31</sup> The following section will elaborate on these two cases.

24. The Linen and Hempen Manufacturers (Scotland) Act 1726, 13 George I, c.26.

25. Schechter, *supra* note 13, at 128.

26. *Id.*

27. Lionel Bently, *From Communication to Thing: Historical Aspects of the Conceptualisation of Trademarks as Property*, in *TRADEMARK LAW AND THEORY-A HANDBOOK OF CONTEMPORARY RESEARCH* 3 (Graeme B. Dinwoodie & Mark D. Janis eds., 2008).

28. Keith M. Stolte, *How Early Did Anglo-American Trademark Law Begin? An Answer to Schechter’s Conundrum*, 8 *FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 505 (1997).

29. Bently, *supra* note 27.

30. *Darcy v. Allen* (1603) 77 Eng. Rep. 1260 (K.B.).

31. *Blanchard v. Hill* (1742) 26 Eng. Rep. 692, 2 Atk. 484.

## *B. Monopoly Concern in Early Trademark Law*

### *i. Monopoly Concern and the Tort Approach*

Anti-monopoly sentiment at the dawn of trademark law stemmed from the decline of English guilds, which had emphasized orderly trading and resource control rather than free competition.<sup>32</sup> Additionally, tensions between the Crown and Parliament arose over royal trade privileges, where favored courtiers were given (or purchased) exclusive trading rights.<sup>33</sup> At the time, the term “monopoly” was used not only in the economic sense, but also referred to the royal privileges granted to individuals with certain trade advantages.

For example, the Crown could grant an exclusive right, called a “patent,” to practice a trade which others could not practice.<sup>34</sup> In 1571, Robert Bell questioned royal trade privileges in the House of Commons, stating that “by Licences a few only were enriched, and the multitude impoverished.”<sup>35</sup> As opposition to royal “patents” and other mercantilist practices grew, Elizabeth I and Parliament achieved a compromise where Elizabeth I revoked a few unpopular monopolies and agreed to have other cases subjected to the common law courts.<sup>36</sup>

Anti-monopoly sentiment peaked in the famous Case of Monopolies (*Darcy v. Allen*) in 1602,<sup>37</sup> a test case to void a patent to exclusively import, make, and sell playing cards.<sup>38</sup> According to Coke’s report, the court voided the patent because it was “an abrogation of the right of all subjects to engage in a trade and as a harm to the public in the form of reduced employment and higher prices”.<sup>39</sup> *Darcy v. Allen* looks a bit like a modern anti-trust case and illustrated the growing pro-competition nature of English law. The case influenced a later trademark case, *Blanchard v. Hill*<sup>40</sup>, in 1742, which voided a trademark on the grounds that the charter on which the trademark was based was “a plain monopoly.”<sup>41</sup>

32. Schechter, *supra* note 13, at 4-40.

33. *Id.*

34. Thomas Nachbar, *Monopoly, Mercantilism, and the Politics of Regulation*, 91 Va. L. Rev. 1313, 1327-1333 (2005).

35. *Id.* at 1328.

36. *Id.* at 1329-1333.

37. *Darcy v. Allen* (1603) 77 Eng. Rep. 1260, 11 Co. Rep. 84 b (KB).

38. Nachbar, *supra* note 34, at 1355.

39. *Id.* at 1327.

40. *Blanchard v. Hill* (1742) 26 Eng. Rep. 692, 2 Atk. 484 (Ch).

41. Schechter, *supra* note 13, at 136.

*Blanchard v. Hill* was litigated after *Darcy v. Allen*, and after the Statute [Against] Monopolies was passed in England in 1624. In 1628, Charles I, granted a charter to a Company to produce playing cards and forbade the import of foreign playing cards.<sup>42</sup> “Companies” were similar to guilds, which were given special privileges in trades. The Company used trademarks to manage production. Company members had to submit a 2-shilling duty per gross pack to the king.<sup>43</sup> To facilitate the duty’s collection, each member had to have a mark enrolled in the Company office and attached to each pack’s wrapper.<sup>44</sup>

The system operated for over a century, until 1742 when Christopher Blanchard, a Company member, sought to enforce the mark “THE GREAT MOGUL” against Thomas Hill, who was not a member, but who used the MOGUL mark on his playing cards.<sup>45</sup> Blanchard applied for injunctive relief against Hill before the Court of Chancery.<sup>46</sup>

To Lord Hardwicke, the case was not a pure trademark case but an illegal monopoly case, because the disputed mark was a vehicle to enforce the Company’s exclusive rights in the playing card market. Lord Hardwicke examined the clauses in the company charter upon which the marks were established and asserted that (1) the charter itself was an illegal monopoly<sup>47</sup> and (2) the mark established by this charter was void.<sup>48</sup> He asserted there was no prior case restraining one trader from using another’s mark unless there was fraudulent design.<sup>49</sup> However, he did not think the defendant had a fraudulent intent.<sup>50</sup>

In rejecting Blanchard’s plea, the case exemplifies the anti-monopoly concern by condemning the trading companies’ or guilds’ anti-competitive ends. Moreover, *Blanchard* suggests that – even in the absence of an illegal mercantile cartel – a single trademark owner had

42. Norma Dawson, *English Trade Mark Law in the Eighteenth Century: Blanchard v Hill Revisited-Another ‘Case of Monopolies’*, 24 J. Legal Hist. 111, 122-126 (2003).

43. *Id.*

44. *Id.*

45. *Id.* at 118-122.

46. *Id.*

47. Lord Hardwicke pointed out that “the design of granting this charter was to raise a sum of money for the crown”, and the clause “prohibiting the importation of cards from foreign parts” was illegal and the clause “that confines the making of cards to London and ten miles about it, which is a plain monopoly, and directly against law”. *Blanchard*, 2 Atk. 484, 485, 26 Eng. Rep. 692 (Ch.). Some scholars pointed out Lord Hardwicke was influenced by *Darcy v. Allein*. Schechter, *supra* note 13.

48. *Blanchard v. Hill*, (1742) 2 Atk. 484, 485 (Ch), 26 Eng. Rep. 692.

49. *Blanchard*, 2 Atk. 484, 26 Eng. Rep. 692 (Ch.).

50. *Id.*

no exclusive property right to his mark, but rather merely protection against fraudulent competition. Courts followed this approach, although later guilds gradually faded. Courts no longer worried about the guilds' monopoly power, but rather the trademark owners' power of preventing other firms from competing freely.

From the beginning of trademark law's development, judges hesitated to see trademarks as traditional private property.<sup>51</sup> What they wanted to protect was the fair business order that producer's consumers were not unfairly transferred to others.<sup>52</sup> Trademark imitation was actionable as a fraud tort claim. The plaintiff needed to prove a defendant's intent to indicate that its products were those of the plaintiff. Fraudulent intent was at the heart of the deceit action.<sup>53</sup>

#### ii. The Realistic Need to Protect Trademark Right and the Property Approach

The fraud tort approach had a practical issue: When the fraudulent intent was difficult to prove, or the fraudulent intent did not exist, the claim could not be supported. Some judges shifted to a property approach. They considered the trademark as the plaintiff's property and did not require fraudulent intent. In *Millington v. Fox* in 1838<sup>54</sup>, the defendant's business was outside England and he did not know the plaintiff's marks.<sup>55</sup> The case was decided in the court of equity. Lord Chancellor Cottenham held that the trademark infringement should be enjoined even in the absence of intent to defraud.<sup>56</sup> He stated that:

[H]aving previously come to the conclusion that there was sufficient in the case to shew that *the Plaintiffs had a title to the marks in question*; and they undoubtedly had a right to the assistance of a Court of Equity to enforce that title. At the same time, *the case is very different from the cases of this kind which*

51. Lord Hardwicke distinguished *JG v. Samford*, in which the imitation of a cloth mark was held actionable. He characterized *Samford* as "not the single act of making use of the mark . . . but doing it with fraudulent design, to put off bad cloths by this means, or to draw away customers from the other clothier." Bently, *supra* note 27.

52. Schechter, *supra* note 13; Bently, *supra* note 27.

53. Paula J. Dalley, *The Law of Deceit, 1790-1860: Continuity Amidst Change*, 39 Am. J. Legal Hist. 405 (1995).

54. *Millington v. Fox* (1838) 40 Eng. Rep. 956 3 My. & Cr. 338 (Ch.).

55. The case failed to discuss actual or likelihood of confusion either. See *Millington*, 40 Eng. Rep. 3 My. & Cr. 338.

56. Schechter, *supra* note 13, at 138-139.

*usually occur, where there has been a fraudulent use, by one person, of the trade marks or names used by another trader.*<sup>57</sup>

*Millington* marked a trend that sought to protect trademarks as property without evidence of fraudulent intent. This move toward propertization of trademarks was confirmed in *Edelstein v. Edelstein*, which differentiated the two kinds of cases and asserted that in a court of law the remedy was by action on deceit, but in the court of equity a trademark could be protected without proving fraud on the part of the defendant.<sup>58</sup> These two approaches – the tort approach and the property approach – co-existed at that time.

### iii. The Compromising between the Tort Approach and the Property Approach

Each approach had its weakness. It was difficult to prove fraudulent intent in some cases when applying the tort approach. The property approach would significantly extend the strength and scope of trademark protection, sometimes threatening to stifle free competition. Both approaches evolved to address their weakness.

