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# ORDER OUT OF CHAOS: PRODUCTS LIABILITY DESIGN-DEFECT LAW

*Dominick Vetri* \*

*“Simple. Elegant. Elusive. Order from chaos.”\*\**

## I. INTRODUCTION

Products liability design-defect law appears to be in a state of disorder. All of the different design-defect tests used by the state courts<sup>1</sup> give the appearance of chaos in American products liability law. The states have failed to develop a strong consensus on a legal test for design defects.<sup>2</sup> It is, of course, an exaggeration to say that there are as many different legal tests for design defects as there are states, but in a world in which products are routinely shipped in foreign and interstate commerce, there is a need for more uniformity. Fortunately, appearances are not what they seem. There is surprising harmony among the states in the proof requirements to establish a *prima facie* case of design defect.<sup>3</sup> The treatment of design-defect cases has been remarkably uniform

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\* Copyright 2008. Kliks Professor of Law, University of Oregon Law School; J.D., 1964, University of Pennsylvania; B.S.M.E., 1960, New Jersey Institute of Technology. The author expresses his deep appreciation for the superb research assistance of University of Oregon Law School graduates Christopher Walther, Anne Cohen, Terry Miller, Michael Stephenson, Caryn Ackerman, and Kim Clark. I also thank Oregon attorney Jonathan Hoffman, and California attorneys Elizabeth Cabraser, Paul Nelson, Jennifer Pruski, Michael Reitzell, and Michael Kelly, for their willingness to share their expertise and knowledge about products liability law. Any errors are, of course, mine.

\*\* IAN STEWART, *DOES GOD PLAY DICE: THE NEW MATHEMATICS OF CHAOS* 3 (2d ed. 2002).

1. See John F. Vargo, *The Emperor's New Clothes: The American Law Institute Adorns a "New Cloth" for Section 402A Products Liability Design Defects—A Survey of the States Reveals a Different Weave*, 26 U. MEM. L. REV. 493, app. at 951–55 (1996) (identifying fourteen different design-defect tests used by the states, with ten of the states employing multiple tests).

2. See *id.*

3. See *infra* Part IV.

throughout the United States at the proof level, despite what might seem to be inordinate disorder at the design-defect test and jury-instruction levels. There is a simple elegance at the proof level that does not exist at the legal test level.

It is a familiar story of how the judicial opinions of two American state court judges, Justice Roger Traynor of California and Justice John Francis of New Jersey, and the torts scholarship of Dean William Prosser, culminated in the American Law Institute's ("ALI") adoption in 1965 of strict products liability in section 402A of the *Restatement (Second) of Torts* ("*Restatement Second*").<sup>4</sup> Section 402A caught on like wildfire in American state courts.<sup>5</sup> No single doctrinal common law principle was ever adopted so widely and quickly in the United States as strict products liability. This undoubtedly reflected the consumer age, the high level of accidents involving consumer products, and the considerable inadequacies of warranty law.<sup>6</sup> The wave of reform subsequently led to a European Union strict products liability law in the form of the European Directive on Products Liability in 1985.<sup>7</sup>

The primary goal of products liability legal reform was the development of a liability law that emphasized a consumer-safety perspective and reduced the burdensome proof requirements of negligence law. These objectives were to be achieved by moving from negligence to strict liability principles of culpability and the use of a consumer-safety-expectations test of defectiveness.<sup>8</sup> Just-

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4. See RESTATEMENT (SECOND) OF TORTS § 402A (1965); see also *Greenman v. Yuba Power Prods., Inc.*, 377 P.2d 897, 901 (Cal. 1963); *Henningsen v. Bloomfield Motors, Inc.*, 161 A.2d 69, 100 (N.J. 1960); George L. Priest, *Strict Products Liability: The Original Intent*, 10 CARDOZO L. REV. 2301, 2307-08 (1989).

5. Vargo, *supra* note 1, at 507.

6. See Priest, *supra* note 4, at 2304-07.

7. Article 6 of the European Directive provides:

1. A product is defective when it does not provide the safety which a person is entitled to expect, taking all circumstances into account, including:

(a) the presentation of the product;  
(b) the use to which it could reasonably be expected that the product would be put; [and]  
(c) the time when the product was put into circulation.