Judges applying the tort approach became satisfied with an assumed fraud intent evident by the resemblance of two marks.<sup>59</sup> For example, in *Edelstein v. Vick* (1853)<sup>60</sup>, the Vice Chancellor Wood stated that:

I agree with the argument on the part of the Defendant there must be an intention to deceive the public, or this Court will not interfere . . . [however] *It is impossible to look into the minds of the Defendants, or to detect their secret motives. The question rather is whether their acts were such as were likely to mislead the public. It is, I think, enough to say that, considering all the points of resemblance between the sheets and labels of the Plaintiffs and the Defendants in character, colour and otherwise, a jury would be bound to assume that it had not been the result of a fortuitous occurrence of events, but had arisen from design.*<sup>61</sup>

On the other hand, judges who relied on property rhetoric did not treat trademarks as an absolute property. They required proof of actual (or likelihood of) deception or confusion, which was not

57. *Millington*, 40 Eng. Rep. 3 My. & Cr. 338 at 352 (second emphasis added).

58. Bently, *supra* note 27, at 14-15, 21.

59. Not surprisingly, the prevalence of free-trade ideology in late 19th century prompted other judges to push back against the concept of a trademark as an exclusive, private property. Bently, *supra* note 27.

60. *Edelstein v. Vick*, (1853) 68 Eng. Rep. 1194, 11 Hare, 78.

61. *Id.* at 84-85 (second emphasis added) (alteration in original).

required in a tangible property claim. For example, although the court in *Edelsten v. Edelsten*, claimed that it would “act on the principle of protecting property alone, and it is not necessary for injunction to prove fraud in the defendant.”<sup>62</sup> The court was eventually satisfied with the likelihood of deception provided by the resemblance of the two marks.<sup>63</sup> This case suggests that judges cabined the property claim within the right to protect a plaintiff’s trademark against unfair (deceptive) transferring. The property right judges described was not based on the trademark’s exclusive use.

To summarize, early trademark cases were based on fraud tort claims, but later property rhetoric emerged to police cases where deceptive intent either did not exist or was difficult to prove. The fraud tort approach was finally satisfied with the assumed fraud intent, as indicated by the two marks’ resemblance. The property approach eventually relied on deception likelihood provided by two marks’ resemblance, which was not required in a tangible property claim. Both approaches arrived at a place where the misleading similarities between two marks were essential to the case.

#### iv. The Tort (unfair competition) Approach and the Property Approach in US Trademark Law

Trademark law in the United States has a similar history. Increasing trade and business prosperity led to an expanded need for trademark protection, often accompanied by traditional property rhetoric. The property approach and the tort approach also co-existed in early U.S. trademark cases, reflected by technical trademark (defined below) and non-technical trademark (defined below) concepts. In the 19<sup>th</sup> century, courts started to protect technical trademarks as property. Expressing monopoly concerns, they did not extend property-like protection to non-technical marks.

One can understand “technical trademarks” and “non-technical trademarks” through a later case, *Abercrombie*.<sup>64</sup> In *Abercrombie*, the court classified trademarks according to the level of distinctiveness. Fanciful marks refer to those terms invented such as “PEPSI”, “KODAK”, and “EXXON”. Arbitrary marks refer to terms in common language but not describing the quality or characters of the designated

62. *Edelsten v. Edelsten*, (1863) 1 De G J & S 185; 7 LT 768 at 769.

63. *Id.*

64. *Abercrombie & Fitch Co. v. Hunting World, Inc.*, 537 F.2d 4 (2d Cir. 1976).

goods/services (e.g. APPLE for computers). Suggestive marks refer to terms indirectly describing the product quality or features (e.g. “BLUE RAY” on data service). Descriptive marks are marks directly describing the quality or characters (e.g. “SOFT” on wool sweaters). Generic terms are the common name of a product or a service such as “CIGAR” on cigarettes. *Abercrombie* claimed that fanciful, arbitrary, suggestive marks are inherently distinctive and should get trademark protection, while descriptive marks have no inherent distinctiveness and thus receive protection only when they acquire the secondary meaning to identify the sources. Generic terms are not protectable as they do not identify the sources.

In early U.S. trademark cases, “Technical trademarks” were close to fanciful, arbitrary or suggestive marks in *Abercrombie’s* classification.<sup>65</sup> Courts found technical marks inherently distinctive and could immediately identify the sources. Courts treated technical trademarks more like traditional property. Initially, in technical trademark cases, deceptive intent was not required.<sup>66</sup>

“Non-technical marks” were descriptive qualities or attributes, generic words, geographical terms, and personal names.<sup>67</sup> These marks are close to “descriptive marks” and “generic terms” in the *Abercrombie* classification.<sup>68</sup> Courts were reluctant to allow any individual to monopolize nontechnical marks as property,<sup>69</sup> so they asserted such marks could only be protected by unfair competition principles, a tort similar to a deceit action in England.<sup>70</sup>

65. Callmann used the *Abercrombie* classification to explain early US trademark categories. In *Abercrombie*, trademarks were classified into four categories according to distinctiveness: fanciful and arbitrary marks, suggestive marks, descriptive marks and generic terms. Fanciful and arbitrary marks, suggestive marks are protected per se. Descriptive marks are protected only if an acquired distinctiveness are proved. Generic terms are not protectable. *Abercrombie & Fitch Co. v. Hunting World, Inc.*, 537 F.2d 4 (2d Cir. 1976); Rudolf Callmann, Louis Altman & Malla Pollack, *Callmann on Unfair Competition, Trademarks and Monopolies*, § 17A:4 (4th ed. 1981); Daniel M. McClure, *Trademarks and Unfair Competition: A Critical History of Legal Thought*, 69 *Trademark Rep.* 305, 316 (1979).

66. McClure, *supra* note 65, at 317.

67. McClure, *supra* note 65, at 316.

68. *Abercrombie*, 537 F.2d 4 at 13.

69. Some prevalent ideas might influence judges understanding of anti-competitive consequence of trademarks. Francis Upton, in 1860, in *A Treatise on The Law of Trademarks* advised that an exclusive right to anything was a monopoly and would restrict the individual’s freedom of trade. He asserted that the exclusive property in trademarks should be applied with extremist caution. See Kenneth J. Vandeveld, *The New Property of the Nineteenth Century: The Development of the Modern Concept of Property*, 29 *Buff. L. Rev.* 325 (1980).

70. McClure, *supra* note 65, at 318.

This division was claimed in *Apollo v. Perkins* (1913). The judge asserted that “a technical trade-mark is treated as property. . .; but where a technical trade-mark right is not established (a non-technical trademark), and fraud-unfair competition-in the use of the mark must be proved.”<sup>71</sup>

However, such division was blurring even at the beginning, evidenced by the wording of *Apollo v. Perkins*. The judge treated technical trademarks as property but he still considered the violation as “an infringement thereof carries with it the presumption of fraud”<sup>72</sup> On the other side, in non-technical trademark cases, proving an actual fraud intent was not a must. Litigants could justify the fraud intent by “the inevitable consequences”.<sup>73</sup> This blurring reflects that courts really wished to ease the plaintiff’s burden to prove the fraud intent. However, due to the fear of monopoly, they fell well short of establishing a traditional property right in a trademark.

### *C. Monopoly Concern in Trade Dress Protection and the Emergence of Functionality Doctrine*

Concerns about monopoly can be seen most clearly in cases involving “trade dress,” where the plaintiff claimed the shape of its product or style of its packaging as a source indicator. Later, the functionality doctrine emerged in the end of 19th and early 20th century as a serious limitation on the trade dress protection.

#### i. The Concept of Trade Dress

The modern term “trade dress” has been used to mean (1) the appearance of a product’s packaging, (2) the appearance of a product itself, and (3) a business’s entire image, including service or some subset of the total image.<sup>74</sup> In the 19<sup>th</sup> century, it was recognized that trade dress could indicate origin through extensive use and advertisement. Courts recognized a legitimate need to protect trade dress against fraudulent imitation.

71. *Apollo Bros. v. Perkins*, 207 F. 530 (3rd Cir. 1913).

72. *Id.*

73. In *Elgin v. Illinois* (1901), the US Supreme Court clarified this point in dictum: “. . .where an alleged trade mark is not in itself a good trade-mark [non-technical mark]. . .such circumstances must be made out as will show wrongful intent in fact or justify that inference from the inevitable consequences if the act complained of.” *Elgin Nat. Watch Co. v. Illinois Watch Case Co.*, 179 U.S. 665, 674 (1901) (alteration in original).

74. Callmann, Altman & Pollack, *supra* note 65, §19.1.

## ii. The Compromise in Both Fraud Tort Approach and Property Approach

Courts generally treated trade dress as a non-technical trademark. Trade dress protection was based on an unfair competition (fraud tort) approach. In *Dixon v. Guggenheim* (1870), the court found a package was not a technical trademark, but the defendant's stove polish packages were a fraudulent imitation of the plaintiff's based on similarities in the size, shape, and labels.<sup>75</sup>

A few courts described trade dress as property, but the property right was not treated as exclusive. First, courts frequently discussed fraudulent intent to justify an injunction. Second, judges often required a likelihood of consumer confusion before issuing an injunction. In *Cook v. Starkweather* (1872), the court found the plaintiff had acquired a property interest in the barrel's peculiar design.<sup>76</sup> The property right invasion was evident from the trade dresses' similarities, which probably misled consumers.<sup>77</sup>

Eventually, regardless of the unfair competition or "property" labels, courts focused on whether the trade dress similarity would confuse consumers. In unfair competition, fraudulent intention was evidenced by a misleading resemblance, and in property-style cases the invasion of the right was also supported by a misleading resemblance. Both approaches reached a point where the misleading resemblance was essential to the case.

Compared with a pure tort approach, the misleading resemblance standard eased the plaintiff's burden to prove infringement and accordingly strengthened trade dress protection. Compared with a pure property approach, the standard promised to protect trade dress only when the misleading was likely, reducing the monopoly danger. However, the standard did not entirely resolve the monopoly concern. In some situations, protecting the plaintiff's trade dress would cause potential anti-competitive consequences, even the two trade dresses were confusingly similar. This concern was articulated nicely in *Fairbanks v. Jacobus* (1877), where the plaintiff applied for an injunction to restrain the appearance of the defendant's platform scales.<sup>78</sup> The court admitted that the appearances of the two platforms

75. *Dixon Crucible Co. v. Guggenheim*, 2 Brewst. 321 (Pa. 1869).

76. *Cook v. Starkweather*, 13 Abb. Pr. N.S. 392 (1872).

77. *Id.*

78. *Fairbanks v. Jacobus*, 8 F. Cas. 951 (1877).

were almost impossible to distinguish, but the court asserted that if an injunction issued, “. . . all the colors, all the unessential forms, could be monopolized as trade-marks, and exclusive rights would be created, not limited in time.”<sup>79</sup>

### iii. The Emergence of Functionality Doctrine

To avoid monopoly effects while protecting legitimately distinctive trade dresses against deceptive imitation, courts developed the functionality doctrine from two approaches. One line of cases established the doctrine through a tort approach.<sup>80</sup> The courts distinguished between “necessary” and “unnecessary” parts of trade dress. Unnecessary parts were often the ornamental, detailed, minor parts of the product, the imitation of which implied fraudulent intent and amounted to unfair competition. Necessary parts were the basic or mechanical parts of the product, the imitation of which was permissible regardless of the copier’s intent. For example, in *Enterprise Mfg. Co. v. Landers* (1904), the judge found that the defendant not only copied the size and the general shape of the plaintiff’s coffee mill but also imitated its detailed ornamentations.<sup>81</sup> The judge held that such imitation showed an intent to fraud and was actionable.<sup>82</sup>

Other cases analyzed who had the right on a trade dress: the public or the producer.<sup>83</sup> This was essentially a property approach. If the trade dress was the general size, shape, or design, the right to copy belonged to the public; therefore, the defendant had the right to imitate. If the trade dress was peculiar or out of the ordinary, plaintiff might be able to enjoin a confusing imitation. For example, in *Globe-Wernicke Co. v. Fred* (1902), a case involving the alleged passing off of bookcases, the judge found that competitors had the right to make bookcases of any size unless the appearance was peculiar and out of the ordinary. The judge claimed that when the public had the right to copy, the defendant’s motive was irrelevant.<sup>84</sup>

79. *Id.*

80. Robert G. Bone, *Trademark Functionality Reexamined*, 7 J. OF LEGAL ANALYSIS 183 (2015).

81. *Enterprise Mfg. Co. v. Landers*, Frary & Clark, 131 F. 240 (2d Cir. 1904).

82. *Id.*

83. Bone, *supra* note 80.

84. The judge asserted: “the intention (assumed by the resemblance in size, styles and materials) is not material if the defendant has the right to do that which is complained of [e.g. to copy the shape of the goods]. On the other hand, if the thing done is wrongful the lack of intention would not excuse. In either case, the motive is immaterial to any question involved in the present inquiry.” *Globe-Wernicke Co. v. Fred Macey Co.*, 119 F. 696 (6th Cir. 1902) (alteration in original).

The two approaches finally converged on what became known as the modern doctrine of “functionality”. The birth of functionality doctrine was a natural result of the monopoly concern in trade dress protection. However, the evolution of the doctrine, particularly the aesthetic functionality doctrine, was a checkered history accompanied by criticisms. How did the doctrine survive these criticisms and evolve into its current form? The following section will elaborate these questions through reviewing cases spanning over 100 years.

### III. SELF-IMPROVEMENT: THE CHECKERED HISTORY OF AESTHETIC FUNCTIONALITY DOCTRINE

The doctrine faced two weaknesses in its development. First, it was and is practically difficult to know the anticompetitive consequence of protecting a disputed trade dress. This weakness provoked many criticisms on the lack of a clear test mentioned in the introduction. Second, the doctrine might chill trade dress protection, because a trade dress will lose protection once judges decide it is functional. The criticism on the overbroad application of the doctrine targeted this weakness.

Despite these weaknesses, this article argues that courts should keep this doctrine because, through common law decision making, courts gradually identified three elements to help them apply this doctrine. First, courts speculated whether a trade dress would bring a de-facto aesthetic advantage (elaborated in Section IV. A) to the plaintiff. Second, courts inquired after comparable alternative trade dress for the defendant to adopt. These two elements improved the determination of potential anti-competitive consequences. Third, courts asked whether the attraction of the trade dress was solely attributed by the source identified by the trade dress. This element reduced the chilling effect on distinctive trade dress as a source indicator. The evolution of the modern doctrine of functionality came gradually and in several distinct stages. The process indicates that courts have made great progress to compensate for the doctrine’s weaknesses and they should keep and further improve this doctrine in the future.

#### *A. 1877 to the Restatement of the Law of Torts (First) (1938)*

U.S. case law first developed the doctrine of utilitarian functionality, which referred to trade dress with mechanical or useful

attributes that helped the product perform. Courts rejected to protect such trade dress because of the same concern of monopoly. The earliest trademark documents with the word “functional” come from 1877, when the Patent and Trademark Office rejected the registration of “a narrow strip of leaf-tobacco placed as a wrapper around the mouth-piece or end of a cigarette” as a trademark.<sup>85</sup> The Commissioner of Trademarks said that “the mark in question was a functional part of the cigarette, and was consumed with it.”<sup>86</sup> The Commissioner asserted that the trade dress served “a practical and perhaps a very useful purpose. Being composed of tobacco, it is an addition to the material of the cigarette, strengthens the wrapper, is probably more agreeable to the taste than the paper of a cigarette.”<sup>87</sup> The Commissioner further reasoned that if the trade dress right was given to the applicant, the trade would be “seriously embarrassed.”<sup>88</sup>

Shortly thereafter, courts developed the aesthetic functionality concept, which referred to ornamental trade dress that lacked mechanical function but would still hinder competition if trademarked. In *Coats v. Merrick Thread Co.* (1893), the court found it was hard to sell a new six-cord thread without the black and gold colored labels indicating high quality.<sup>89</sup> In *Flagg v. Holway* (1901), the disputed trade dress was the shape of a zither (musical instrument). The court found that where the public preferred a product with a particular shape, the defendant had the right to satisfy that desire.<sup>90</sup> A fuller rationale was provided in *Heide v. Wallace & Co* (1905), where the court explained that “by asserting appropriation for that purpose of an especially attractive size and shape, a manufacturer could obtain for himself alone *the advantage to result from the superior attractiveness* so attained, he might . . .relieve himself from any competition.”<sup>91</sup> In *Viavi v. Vimedia* (1917), the court found that “Neither the use of the same colors, or of the same form of containing vessels, cartons, or labels, alone constitutes unfair competition, especially when these features serve (the) purpose of utility, convenience, or *attraction*.”<sup>92</sup>

85. *In re* Jacob Gordon, Vol.12 no.13, Official Gazette. 518 (1877).

86. *Id.* at 518.

87. *Id.*

88. *Id.*

89. *Coats v. Merrick Thread Co.*, 149 U.S. 562 (1893).

90. *Flagg Mfg. Co. v. Holway*, 178 Mass. 83, 59 N.E. 667 (1901).

91. *Heide v. Wallace Co.*, 135 F. 346, 347 (1905).

92. *Viavi Co. v. Vimedia Co.*, 245 F. 289, 293 (1917) (second emphasis added).

In this period, courts did not develop detailed elements that would help determine whether competition was, in fact, hindered. Courts simply decided whether or not the disputed trade dress was functional, with little detailed reasoning. No standard tests were applied.<sup>93</sup>

Once the trade dress was determined to be functional, it was declared unprotected. Even when trade dress was non-functional, plaintiffs still faced two significant hurdles: (1) the trade dress had to have a secondary meaning<sup>94</sup> and (2) there had to be a likelihood of consumer confusion.<sup>95</sup> Non-functionality, secondary meaning and confusion likelihood become three must-have elements to enjoin a trade dress imitation.

### *B. The Restatement of the Law of Torts (First) 1938 to 1946*

The *Restatement of the Law of Torts (First)* (“Restatement (First)”) was essentially a compilation of tort case law. It also summarized previous cases related to the functionality doctrine. §742 of the *Restatement (First)* explicitly stated that the functionality determination was actually a determination regarding whether the trade dress protection would hinder competition.<sup>96</sup>

93. We can find this trend in many cases. See *Daniel v. Electric Hose & Rubber Co.*, 231 F. 827 (3d Cir. 1916); *MJ Lewis Products Co. v. Lewis*, 57 F.2d 886 (E.D. Pa. 1931); *Coats v. Merrick Thread Co.*, 149 U.S. 562 (1893); *Flagg Mfg. Co. v. Holway*, 59 N.E. 667 (1901), *Heide v. Wallace & Co.*, 135 F. 346 (3d Cir. 1905); *Viavi Co. v. Vimedia*, 245 F. 289 (8th Cir. 1917).