2. A product shall not be considered defective for the sole reason that a better product is subsequently put into circulation.

Council Directive 85/374, art. 6, 1985 O.J. (L 210) 29, 31 (EC).

8. See RESTATEMENT (SECOND) OF TORTS § 402A cmt. i (1965) ("The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics.")

ice Traynor eloquently made the case for this shift as early as 1944:

Even if there is no negligence . . . public policy demands that responsibility be fixed wherever it will most effectively reduce the hazards to life and health inherent in defective products that reach the market. It is evident that the manufacturer can anticipate some hazards and guard against the recurrence of others, as the public cannot. Those who suffer injury from defective products are unprepared to meet its consequences. The cost of an injury and the loss of time or health may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by the manufacturer and distributed among the public as a cost of doing business. It is to the public interest to discourage the marketing of products having defects that are a menace to the public. If such products nevertheless find their way into the market it is to the public interest to place the responsibility for whatever injury they may cause upon the manufacturer, who, even if he is not negligent in the manufacture of the product, is responsible for its reaching the market. However intermittently such injuries may occur and however haphazardly they may strike, the risk of their occurrence is a constant risk and a general one. Against such a risk there should be general and constant protection and the manufacturer is best situated to afford such protection.<sup>9</sup>

In the years since, it is clear that these goals have not been achieved in the most significant area of products liability litigation—design defect.<sup>10</sup> Product design defects are the predominate type of litigated cases today, and they have proven to be the most intractable to such reforms.<sup>11</sup> American courts have openly shifted back to negligence principles in design-defect cases in substance, if not in language, by requiring risk-utility proof, which is the crux of negligence.<sup>12</sup> European courts, essentially, have come to the same place by treating their expectations test as a normative test—a reasonable person expectations test—

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9. *Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 440–41 (Cal. 1944) (Traynor, J., concurring).

10. The objectives have been achieved in the manufacturing or production defect cases. See, e.g., Priest, *supra* note 4, at 2324–26.

11. MARK A. GEISTFELD, PRINCIPLES OF PRODUCTS LIABILITY 85 & n.1 (2006). Geistfeld relies on an insurance report studying 1985 data that found that, for claims over \$100,000, strict liability was the primary liability theory and seventy-five percent of the claims were based on a design-defect theory. See *id.* (citing Alliance of Am. Insurers & Am. Ins. Ass'n, *A Study of Large Product Liability Claims Closed in 1985* (1986)).

12. See Andrew C. Spacone, *Strict Liability in the European Union—Not a United States Analog*, 5 ROGER WILLIAMS U.L. REV. 341, 354 (2000).

allowing consideration of risk-utility proof in design-defect cases.<sup>13</sup>

The many different design-defect legal tests that developed in the United States after section 402A give the appearance of disorder in American products liability law. But such an impression is inaccurate. If we focus not on the legal tests, but on the proof acceptable to make out a prima facie case of design defect, there is considerable uniformity among the courts.

Years of experience with products liability litigation have taught us not only that most design-defect cases of necessity require consideration of risk-utility proof to ascertain defectiveness, but also, importantly, that some do not. Those design-defect cases that require risk-utility evidence to establish defectiveness—herein described as the “safety-adequacy cases”—require a balancing of competing considerations in determining whether the product was reasonably safe, and they are essentially indistinguishable from applying negligence law.<sup>14</sup> Examples of safety-adequacy cases include (1) the safest location for a car’s gas tank to avoid leakage and fires after a collision, (2) the height of a sports utility vehicle’s (“SUV”) front bumper to lessen interior penetration of side collisions, and (3) the feasibility of a safety device that turns off a power boat’s ignition if the operator is thrown overboard. In these cases risk, feasibility, cost, and utility im-

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13. C.J. MILLER & R.S. GOLDBERG, *PRODUCT LIABILITY* §§ 11.24, 11.41 (2d ed. 2004); Spacone, *supra* note 12, at 355–56.