94. The secondary meaning (or the acquired distinctiveness) refers to the trademarks or trade dress’ capacity to identify the producer, which is not inherent but acquired in long-term use. At this stage, all trade dress are treated as not inherently distinctive. But consumers can connect the trade dress with the source after a long-time use. The trade dress could not be protected if the trade dress has no secondary meaning. For example, in *Rathbone v. Champion (1911)*, the plaintiff argued that the defendant had no right to copy the nonfunctional parts. But the judge rejected the plaintiff’s argument by pointing out the lack of the public knowledge and the reputation of the plaintiff’s product, which mean that the feature had no source identifying function. *Rathbone v. Champion Steel Co.*, 189 F. 26 (6th Cir. 1911).

95. The consumer confusion is another requirement in trade dress infringement. If there is no likelihood of confusion, or the defendant could distinguish the sources by labeling, the imitation is allowed. In *Coca-Cola v. Gay-Ola (1912)*, the judge decided that the color of the Coca-Cola beverage was nonfunctional. But for bottled beverage, the judge allowed the defendant to imitate the beverage color if the defendant labeled the bottles prominently to avoid the confusion. However, for the beverage unbottled, on which no label can be attached, the defendant was forbidden to use the color. *Coca-Cola Co. v. Gay-Ola Co.*, 200 F. 720 (6th Cir. 1912).

96. Comment (a) to § 742 stated, “The determination of whether or not such features are functional depends upon the question of fact whether prohibition of imitation by others will deprive the others of something which will substantially hinder them in competition.” *RESTATEMENT (FIRST) OF TORTS* §742 cmt. a (A.M. LAW INST. 1938).

*The Restatement (First)* defined aesthetic functionality in § 742, comment (a): “When goods are bought largely for their aesthetic value, their features may be functional because they definitely contribute to that value and thus aid the performance of an object for which the goods are intended.”<sup>97</sup> For example, a heart-shaped candy box was functional due to the need to use its shape to effectively compete in the Valentine’s Day sweets market; a distinctive printing typeface may also be functional in the aesthetic sense, even though other types of printings were also readable.<sup>98</sup> The definition identified sales contribution (“When goods are *bought largely for* their aesthetic value”) as the proxy of aesthetic functionality.

Following *the Restatement (First)*, courts used the sales contribution as evidence of aesthetic functionality. For example, in *Ainsworth v. Gill (1938)*, Judge Kirkpatrick emphasized that an electric light’s pleasing design contributed to its sales: “The design is what really sells it,”<sup>99</sup> wrote the court, and changes to the design might ruin the product as “a sales proposition.”<sup>100</sup> In *J.C. Penny v. H.D. Lee (1941)*, the disputed trade dress was a four-in-one bib pocket with round corners. The court stated that it might be aesthetically functional if “it will contribute materially to a general sale of the goods.”<sup>101</sup> The judge found that the bib pocket had a clear commercial appeal.

*The Restatement (First)* also noted the overbroad application of aesthetic functionality might chill trade dress protection. It pointed out in Comment (a) of § 742 that if the goods’ marketability was solely caused by the product’s manufacturer’s reputation, as identified by its ornamentation, then the feature was not functional.<sup>102</sup> If consumers bought a product solely because of the producer’s reputation/goodwill

97. *Id.*

98. *Id.*

99. “. . . the defendant could not possibly . . . produce something notably different from the plaintiff without losing something of very substantial value and affecting the performance in the sense that presenting an attractive appearance is part of its performance—as it undoubtedly is.” *Ainsworth v. Gill Glass & Fixture Co.*, 26 F. Supp. 183, 187 (E.D. Pa. 1938).

100. “. . . the defendant or anyone else who wants to make a mechanically good fixture designed on simple, modern lines is practically driven to shallow hemisphere or dish shape, the rather awkward helmet shape, or something else not nearly as satisfactory as the shallow cone. That, in turn, means the plaintiff really gets the monopoly which he is asking under his patent.” *Ainsworth*, 26 F. Supp. at 187.

101. *JC Penny Co. v. HD Lee Mercantile Co.*, 120 F.2d 949, 954 (8th Cir. 1941).

102. “[A] feature which merely associates goods with a particular source may be, like a trade-mark or trade name, a substantial factor in increasing the marketability of the goods. But if that is the entire significance of the feature, it is non-functional; for its value then lies only in the demand for goods associated with a particular source rather than for goods of a particular design.” RESTATEMENT (FIRST) OF TORTS §742 cmt. a (A.M. LAW INST. 1938).

– represented by the trade dress – this source value/advantage is not aesthetically functional. Think of the Jaguar hood ornament: Consumers don't buy the car because of the little ornamental statue, but it may signal a trusted product source, thereby influencing their purchase.

However, the *Restatement (First)* did not explain what to do when a product's marketability was partially caused by its source and partially by its trade dress's attractiveness. In response, some courts speculated as to the motivation of the majority of consumers. In *J.C. Penny v. H.D. Lee (1941)*, the court noted that "part of plaintiff's evidence naturally indicated a demand for the design as an identification of Lee [the plaintiff] overalls, but the testimony of most of the witnesses tended rather to establish a purchaser's interest in obtaining the features of the design. . ." <sup>103</sup> With this evidence, the court decided that the trade dress was aesthetically functional.

Although not mentioned in *Restatement (First)*, the availability of alternative designs was also considered in some cases.<sup>104</sup> This factor was very important in determining aesthetic functionality, because if there were many alternative designs available, then protecting a single design would not hinder competition.

To summarize, the three elements determining whether the trade dress was aesthetically functional emerged gradually during this period. The three elements are (1) whether the trade dress has an aesthetic advantage (at this time, courts use "sales contribution" as the proxy of the aesthetic advantage); (2) whether the alternative trade dresses are equally good; and (3) whether the advantage is caused by the product/service source's reputation.

### *C. Lanham Act (1946) to 1982*

After a long debate, trademark law was finally codified into federal law. The Lanham Act was a victory for trademark owners, as it expanded trademark rights, but it did not address functionality. After 1946, courts continued forge ahead on their own, sometimes expanding and sometimes limiting functionality doctrines.

103. *JC Penney Co.*, 120 F.2d at 954 (alteration in original).

104. *Id.*; *Ainsworth*, 26 F. Supp. at 187.

The aesthetic functionality doctrine peaked with *Pagliario v. Wallace* (1952), which laid out the broadest aesthetic functionality parameters and severely restricted trade dress protections.<sup>105</sup>

*Pagliario* decided whether the defendant could imitate plaintiff's chinaware pattern (see fig. 1). The court stated, "[F]unctional' in this sense might be said to connote other than a trade-mark purpose. If the particular feature is an important ingredient in the commercial success of the product, the interest in free competition permits its imitation in the absence of a patent or copyright."<sup>106</sup> Although the court used a different wording "commercial success", it was consistent with the sales contribution standard in the *Ainsworth* and *J.C. Penny* cases decided before the Lanham Act. The judge found one of chinaware's essential selling features was the upper surface's attractive design. Trademark protection of the design would immunize the plaintiff from one form of imitative competition.



Figure 1. Wallace china green shadowleaf (Photograph from Plantdreaming (2019))

In one sense, the *Pagliario* court went farther than *Ainsworth* and *J.C. Penny* by disavowing the need to consider whether alternative designs existed.<sup>107</sup> This enlarged the aesthetic functionality doctrine's scope and likely overestimated trademark protection's anti-competitive consequences. If many comparable alternative designs existed, competition might not be hindered by the disputed design's protection.

105. *Pagliario v. Wallace China Co.*, 198 F.2d 339 (9th Cir. 1952).

106. *Id.* at 343.

107. *Id.* at 344.

Later cases narrowed the broad functionality scope developed in *Pagliero*<sup>108</sup> in two ways. First, courts began to question commercial success's relevance in a design's functionality. Second, some judges returned to the consideration of alternative designs after *Pagliero*.

For example, the court in *Keene v. Paraflex (1981)* criticized that the commercial success standard in *Pagliero* was problematic because every firm wished to create appealing trade dress.<sup>109</sup> The court tried to associate aesthetic functionality with specific competitive advantages rather than a general description of "commercial success". The court captured that the disputed luminaire's design served to match modern building styles (e.g. crisp clean lines). Although the court claimed that aesthetic functionality must be related to utility, what they actually focused on was context compatibility rather than utility. The court found ornamental features driven by context and environment to be aesthetically functional.<sup>110</sup>

After *Pagliero*, courts also began considering alternative designs again to determine aesthetic functionality. In *Keene*, the court decided the design was functional due to the limited number (12 to 15 in this case) of alternative luminaire designs.<sup>111</sup> In *Application of Mogen David Wine (1964)*, the disputed trade dress was a wine decanter. Judge Rich, in the concurring opinion, rejected the aesthetic functionality claim. He believed competition was not hindered because so many shapes were available.<sup>112</sup>

To summarize, the context compatibility test in *Keene* was one example of courts' efforts to capture specific competitive advantages to verify aesthetic functionality. While the *Pagliero* court said it was not necessary to factor the presence of alternative designs into the aesthetic functionality analysis, later courts considered alternative designs anyway. All these changes reflect the doctrine's self-

108. For cases which narrowed the functionality rule in *Pagliero*, 198 F.2d 339, see *Keene Corp. v. Paraflex Industries, Inc.*, 653 F.2d 822, 825 (3d Cir. 1981); *In re Mogen David Wine Corporation*, 328 F.2d 925,931-933 (C.C.P.A. 1964); *In re DC Comics, Inc.*, 689 F.2d 1042, 1048-1049 (C.C.P.A. 1982); *Ideal Toy Corp. v. Plawner Toy Mfg. Corp.*, 685 F.2d 78, 81 (3d Cir. 1982).