14. Aaron D. Twerski, *Chasing the Illusory Pot of Gold at the End of the Rainbow: Negligence and Strict Liability in Design Defect Litigation*, 90 MARQ. L. REV. 7, 12 (2006) (“If risk-utility tradeoffs are to be utilized to decide whether a design is defective, then there is no difference between negligence and strict liability. The Products Liability Restatement (Third) requiring a ‘comparison between an alternative design and the product design that caused the injury, undertaken from the viewpoint of a reasonable person,’ is the identical test utilized in deciding whether a defendant was negligent. In both, a fact-finder must determine whether a reasonable person would find that the product did not meet the reasonableness standard. That hypothetical reasonable person stands in judgment of the manufacturer in negligence cases and decides not whether a ‘reasonable manufacturer’ would have adopted the proposed design alternative, but whether a ‘reasonable person’ reflecting the values of society would have adopted the alternative design. The decision whether to adopt an alternative design must be decided by an objective, reasonable person. Robots do not make design decisions, human designers do. Juries sit in judgment on those decisions and do so from an objective perspective. There simply is no difference between reviewing the conduct of the manufacturer and the product design. Ultimately, products are neither reasonable nor unreasonable; they are deemed so only because a human fact-finder utilizing risk-utility tradeoffs decides one way or another on the issue.”)

pairment must be considered in determining whether a product is defective or has a reasonably safe design.<sup>15</sup>

There are, however, design-defect cases in which courts allow the use of alternative types of proof, such as circumstantial evidence establishing defectiveness when products malfunction under normal use, safety regulation violations, misleading safety representations arising from product advertising or promotional literature, easily curable manifest defects such as the failure to use skid-proof material in slippery situations, unwholesome food, and other categories developed below.<sup>16</sup> Allowing alternative proof in such situations is more consonant with the initial consumer safety protection law reform goals underlying section 402A.<sup>17</sup> Identifying such alternative-proof categories permits a meaningful consumer-safety-oriented liability principle to operate in some design-defect contexts rather than yielding to the negligence risk-utility standard in all design-defect cases.

The SUV rollover cases can serve as a useful paradigm for some of the problems discussed in this article. The defectiveness of a Toyota 4Runner SUV that tripped and rolled over on a highway while the driver was performing an ordinary road-hazard evasive maneuver can be shown at trial through traditional risk-utility evidence.<sup>18</sup> It is, however, a complex and difficult process requiring extensive discovery and the services of expert witnesses, and it is very expensive.<sup>19</sup> Such an evidentiary undertaking can only be done in cases involving catastrophic injuries that warrant the expense.

In some SUV accidents, it might be possible instead to merely prove, through the driver and other witnesses, circumstantial evidence sufficient to raise a jury question as to the car's defectiveness. In *Denny v. Ford Motor Co.*, the driver was proceeding

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15. See, e.g., *Self v. Gen. Motors Corp.*, 116 Cal. Rptr. 575, 578–79 (Cal. Ct. App. 1974); see C.L. Mike Schmidt, *Cross-Examination of an Expert Witness*, 13 ST. MARY'S L.J. 89, 98–99 & n.40 (1981); Kevin Case, Note, *Tanks in the Streets: SUVs, Design Defects, and Ultrahazardous Strict Liability*, 81 CHI.-KENT L. REV. 149, 149, 171–72 (2006).

16. See *Barker v. Lull Eng'g Co.*, 573 F.2d 443, 454 (1978); discussion *infra* Part V.B.1–8. The concept of “alternative proof” developed in the article has nothing to do with the required evidence of a “reasonable alternative design” in the *Restatement (Third) on Products Liability* (“*Restatement (Third)*”). See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2(b) (1998).

17. See RESTATEMENT (SECOND) OF TORTS § 402(A) cmt. c (1965).

18. See *McCathern v. Toyota Motor Corp.*, 23 P.3d 320, 323, 331–32 (Or. 2001).

19. See David G. Owen, *Design Defects*, 73 MO. L. REV. 291, 320 (2008).

at the speed limit on a clear, dry day, when a deer dashed out in front of the vehicle; the driver undertook a normal evasive maneuver by turning the steering wheel to the right to avoid the deer, and then back again once past the deer, to regain his position in the roadway.<sup>20</sup> The witnesses described how, instead of regaining the roadway in a stable position, the SUV tripped on itself and rolled over, injuring the passengers.<sup>21</sup> This circumstantial evidence could be sufficient, on its own, to raise a jury question regarding the defectiveness of the SUV, without additional risk-utility evidence on how the SUV could have been more safely designed.<sup>22</sup> In some situations, even television commercials and other advertising materials showing the SUV performing evasive maneuvers in similar circumstances may be enough to establish a prima facie case of a defective design.<sup>23</sup> Attorneys in such cases typically introduce risk-utility proof in addition to evidence of misleading advertising if they can, but in some circumstances it should be enough to prove the misrepresented performance capabilities in the advertising.<sup>24</sup>

This article explores the borderland between the design-defect cases requiring risk-utility proof to establish defectiveness and those categories of design cases where alternative proof is allowable. Risk-utility proof is required in most design-defect cases, namely safety-adequacy cases,<sup>25</sup> but there are isolated design contexts in which alternative forms of proof are permissible. The alternative-proof cases are often less expensive and less burdensome to prove, thereby better achieving the law reform goals of the ALI in section 402A.<sup>26</sup> Case law has already identified several product-accident contexts in which alternative proof is, and should be, allowed.<sup>27</sup> At least eight existing or emerging categories of design-defect cases allowing for alternative proof are discussed, and the types of alternative proof are identified and analyzed.<sup>28</sup> There does not appear to be a unifying theme to these alternative proof categories, but their identification nonetheless

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20. 662 N.E.2d 730, 731, 738 (N.Y. 1995).

21. *See id.* at 731.

22. *See id.* at 738-39.

23. *See McCathern*, 23 P.3d at 332.

24. *See id.*

25. *See Twerski*, *supra* note 14, at 12.

26. *See* RESTATEMENT (SECOND) OF TORTS § 402A cmt. c (1965).

27. *See* discussion *infra* Part V.A.

28. *See* discussion *infra* Part V.B.1-8.

serves a useful purpose in organizing and simplifying design-defect law.

An understanding of the alternative-proof categories is helpful because it provides guidance to courts in understanding the applicable legal test and the appropriate instructions to give juries, enables attorneys to plan and develop more easily the requisite legal and evidentiary strategy for their cases, allows products liability law to develop in a more sensible and coherent fashion, and allows the law to better approximate the original reform objectives of products liability law. The article demonstrates the continuing value of the common law process, which allows the law to evolve over time as a result of the analysis of succeeding cases.

Part II of this article discusses the evolution of products liability design-defect law. Part III describes the struggles to bring design defects within a regime of strict liability. Part IV discusses harmonization at the proof level in design-defect cases. Part V lays out a number of design-defect contexts appropriate for alternative proof. Part VI explains the products liability common law process. Finally, Part VII summarizes the importance of distinguishing the different categories of design-defect cases.

## II. EVOLUTION OF PRODUCTS LIABILITY DESIGN-DEFECT LAW

### A. *Historical Background*

Prior to the 1960s, manufacturers were rarely held liable for defective products. The law had provided two principal theories for persons suffering injuries caused by defective products—implied warranty of merchantability and negligence—but interposed substantial barriers to recovery.<sup>29</sup>

Under the implied-warranty theory of the Uniform Commercial Code (“U.C.C.”), sellers provide an implied warranty that their goods are “merchantable,” in other words “fit for the ordinary

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29. See *Seely v. White Motor Co.*, 403 P.2d 145, 149 (Cal. 1965). An express warranty theory was also available if a plaintiff could establish an express promise of safety by contract terms, product literature, or advertising. See *Hunter v. Woodburn Fertilizer, Inc.*, 144 P.3d 970, 973 (Or. Ct. App. 2006). The tort theory of misrepresentation might also be applicable if the plaintiff could establish false claims of safety in the marketing of the goods.