109. *Keene*, 653 F.2d at 825.

110. *Id.* at 826.

111. *Id.* at 827.

112. Judge Rich also asserted in this case: "they [the competitors] might even excel in competition by producing a more attractive design under the stimulus of a prohibition against copying under the principles of unfair competition law". *In re Mogen David Wine*, 328 F.2d at 933 (alteration in original). This assertion implied that Judge Rich thought it was a competition among different designs, instead of a price competition on the same design.

improvement in response to the practical difficulty in diagnosing anticompetitive consequence of protecting trade dress.

#### D. 1982 to 1990

During this period, the landmark case of *In re Morton-Norwich Products, Inc. (1982)*, a case on utilitarian functionality,<sup>113</sup> confirmed that considering the availability of alternative trade dresses was necessary.<sup>114</sup> This move was followed by other courts using this factor to determine aesthetic functionality.<sup>115</sup>

In *In re Morton-Norwich Products, Inc. (1982)*, the disputed trade dress was a plastic spray bottle's shape. Judge Rich asserted that a utilitarian feature was not necessarily legally functional. Judge Rich developed the concepts of de-facto and de-jure function. "De-facto function" referred to usefulness in a lay sense. "De-jure function" meant legally functional and unprotectable because of superiority in function or manufacturing efficiency.<sup>116</sup> In other words, a de-jure functional feature works better than alternative designs. Judge Rich provided four factors to decide de-jure functionality: (1) the existence of a utility patent; (2) advertising that touts the utilitarian advantages; (3) whether the design is simple or inexpensive to manufacture; and (4) the availability of alternative designs.<sup>117</sup> In this case, the judge found the spray bottle was merely de-facto functional, holding that "a molded plastic bottle can have an infinite variety of forms or designs and still function to hold liquid. No one form is necessary or appears to be 'superior.'"<sup>118</sup>

113. *In re Morton-Norwich Products, Inc.*, 671 F.2d 1332 (C.C.P.A. 1982).

114. In another case *Inwood Lab., Inc. v. Ives Lab., Inc. (1982)*, the Supreme Court defined a functional product feature as "essential to the use or purpose of the article or if it affects the cost or quality of the article." *Inwood Lab, Inc. v. Ives Lab. Inc.*, 456 US 844, 850 (1982). This test was consistent with the *Restatement (First)* description of the utility function. *Inwood* test itself did not include the check of the alternatives, but judges citing *Inwood* often checked the alternatives.

115. *Hartford House, Ltd. v. Hallmark Cards, Inc.*, 846 F.2d 1268 (10th Cir. 1988); *Qualitex Co. v. Jacobson Products Co.*, 514 U.S. 159 (1995); *Sabert Corp. v. Ullman Co.*, 53 U.S.P.Q.2d 1597 (1999). This trend might be influenced by changing economic views on trademark law. The Harvard School believed the trademark and trade dress protection enhanced the product differentiation and product differentiation hindered the free competition, while the Chicago School believed the product differentiation would not hinder the competition, and trademark and trade dress protection would encourage the competition instead of hindering it. In later 1980, the Chicago School became prevalent among scholars and accordingly influenced some judges' understanding on the economic consequences of protecting an aesthetic trade dress.

116. *In re Morton-Norwich Products*, 671 F.2d at 1337-1338 (C.C.P.A. 1982).

117. *Id.* at 1340-1342.

118. *Id.* at 1342.

The emphasis on alternative designs in *Morton-Norwich* as a measure of whether competition might be hindered influenced later decisions. Courts began focusing on alternative designs' availability more frequently. In *Hartford v. Hallmark (1988)*, the disputed trade dress was a greeting card's design. The judge asserted that the aesthetic functionality determination should rest on the availability of alternative appealing designs. The judge found many design alternatives are available for greeting cards to denote the "emotional non-occasion genre" and therefore the design was not aesthetically functional.<sup>119</sup>

#### *E. 1990 Restatement (Third) of Unfair Competition*

*The Restatement (Third) of the Law of Unfair Competition*<sup>120</sup> (hereinafter "*Restatement (Third)*") summarized most prior case law related to the aesthetic functionality. First, the aesthetic functionality definition provided by the *Restatement (Third)* still connected sales contribution and commercial success with aesthetic functionality. In comment (c) of §17, functionality was found "when aesthetic considerations *play an important role* in the *purchasing decisions* of prospective consumers, a design feature that substantially contributes to the aesthetic appeal of a product may qualify as 'functional.'"<sup>121</sup>

Second, the *Restatement (Third)* also emphasized that a legal aesthetic functionality finding would be made only when alternative designs were limited (the assumption might be that several aesthetic designs were equally attractive).<sup>122</sup> For example, the *Restatement (Third)* endorsed *Keene*, where the court found the alternative luminaire designs were limited.<sup>123</sup>

119. *Hartford*, 846 F.2d 1268 (10th Cir. 1998).

120. Why is the number "Third"? *The Restatement (Second) of Torts* was published in 1979 and the material relating to trade practices was omitted because these subjects were gradually governed by legislation and divorced from the principles of torts. The American Law Institute started to formulate a Restatement (Third) of the Law of Unfair Competition (hereinafter "*Restatement (Third)*") including the subject of trademarks which were published in 1990. The name is the Restatement (Third) to indicate the third series of revisions of the Restatements, but it is essentially the first *Restatement of Unfair Competition*.

121. RESTATEMENT (THIRD) OF UNFAIR COMPETITION §17 cmt. c (Am. Law Inst. 1995).

122. "Because of the difficulties inherent in evaluating the aesthetic superiority of a particular design, a finding of aesthetic functionality ordinarily will be made only when objective evidence indicates a lack of adequate alternative designs. Such evidence typically is available only when the range of alternative designs is limited either by the nature of the design feature or by the basis of its aesthetic appeal." *Id.*

123. *Id.* (see illustrations).

However, the *Restatement (Third)* did not give a clear guide in cases where commercial success might be partially attributable to the feature's attractiveness and partially attributable to the source's reputation. In §17, the *Restatement (Third)* emphasized that the functionality should be ". . . apart from any benefits attributable to the design's significance as an indication of source."<sup>124</sup> Comment (b) of §17 further elaborated, "If the benefit afforded by the design resides **solely** in its association with a particular source, however, the design is not functional."<sup>125</sup> In mixed motive situations, the *Restatement (Third)* did not guide the courts in determining whether or not the feature was aesthetically functional.<sup>126</sup>

#### F. Post-1990: *Qualitex*, *Traffix* and other leading cases

In *Qualitex* (1995), the US Supreme Court defined that a product was functional "if exclusive use of the feature would put competitors at a significant non-reputation-related disadvantage."<sup>127</sup> This definition integrated the three elements applied in previous cases. First, "put competitors at a significant. . . disadvantage" implied that the disputed feature itself must have an aesthetic advantage. Judge Breyer pointed out that the disputed feature, the green-gold color of the laundry press pad, can hide stains.<sup>128</sup> This was the color's de-facto aesthetic

124. RESTATEMENT (THIRD) OF UNFAIR COMPETITION §17.

125. RESTATEMENT (THIRD) OF UNFAIR COMPETITION §17 cmt. b.

126. The Reporters' Note on comment b. of §17 listed the cases of *Warner v. Gay* (1983), *Vuitton v. J. Young* (1981) and *Boston v. Dallas* (1975) to support that when the commercial success was caused by the reputation, the feature is not functional. But comment b. also mentioned another series of contrary cases, such as *Job's daughter* (1980), *Plasticolor v. Ford Motor* (1991), etc. In these cases, the advantages might be also attributed to the source. However, the features were considered aesthetically functional. The Reporters' Note did not provide a clear instruction which side was to be followed. §17 cmt. b. *Warner Bros., Inc. v. Gay Toys, Inc.*, 724 F.2d 327 (2d. Cir. 1983); *Vuitton et Fils S.A. v. J. Young Entels.*, 644 F.2d 769 (9th Cir.1981); *Boston Prof'l Hockey Ass'n v. Dallas Cap & Emblem Mfg., Inc.*, 510 F.2d 1004 (5th Cir. 1975); *International Order of Job's Daughters v. Lindeburg & Co.*, 633 F.2d 912 (9th Cir. 1980); *Plasticolor Molded Products, Inc. v. Ford Motor Company*, 767 F. Supp. 1036 (C.D. Cal. 1991).