purposes for which goods of that description are used."<sup>30</sup> The buyer does not have to prove negligence to recover.<sup>31</sup> Sellers may, however, eliminate or curtail liability through a number of strategies allowed by the U.C.C.<sup>32</sup> Many states eventually passed special consumer protection statutes to ameliorate some of these problems.<sup>33</sup>

The common law allowed recovery where sellers were negligent.<sup>34</sup> However, immediate sellers are rarely negligent regarding consumer goods because they have no hand in their design or production. After *MacPherson v. Buick Motor Co.*, however, manufacturers could be held liable in negligence to remote purchasers and bystanders for negligently designed or manufactured products.<sup>35</sup> Even so, a plaintiff might have identified a defect but usually could not prove the specific carelessness that resulted in the defect. And challenges to product design decisions were virtually unheard of until the 1960s. Proving negligence, however, continued to be a difficult, if not insurmountable, burden. Even if negligence could be proven, defenses such as the open and obvious danger rule, contributory negligence as a total bar to recovery, assumption of risk, and scope of liability limitations typically precluded liability.<sup>36</sup> As a result of the difficulties with negligence

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30. U.C.C. § 2-314(2)(c) 2008).

31. See *Seely*, 403 P.2d at 149.

32. For example, sellers can avoid liability if (1) by contract, they properly disclaim an implied warranty or expressly limit the available remedies under U.C.C. §§ 2-316(2), (4), 2-719; (2) the injured person was not a purchaser of the product (i.e., no privity of contract) and does not qualify as a third-party beneficiary under U.C.C. § 2-318; (3) the buyer fails to give reasonably prompt and full notice of the claim under U.C.C. § 2-607(3)(a); or (4) the product is considered merchantable because it matched customary industry design standards for such products under U.C.C. § 2-314(2).

33. See Joseph M. Price & Rachel F. Bond, *Litigation as a Tool in Food Advertising: Consumer Protection Statutes*, 39 LOY. L.A. L. REV. 277, 279 (2006) ("Today, every state has some version of a consumer protection statute.").

34. See Mary J. Davis, *Design Defect Liability: In Search of a Standard of Responsibility*, 39 WAYNE L. REV. 1217, 1218 (1993) (noting the shift from a negligence standard to a strict liability standard); Fleming James, Jr., *Products Liability*, 34 TEX. L. REV. 44, 44 (1956) (noting the applicability of the negligence standard); Page Keeton, *Products Liability—Proof of the Manufacturer's Negligence*, 49 VA. L. REV. 675, 675-76 (1963) (describing negligence as one of the basic product liability claims); David Owen, *Products Liability Law Restated*, 49 S.C. L. REV. 273, 274 (1998) [hereinafter, Owen, *Products Liability*] (discussing negligence liability for the sale of defective products).

35. 111 N.E. 1050, 1053 (N.Y. 1916).

36. See *Campo v. Scofield*, 95 N.E.2d 802 804 (N.Y. 1950) (establishing the patent danger rule); Davis, *supra* note 31, at 1231 (discussing the patent danger rule and other common law obstacles to recovery); Dix W. Noel, *Defective Products: Abnormal Use, Contributory Negligence, and Assumption of Risk*, 25 VAND. L. REV. 93, 105-28 (1972) (discuss-

and sales contract law, few persons successfully recovered for injuries caused by design defects before the mid-1960s.<sup>37</sup>

Then, in 1960 and 1962, New Jersey and California took a dramatic common law turn, extending strict liability tort concepts to product accidents in *Henningsen v. Bloomfield Motors, Inc.*<sup>38</sup> and *Greenman v. Yuba Power Products, Inc.*<sup>39</sup> In 1964, the ALI, under the leadership of Dean Prosser, followed suit and adopted the principle of strict products liability in section 402A in response to deficiencies in the existing accident law.<sup>40</sup> After the adoption of section 402A, courts across the country decided that, in product accident cases, the principle of strict liability contained in the *Restatement (Second)* should apply.<sup>41</sup> Courts adopted this new principle not only in light of the expanding consumer goods economy, but also to provide optimum safety incentives for manufacturers and greater assurances of compensation for consumers.<sup>42</sup> The number of product accident cases filed in the courts increased considerably in the ensuing decades.<sup>43</sup>