127. The *Restatement (Third)* tried to distinguish the two series of cases. It stated that *Vuitton v. J. Young* (1981) and *Boston v. Dallas* (1975) were related to the eligibility of the design for protection as trademark, while *Job's daughter* (1980), *Plasticolor v. Ford Motor* (1991), etc were related to "the scope of permissible use of a trademark by another" after the trade dress were considered a valid trademark. This distinction was arguably incoherent because the two series of cases were not different at this point, and all the functionality determinations were the defense after the validity of a trademark. See generally Paul J. Heald, *Filling Two Gaps in the Restatement (Third) of Unfair Competition: Mixed-Use Trademarks and the Problem with Vanna*, 47 SCL Rev. 783 (1995) (arguing that the *Restatement (Third)* of Unfair Competition did not provide clear instruction on trade dresses with both reputation and aesthetic attractiveness).

128. *Id.* at 164.

129. *Id.* at 168.

advantage. However, second, only having the aesthetic advantage did not necessarily put competitors at a disadvantage, unless alternative features cannot substitute the disputed feature. Judge Breyer analyzed that many colors can work equally well in hiding stains.<sup>129</sup> So trademarking the disputed color would not impose disadvantages on competitors. Third, this definition explicitly claimed the disadvantage should be “a significant non-reputation-related disadvantage.”<sup>130</sup>

After *Qualitex*, many judges considered all three elements when determining aesthetic functionality. Another case illustrating aesthetic functionality’s modern treatment is *Publications International, Ltd. v. Landoll (1998)*, where the disputed feature was the gold color of pages’ gilded edges.<sup>131</sup> Judge Posner decided the gold color was aesthetically functional, since gold is used to convey luxury or opulence. While there were other color options, Judge Posner asserted that monopolizing a basic design element “impoverishes others’ palettes.”<sup>132</sup> This meant the alternative colors were limited. Judge Posner also asserted that the competitive advantage could not be attributed to the source. He concluded, “a seller should not be allowed to obtain in the name of trade dress a monopoly over the elements of a product’s appearance that have value to consumers that is **independent of identification.**”<sup>133</sup>

In *Sabert v. Ullman (1999)*, the disputed trade dresses were gold and silver colors on disposable serving trays and platters.<sup>134</sup> The court found the disputed colors’ advantage was that they mimicked real silver and gold cutlery, providing the product with a luxurious look.<sup>135</sup> The court found imitating real gold and silver “cannot practically be duplicated by the use of alternative designs.”<sup>136</sup> The court also mentioned that “[i]mitation of a more luxurious product is not an indicator of source, but rather is of functional aesthetic value,”<sup>137</sup> suggesting the advantage was not related to reputation.

To diagnose the anti-competitive consequence, courts have developed three elements to consider: (1) whether the trade dress

130. *Id.* at 168.

131. *Id.* at 164.

132. *Publications Intern., Ltd. v. Landoll, Inc.*, 164 F.3d 337 (7th Cir. 1998).

133. *Id.* at 341-344.

134. *Id.* at 339.

135. *Sabert Corp. v. Ullman Co.*, 53 U.S.P.Q.2d 1597 (1999).

136. *Id.* at 2.

137. *Id.* at 3.

138. *Id.* at 2.

conferred a de-facto aesthetic advantage on the plaintiff; (2) whether alternative designs could duplicate this advantage; (3) the extent to which the advantage was attributable to the source/reputation. The first and second elements improve the doctrine's clearness by specifying when protecting a trade dress might hinder competition. The last element reduces the doctrine's chilling effect on distinctive trade dress as a source indicator. Courts have made significant progress to compensate for the doctrine's weaknesses. Therefore, it is worthwhile for courts to keep and further improve the doctrine even it is still not perfect. Section IV. will discuss the doctrine's existing problems and propose its future direction.

#### IV. THE THREE ISSUES OF AESTHETIC FUNCTIONALITY DOCTRINE ARE EMPIRICAL ISSUES

Recognizing the weaknesses of the doctrine of aesthetic functionality, the courts eventually developed the three elements noted above. Today, while courts consistently apply these elements, the resulting decisions are frequently intuitive and speculative. The aesthetic functionality doctrine is at a crossroads; lack of direct empirical evidence has led to inconsistent, possibly inaccurate, proxies for legal determinations. Developing valid empirical methods for objective evidence in three elements might be the best path forward.

##### *A. The De-facto Advantage of Trade Dress*

Analysis begins by asking a preliminary question about the trade dress: Does it have a special attraction to consumers? We can think of this as the question of "de-facto aesthetic advantage".<sup>138</sup>

Courts have applied different proxies to determine de-facto aesthetic advantage, such as commercial success in *Pagliero (1952)*, context-compatibility aesthetics in *Keene (1981)*, or disadvantage to competitors in *Qualitex (1995)*. When using these proxies, judges or juries try to stand in consumers' shoes and guess whether the disputed trade dress is especially attractive to consumers. Relying on intuition,

139. I create a new term, "de-facto aesthetic function", based on Judge Rich's conception "de-facto (utility) function" in *Morton-Norwich Products (1982)*. De-facto utility function refers to a utility in a lay sense. De-jure utility function refers to a utility in law. To have de-jure utility function, a design must work better than alternative designs. A design with de-facto utility function does not mean it is de-jure utilitarian functional. Likewise, a design with de-facto aesthetic function does not mean it is de-jure aesthetically functional. The de-jure aesthetically functional feature must be more attractive than alternative designs.

judges or juries might mistakenly diagnose the de-facto aesthetics in some cases.

For example, in *Norwich Pharmaceutical Co. v. Sterling Drug Inc. (1959)*, the Second Circuit determined that pink nausea medicine was aesthetically functional because pink was “pleasing” and therefore more acceptable to the customer. But the reasoning is relatively intuitive. The court did not know whether pink’s attractiveness evoked a higher consumer acceptance, and thus whether protecting the pink medicine would have anti-competitive effects. Without empirical studies, we do not know if the judge’s intuition was correct.

In *Louboutin v. YVES (2012)*, the Second Circuit rejected the district court’s decision that a red sole on a woman’s shoe style was aesthetically functional.<sup>139</sup> The judge reversed the trial court’s decision that red is aesthetically functional per se in the fashion industry. Neither the trial judge nor the appellate court cited recent relevant empirical research. For example, Elliot and Niesta found that men rated women as more attractive and sexually desirable when the women were viewed within a red picture border or in red clothing.<sup>140</sup> This study suggests that the protection of the red color on clothes or shoes creates a non-reputation-based advantage for Louboutin.

Therefore, in identifying a de-facto aesthetic advantage, court decisions might be biased when they rely only on the judge’s or the jury’s instincts. Empirical methods and evidence might be helpful in removing the bias.

Taking color trademarks as the example, I suggest three empirical methods to diagnose the de-facto aesthetic advantage: existing industrial reports, data mining and consumer surveys.

Industrial reports on consumer color preference are practically obtainable in some industries. For example, coating companies, such as PPG industrials, Inc. (“PPG”), Axalta Coating Systems Ltd. (“AXALTA”), BASF SE (“BASF”) and DuPont,<sup>141</sup> provide color popularity reports (See Tables 1- 3). The data is based on the number of cars manufactured in each color.<sup>142</sup>

140. *Christian Louboutin v. Yves Saint Laurent America*, 696 F.3d 206 (2d Cir. 2012).

141. Andrew J., Elliot & Daniela Niesta, *Romantic Red: Red Enhances Men’s Attraction to Women*, 95 J. PERS. SOC. PSYCHOL. 1150 (2008).

142. DuPont’s annual color reports on cars after 2013 are not available online, so we do not list DuPont’s data in this article.

143. Matthew Paula, FORBES, *Top 10 Most Popular Car Colors*, Forbes (December 21, 2012), <https://www.forbes.com/sites/matthewdepaula/2012/12/21/top-10-most-popular-car-colors/#4fa87a0e7c80>.

Table 1. Market share of different colored cars in North America (2013-2018)—Axalta

	white	black	grey	silver	red	blue	brown/ beige	yellow/g old	green	other
2018	29%	18%	16%	12%	9%	8%	4%	1%	1%	2%
2017	27%	20%	16%	12%	9%	10%	2%	2%	1%	1%
2016	25%	21%	16%	11%	10%	8%	4%	2%	2%	1%
2015	27%	20%	14%	12%	11%	8%	3%	2%	2%	1%
2014	25%	19%	13%	13%	12%	7%	5%	2%	2%	2%
2013	26%	20%	13%	14%	9%	7%	5%	2%	2%	2%

Source: Data from Axalta (2013-2018)

Table 2. Market share of different colored cars in North America (2013-2018)—PPG

	white	black	grey	silver	red	blue	natural	brown	green	orange
2018	26%	19%	18%	13%	11%	9%	3%	N/A	1%	N/A
2017	25%	21%	17%	13%	10%	10%	N/A	N/A	N/A	N/A
2016	25%	19%	12%	19%	10%	10%	4%	N/A	1%	N/A
2015	23%	19%	17%	15%	10%	8%	6%	N/A	2%	N/A
2014	23%	18%	16%	15%	10%	9%	7%	N/A	2%	N/A
2013	21%	19%	17%	15%	11%	9%	6%	N/A	2%	N/A
2012	21%	19%	16%	16%	10%	8%	4%	2%	3%	1%
2011	20%	18%	15%	19%	9%	9%	gold/beige 4%	2%	2%	1%

Source: Data from PPG (2012-2018)

Table 3. Market share of different colored cars in North America (2017-2018)—BASF

	white	black	grey	silver	red	blue	brown	green	orange	gold
2018	28%	19%	17%	13%	12%	9%	2%	N/A	N/A	N/A
2017	28%	20%	15%	12%	11%	9%	2%	1%	1%	1%

Source: Data from BASF (2017-2018)

These reports have been extremely consistent regarding color trends for several years. Litigants might search for these kinds of industrial reports online to diagnose whether a color might have the de-facto aesthetic functionality.