The shift in American tort law towards greater protection for consumer and worker safety in the use of products was actually brought about by a number of changes. First in importance was the new strict liability focus presented by section 402A.<sup>44</sup> Second, two reforms in the pre-trial discovery rules improved products accident claims: (a) eliminating the requirement that a party establish “good cause” to discover relevant documents,<sup>45</sup> considerably

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ing contributory negligence and assumption of risk as bars to recovery).

37. See Davis, *supra* note 33, at 1231–32 (noting the removal of many barriers to recovery, in the 1960s); David G. Owen, *The Evolution of Products Liability Law*, 26 REV. LITIG. 955, 966–67 (2007) [hereinafter Owen, *The Evolution*] (discussing the spread of design defect cases after the 1960s).

38. 161 A.2d 69, 77 (N.J. 1960)

39. 377 P.2d 897, 901 (Cal. 1963).

40. RESTATEMENT (SECOND) OF TORTS § 402A & cmt. c (1965); Owen, *The Evolution*, *supra* note 37, at 974–77; Owen, *Products Liability*, *supra* note 34, at 277.

41. See Owen, *The Evolution*, *supra* note 37, at 977; Owen, *Products Liability*, *supra* note 34, at 277.

42. See William L. Prosser, *The Fall of the Citadel (Strict Liability to the Consumer)*, 50 MINN. L. REV. 791, 799 (1966).

43. Rama Yeikur et al., *Product Liability: Its Impact on the Auto Industry, Consumers, and Global Competitiveness*, 44 BUS. HORIZONS 61, 62 (2001).

44. See Owen, *The Evolution*, *supra* note 37, at 974–77 (discussing section 402A and the strict liability standard); Owen, *Products Liability*, *supra* note 34, at 276–78.

45. FED. R. CIV. P. 34 advisory committee’s notes (1970 amendment). The discovery rules were changed in December 2006 to provide that a party need not make available electronically stored information from sources that the party identifies as “not reasonably

enhanced relevant document discovery; and (b) providing the ability to learn the defendant's theory of the case before trial through defense expert report and deposition discovery enabled plaintiffs to better prepare and present their cases.<sup>46</sup> Also, a third important reason was the growing expertise and sophistication in the plaintiffs' trial bar and the defense bar in preparing and litigating complex defective product cases.<sup>47</sup>

The comments to section 402A make it clear that the new "rule is one of strict liability, making the seller subject to liability to the user or consumer even though he has exercised all possible care in the preparation and sale of the product."<sup>48</sup> A plaintiff under section 402A must show that the product was in a "defective condition unreasonably dangerous to the user or consumer."<sup>49</sup> Thus, it appears that sellers are liable for injuries from product defects without a showing of negligence. Additionally, under section 402A, disclaimers of warranty and liability are not enforceable, and privity of contract is not required.<sup>50</sup>

In the flood of cases after the adoption of section 402A, courts began to recognize that there were three basic types of product defects: (1) manufacturing defects, (2) design defects, and (3) warning deficiencies.<sup>51</sup> The drafters of section 402A probably had

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accessible because of undue burden or cost." FED. R. CIV. P. 26(b)(2)(B); see also Jason Krouse, *E-Discovery Gets Real*, 93 A.B.A. J. 44, 48 (2007) (discussing how to determine what electronic evidence is accessible). The court, however, may compel discovery of such information on a showing of "good cause." FED. R. CIV. P. 26(b)(2)(B). It is debatable whether the products liability revolution would have occurred anyway under a negligence regime because of the significant discovery rule changes. Certainly, the volume of design-defect cases where negligence principles dominate is some evidence that the discovery rules were a critical component of change. Even today, many years after the adoption of section 402A, many attorneys typically plead negligence and strict liability claims in their complaints.