However, many industries do not have color popularity reports. This article suggests mining the data on shopping websites to diagnose the de-facto aesthetic advantage. Online shopping has become a

substantial part of the retailing business. Data mining on shopping websites can provide market data for many products.

Litigants might mine data on the Amazon shopping website, which is the largest online retailing platform in the U.S.<sup>143</sup> The Amazon website provides search filters such as brand, price, and color (see Fig 2). Litigants can use the color filter to obtain the number of sellers who are selling each colored product on Amazon.

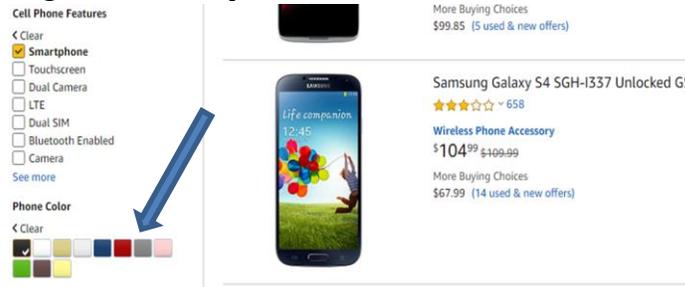


Figure 2. Amazon search webpage (www.amazon.com)

For example, litigants might select the product category “cell phones”. Next, they choose different color filters to obtain the number of sellers selling each colored smartphones on Amazon. Table 4 shows the results. Based on this data, Litigants/judges can get the approximate market share of each color (See Table 4).

Table 4. Number of items (sellers) of different colored smartphones sold on Amazon in 2019

	Black	White	Gold	Grey	Silver	Yellow	Blue	Green	Red	Pink	Orange	Brown	Purple
Items	177	68	25	24	19	10	9	5	4	4	1	1	1
Percents	50%	19%	7%	7%	5%	3%	3%	1%	1%	1%	1%	0%	0%

Source: Data mined on Amazon.com. 2019

Lastly, if industrial reports and data mining are not available, litigants might conduct a consumer survey. In the survey, litigants could develop an online shopping scenario, in which the disputed product is presented with different color choices, including the disputed color at the same price. The participants will choose the one they want to buy. If participants choosing the disputed color are significantly more than those choosing other colors, it means the disputed color might have the de-facto aesthetic advantage.

144. Amazon is the largest online retailer in the US and its website contains massive amounts of information, including color data, on goods offered for sale. E-Marketer editor, *Amazon Now Has Nearly 50% of US Ecommerce Market*, eMarketer (July 16, 2018), <https://www.emarketer.com/content/amazon-now-has-nearly-50-of-us-ecommerce-market>.

### *B. The Availability of Alternative Designs*

When trademark protection is claimed for a trade dress, the likelihood of anti-competitive consequences is reduced when substitutes remain available to competitors. However, courts frequently lack direct evidence to evaluate the substitutability between one trade dress and its alternatives. In many cases, judges simply assume that the alternatives are substitutable to the disputed feature. In *Ideal Toy Corp. v. Plawner Toy Mfg, Corp. (1982)*, the Third Circuit held that the colors on the six facets of a puzzle cube were not aesthetically functional because there were “various manufacturers’ puzzle cube versions marked with numbers, domino designs, and pictures of fruit . . . a wide variety of colors, shapes and markings which could be used to differentiate the faces of a cube puzzle.”<sup>144</sup> However, consumers who choose the six-color version might not be willing to accept other versions. The different versions of puzzle cubes might not substitute each other in consumer minds.

The *Restatement (Third)*, suggested courts should do more than merely make assumptions about alternatives: “Because of the difficulties inherent in evaluating the aesthetic superiority of a particular design, a finding of aesthetic functionality will be made only when objective evidence indicates a lack of adequate alternative designs.”<sup>145</sup> This reference to “objective evidence” pointed directly to the potential relevance of an empirical approach.

A consumer survey might evaluate the substitutability of alternative trade dresses. To save the litigation costs, the survey can be designed to test both the de-facto aesthetic advantage mentioned in Section III.A and the substitutability. Take color trademarks again as an example, the litigants might propose colors that can substitute the disputed color, as many as possible. The survey will show participants the proposed colors and the disputed color on the disputed product at the same price. Participants will choose one color they want to buy. This step can show the de-facto aesthetic advantage of the disputed color.

Then, if a participant chooses the disputed color, the survey will tell her the alternative colors have a 5% discount.<sup>146</sup> If she goes back

145. *Ideal Toy Corp. v. Plawner Toy Mfg. Corp.*, 685 F.2d 78 (3d Cir. 1982).

146. RESTATEMENT (THIRD) OF THE LAW OF UNFAIR COMPETITION §17 (AM. LAW INST. 1995).

147. 5% price difference is considered as a small but significant and non-transitory increase in price (SSNIP). In antitrust law, the SSNIP test is used to identify the relevant market, consisting of a list of goods that might substitute the investigated product. In the proposed consumer survey,

and chooses other colors, it means the alternative color can substitute the disputed color and, consequently, might overcome the disputed color's pricing power. If she sticks to the disputed color at a higher price or does not buy any color, it means that alternative colors cannot substitute the disputed colors. Therefore, trademarking the disputed color would hinder competition because deadweight loss occurs due to the higher price or unsatisfied demands.<sup>147</sup>

Having discovered some substitutes, judges might still have difficulty in ascertaining the anti-competitive costs, because judges cannot be certain of *how many* comparable alternatives would be enough to overcome possible anti-competitive consequences.

In many cases, courts found no anti-competitive cost where there was an "infinite," "wide variety," "various," or "a great variety."<sup>148</sup> But how many alternative designs is enough? At least one court was satisfied when the plaintiff provided three alternatives. In *Sicilia v. Cox* (1984), the trademark owner prevailed by offering only three other citrus juice products with a lemon/lime shape.<sup>149</sup> However, the *Keene* court was not satisfied when there were 12-15 substitutes.<sup>150</sup> In *Eco v. Honeywell* (2003), however, the trademark owner retained protection when he provided pictures of around 50 other thermostats with different shapes.<sup>151</sup>

Because of the contextual differences of various cases, it is impossible to establish a magic number of alternative designs necessary to overcome the anti-competitive consequence. With more than 100 players in an industry, such as the luminaire industry in *Keene*, 12-15 substitutes might be insufficient. But in an industry with 4 or 5 main players, such as the gas or air industries, 15 substitutes

I use a 5% price increase/decrease to test the substitutability of the alternative trade dresses. Gregory Werden, *The 1982 Merger Guidelines and the Ascent of the Hypothetical Monopolist Paradigm*, 71 ANTITRUST LAW REVIEW, 253 (2003).

148. Lee Burgunder also proposed a similar experiment to test substitutability of colors. Lee Burgunder, *Trademark Registration of Product Colors: Issues and Answers*, 26 Santa Clara L. Rev. 581 (1986).

149. For example, in *Hartford v. Hallmark* (1988), Judge McKay asserted the number of alternative designs for emotional non-occasion greeting cards were infinite, and therefore the disputed design was not functional. In *Ideal v. Plawer* (1982), the court found that the aesthetic functionality did not exist because a "wide variety" of colors and shapes can be used in cubic puzzles.

150. *Sicilia Di R. Biebow & Co. v. Cox*, 732 F.2d 417, 429 (5th Cir. 1984).

151. *Keene Corp. v. Paraflex Indus., Inc.*, 653 F.2d 822, 827 (3d Cir. 1981).

152. *Eco Mfg. LLC v. Honeywell Int'l Inc.*, 357 F. 3d 649, 653-54 (7th Cir. 2003).

might be enough.<sup>152</sup> Two types of empirical data might help judges make the decision: (1) the number of competitors in an industry, and (2) the number of designs having been claimed as trademarks. The number of players by sector can be obtained from the website of the United States Census Bureau (USCB).<sup>153</sup>

Regarding the number of designs having been claimed as trademarks, the database of the United States Patent and Trademark Office (USPTO) might be a source to explore.<sup>154</sup> For example, how many colors have been claimed on the soles of shoes? Litigants can get the data by entering several search codes in the search engine of “Word and/or Design Mark Search (Free Form)”.<sup>155</sup> They will get color trademarks that have been registered or pending for registration (See Table 5).

Table 5. Color trademarks claimed on shoe bottoms which have been registered or applied in USPTO

Colors	Trademarks	Registration or Serial number	Owner	Filing date
290301 Red or Pink		3361597	(Registrant) Christian Louboutin Individual	March 27, 2007
		88491643	(Applicant) Texi Boots Limited Liability Company	June 27, 2019
290302 Brown	No trademarks are registered or applied			
290303 Blue				
290304 Gray or silver				
290305 Violet or purple				

153. Market power might exist in a market with 4 or 5 players, but the market power is not caused by trade dress protection discussed here.