46. See FED. R. CIV. P. 26(a)(2).

47. See generally Susan Brodie Haire et al., *Attorney Expertise, Litigant Success, and Judicial Decisionmaking in the U.S. Courts of Appeals*, 33 LAW & SOC'Y REV. 667 (1999) (describing the expertise in the defense and plaintiff's bar in products liability).

48. RESTATEMENT (SECOND) OF TORTS § 402A(2)(a) & cmt. a (1965). It might be questioned whether section 402A really creates strict liability. True strict liability requires only a causal connection with conduct without any showing of culpability. If the products liability cases subject to section 402A were limited to manufacturing defect cases and design malfunction cases, strict liability would be an accurate characterization. Of course, there is strict liability under section 402A on all sellers in the marketing chain besides the manufacturer.

49. *Id.* § 402A(1).

50. *Id.* § 402A(2)(b) & cmt. m.

51. David G. Owen, *The Puzzle of Comment j*, 55 HASTINGS L.J. 1377, 1378-79 (2004) [hereinafter Owen, *The Puzzle*].

in mind that the provision would only apply to manufacturing defects and to those design defects which made a product unfit for normal use. The language of section 402A, however, was not so circumscribed, and the provision was applied by the courts to all types of defects in all situations.<sup>52</sup> This caused considerable difficulties.

### B. *The Common Law Process in Design-Defect Cases*

Section 402A was the guiding framework for products liability law for thirty-four years. It was not without its problems, as it was drafted when product accident claims were not prevalent and it did not anticipate the consequences of the inherently more difficult area of complex design-defect litigation. In the design-defect cases, the courts became accustomed to invoking the strict liability language of section 402A in their opinions, even though they were often actually applying negligence principles.<sup>53</sup> The jury instructions often used the *Restatement (Second)* consumer expectations test ("CET"), but the proof required was usually the same or similar to the risk-utility proof in a negligence case.<sup>54</sup>

The three cases upon which American strict products liability was originally premised, *Escola*, *Henningsen*, and *Greenman*, were actually all cases of "product malfunction" under normal use. In the product malfunction context, the application of strict liability's CET makes eminent sense whether the defect is a manufacturing flaw or a design defect.

In *Escola v. Coca Cola Bottling Co.*, involving a bottle of Coke handled normally that exploded and seriously injured a waitress, the majority applied the doctrine of *res ipsa loquitur*.<sup>55</sup> Justice Traynor concurred, however, arguing that strict liability principles should apply.<sup>56</sup> In the warranty case *Henningsen v. Bloomfield Motors, Inc.*, the power steering of a recently purchased

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52. *Id.* at 1378.

53. See Richard L. Cupp, Jr., *Proximate Cause, The Proposed Basic Principles Restatement, and Products Liability*, 53 S.C. L. REV. 1085, 1091-92 (2002).

54. See *id.* at 1094. There were several areas where there was a distinct difference, two of which are of considerable importance: (1) under section 402A the courts did apply strict liability to defects that arose in the manufacturing process as opposed to defects in product design, and (2) all intermediate sellers in the marketing chain such as retailers, wholesalers, and importers are strictly liable for product defects—not just manufacturers.

55. *Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 437, 440 (Cal. 1944).

56. *Id.* at 440 (Traynor, J., concurring).

Chrysler locked up, caused a crash, and injured the driver.<sup>57</sup> The court prohibited defensive limitations written into the contract of sale and invoked the strict liability approach of implied warranty of merchantability.<sup>58</sup> And, in *Greenman v. Yuba Power Products, Inc.*, Justice Traynor, in a tour de force, transformed products liability law by applying strict liability principles to an accident involving a multi-purpose lathe whose normal vibrations caused the spinning wood block to fly out of the machine, injuring the operator.<sup>59</sup> In each of the three cases, the products were being used in their normal, intended fashion, and the products failed to perform in the manner reasonably expected in light of their nature and function.<sup>60</sup> The products could not safely perform their intended or foreseeable functions; in other words, they malfunctioned.<sup>61</sup>