154. Statistics of U.S. Businesses, <https://catalog.data.gov/dataset/statistics-of-us-businesses-susb>, (last visited December 12, 2019).

155. Trademark Electronic Search System (TESS), <http://tmsearch.uspto.gov/bin/gate.exe?f=tess&state=4810:ayw4vq.1.1> (last visited December 12, 2019).

156. The code “290301-290309[DC]” represents all the colors on a portion of products or items used in rendering services. [DC] means “design code”. “29” refers to color trademarks, “03” means colors on the portions of product or items used in rendering services. The last two digits from “01” to “11” cover 11 color categories in the database: 01 red or pink, 02 brown, 03 blue, 04 gray or silver, 05 violet or purple, 06 green, 07 orange, 08 yellow or gold, 09 white, 10 clear or translucent and 11 black. By the code SHOE [DD], litigants can further narrow the results within color trademarks related to shoes. [DD] means design description. See TESS Help Menu, [http://tmsearch.uspto.gov/bin/gate.exe?f=help&state=4810:1qxkya.1.1#Design\\_Search\\_Code](http://tmsearch.uspto.gov/bin/gate.exe?f=help&state=4810:1qxkya.1.1#Design_Search_Code).

2020	AESTHETIC FUNCTIONALITY AT A CROSSROADS		391
290306 Green		3659582	(Registrant) Donald J. Pliner Concepts, Inc. Corporation August 20, 2008
		4948245	(Registrant) Djp Concepts Ip Sub, Llc July 14, 2015
290307 Orange			
290308 Yellow or gold		4523674	(Registrant) Sewell, Payden Individual October 25, 2013
290309 White			
290310 Clear or translucent		No trademarks are registered or applied	
290311 Black			

Source: Data from USPTO. 2019

Table 5 reveals that the alternative colors available on the sole of shoes are very limited. There are only six unoccupied color categories: blue, gray/silver, violet/purple, orange, white, clear/translucent. Black and brown are practically unavailable because trademark examiners are likely to reject the two colors since they are natural colors of shoe soles and cannot identify the producers. In addition, one might argue that firms can register many different shades in each color category. This is possible in theory but not necessarily in practice. Trademark examiners have rejected many shades within the same color category because consumers cannot distinguish between shades.<sup>156</sup> Citing a yellow color trademark on the soles (Reg. No. 4523674), examiners refused a gold shade on the same portion of shoes (Serial No.86847147).

157. For example, one examiner cited a registered dark green (Reg. No. 3659582) to reject a light shade of green (Serial No. 85335704). Another examiner cited a registered yellow shade (Reg. No. 4523674) to refuse a gold shade (Serial No. 86847147). See Official Action on U.S. Trademark Application No. 85335704 (November 17, 2012), <http://tsdr.uspto.gov/documentviewer?caseld=sn85335704&docId=OOA20121117200311#docIndex=1&page=1>; Official Action on U.S. Trademark Application No. 86849147 (May 18, 2016), <http://tsdr.uspto.gov/documentviewer?caseld=sn86847147&docId=OOA20160518163032#docIndex=1&page=1>.

*C. Mixed-use cases: When Competitive Advantage is related to Reputation*

An example can easily illustrate this problem. Bob sells bright green, alligator-shaped toothbrushes. Eighty percent of consumers buy the toothbrush because it is cute. Twenty percent of consumers buy it because they know only Bob sells high quality toothbrushes and he has a great reputation with dentists. How should a court balance the need for a competitor to attract consumers in this market with the need to protect Bob's reputation?

Some courts struck a balance by allowing defendants to attach their own names/labels on the trade dress to prevent consumer confusion. In *Flagg v. Holway*, the court decided that the defendant could make the zither in the same design, with the plaintiff, as long as the defendant clearly marked their products to avoid confusion.<sup>157</sup> Buccafusco, Lemley and Masur also asserted that companies should rarely rely on trade dress protection to prevent confusion when they can easily apply a mark to their products.<sup>158</sup>

However, where a plaintiff's trade dress is very famous such as Louboutin's red sole and Louis Vuitton's monogram canvas print (see Fig. 3), judges tend to favor the plaintiff and disallow the imitation.<sup>159</sup> They often reverse the trial courts' decisions that the disputed trade dress is aesthetically functional. For example, in *Vuitton v. J. Young (1981)*, the disputed trade dress was the design of a mustard-color logo arranged on a dark brown background (see Fig. 3). The court found that Vuitton's design appealed to consumers, but asserted that "a consumer's interest in the prestige afforded by carrying a certain bag may overshadow that person's sense for the purely aesthetic."<sup>160</sup> The court assumed that if a product had a high reputation, the consumer motivation driven by the trade dress' pure aesthetic respect could be ignorable. However, no empirical studies have supported this assumption.

158. *Flagg Mfg. Co. v. Holway*, 178 Mass. 83, 59 N.E. 667, 667 (1901).

159. Christopher Buccafusco, Mark A. Lemley, and Jonathan S. Masur, *Intelligent Design*, 68 DUKE L.J. 75 (2018).

160. In these cases, labeling the defendant's product can avoid consumer confusion but not post-sale confusion, which might be the real concern to famous trade dress.

161. *Vuitton et Fils S.A. v. J. Young Entels.*, 644 F.2d 769 (9th Cir.1981).



Figure 3. Monogram canvas print (Photograph from Louis Vuitton Authentication Guide (2018))

In many cases, both consumer motivations co-exist in purchasing products with famous designs: the motivation of having a prestige branded product and the motivation of having an aesthetic design. Courts are lack of tools to figure out the proportion of each motivation. Consumer surveys can help courts to get the proportions of both motivations. This article suggests a consumer survey based on the survey in Section IV. B. Litigants might add one more step to the previous survey in Section IV. B. Those participants choosing the disputed color without discount will see one confirmation page before they pay. The confirmation page shows an enlarged image of the product. At the enlarged image, the defendant's name/label presents saliently on the product without ruining the product's appealing appearance. The participants will choose between "pay for the product" and "I would not buy". The percentage of participants choosing "I would not buy" indicates the proportion of consumers who buy the product because of the reputation, while those choosing "pay the product" represent the proportion buying the product for pure aesthetic trade dress.

Knowing the proportion of motivations cannot solve the problems in mixed-motivation cases entirely. Consumer surveys only provide information for judges. But with information revealed by consumer surveys, judges would determine whether a trade dress is aesthetically functional on solid evidence.

To summarize, courts eventually developed three elements when applying the aesthetic functionality doctrine: the de-facto aesthetic advantage conferred by the trade dress, the availability of alternative designs, and the advantage attributable to the source. Courts' consideration of each element has suffered similar issues with lack of empirical evidence. This indicates the best future direction is to frame

valid empirical methods and evidence to prove or disprove the three elements.

## V. CONCLUSION

Commentators and judges criticized the aesthetic functionality doctrine for the lack of a clear test, and the doctrine's threat to distinctive trade dress as source indicators. This article argues that courts should keep this doctrine because the monopoly concern commands the necessity of doctrine. In addition, in response to the two criticisms, courts have developed three elements (inquiries) to determine when a trade dress is aesthetically functional. First, courts ask whether the trade dress had a de-facto aesthetic advantage that attracts consumers. Second, they determine whether alternative trade dresses were sufficient and can substitute the disputed trade dress. Third, they discern whether the attraction was due to the manufacturer's reputation, as indicated by the trade dress, or pure aesthetics. The first and second elements improve the doctrine's clearness by specifying when the competition is hindered, while the last element reduces the doctrine's chilling effect on distinctive trade dress.

However, when analyzing the three elements in specific cases, courts rely on the intuitions of judges. But in fact these three elements are NOT about how judges feel but about how consumers feel. Therefore, empirical methods are necessary to improve the accuracy of aesthetic functionality determinations. The article proposes several empirical methods to address existing problems (Table 6):

Table 6. The Proposed Empirical Methods

The three elements		Empirical methods	
(1) Diagnosing the de-facto aesthetic advantages		Existing industrial reports	Data mining on public shopping websites
(2) Evaluating alternative trade dresses	Substitutability		A consumer survey
	Sufficiency	Existing data from US Census Bureau and USPTO	
(3) Discerning whether the attraction is due to the reputation or pure aesthetics			

To diagnose the de-facto aesthetic advantages, litigants might collect existing industrial reports and conduct data mining on public shopping websites. When the two methods are not available, a consumer survey might help to reveal the de-facto aesthetic advantages.

Further, the alternative designs' substitutability might also be tested through a consumer survey. Regarding how many alternative designs are sufficient to overcome anti-competitive consequences, litigants might consider data about the number of existing players from the US Census Bureau and the number of claimed trade dresses in the USPTO database.

Finally, litigants might carry out a consumer survey to more fully comprehend consumer motivations. With this knowledge, judges can better understand whether the attraction is due to the reputation of a trade dress or its pure pleasing appearance. Litigants can integrate the foregoing surveys into one to save litigation costs.

These proposed empirical methods are still not well-developed and it is not the purpose of this article to build sophisticated empirical methods. This article aims to reveal that the empirical approach is likely to address the existing problem, so it is worthy to keep this doctrine and improve it by developing good empirical methods in the future.