It is important to recognize that the first two cases, *Escola* and *Henningsen*, were actually manufacturing defect cases concerned with products that did not meet the manufacturers' own design specifications.<sup>62</sup> They were defective products that should have been caught by quality control systems. Not only do consumers reasonably expect that such products will be safe in normal use, they, and the law, also expect that manufacturers will meet their own design specifications. *Greenman*, however, was clearly a design-defect case; the product was built according to its design standards, but could fail in some foreseeable circumstances of normal use.<sup>63</sup> The lathe design was defective and dangerous because it didn't meet consumer expectations that it would operate safely in normal use.<sup>64</sup>

Because section 402A was premised on these three cases, the section was clearly intended to apply to manufacturing defects—certainly at least to those design-defect cases which fit within the product malfunction type of accident. Fairly soon after the flood-

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57. 161 A.2d 69, 75 (N.J. 1960).

58. *Id.* at 69–70, 76–77.

59. 377 P.2d 897, 898, 901 (Cal. 1963); see *Escola*, 150 P.2d at 438.

60. See *Greenman*, 377 P.2d at 898; *Escola*, 150 P.2d at 438; *Henningsen*, 161 A.2d at 75.

61. See *Greenman*, 377 P.2d at 898; *Escola*, 150 P.2d at 438; *Henningsen*, 161 A.2d at 75.

62. See *Escola*, 150 P.2d at 439; *Henningsen*, 161 A.2d at 74–75, 80.

63. See *Greenman*, 377 P.2d at 899.

64. See *id.*

tide of products cases filed after section 402A, the courts learned that most product-design-problem cases did not fit the mold of product-malfunction cases.

The vast majority of design-related cases that are litigated today are not malfunction cases, but rather involve questions of whether the manufacturer incorporated adequate safety into the product.<sup>65</sup> A determination of inadequate safety—not the malfunction—defines the defect.<sup>66</sup> These types of defects are hereafter described as “safety adequacy design defects.” The overwhelming numbers of design-defect cases in the courts today are based on alleged inadequate safety in otherwise useful products.<sup>67</sup> Product designs with inadequate levels of safety can usually be determined to be defective only by concluding that the danger of the risks outweigh the benefits of the product as designed.<sup>68</sup> In other words, these cases require a balancing of the products’ risks of harm against the feasibility of a safer design at reasonable cost, without unduly sacrificing the utility of the product.<sup>69</sup>

Thus, most design-defect cases are not malfunction cases but rather cases involving issues of how “safe” is “safe enough”—safety adequacy design cases.<sup>70</sup> Since perfect safety in any product is not possible, consumers cannot expect perfectly safe products. Safety adequacy cases will typically involve expert proof of whether the design was an acceptable compromise of the multiple considerations including safety, functionality, cost, and aesthetics.<sup>71</sup> To establish the dangerously defective nature of the product, proof is usually required of an actual or potential alternative design that is safer, feasible, cost-effective, and does not impair the utility of the product.<sup>72</sup> In safety adequacy design-defect cases, courts have required risk-utility proof and moved to legal tests

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65. See 1 DAVID G. OWEN ET AL., MADDEN & OWEN ON PRODUCTS LIABILITY § 5:5 (3d ed. 2000).

66. See, e.g., *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 455–56 (Cal. 1978); *Aller v. Rodgers Mach. Mfg. Co.*, 268 N.W.2d 830, 834 (Iowa 1978).

67. See GEISTFELD, *supra* note 11, at 26–29, 106–07.

68. See *id.* at 106–07.

69. See *id.*

70. 1 OWEN ET AL., *supra* note 65, § 5.5, at 292.

71. See, e.g., *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 308 & n.4 (Cal. 1994); *Owens v. Allis-Chalmers Corp.*, 326 N.W.2d 372, 377, 378–79 (Mich. 1982); see 2 OWEN ET AL., *supra* note 65, § 27:8, at 835, 837–39.

72. See, e.g., *Smith v. Louisville Ladder Co.*, 237 F.3d 515, 518 (5th Cir. 2001); *Peck v. Bridgeport Machs., Inc.*, 237 F.3d 614, 617–18 (6th Cir. 2001); *Owens*, 326 N.W.2d at 378–79.

and jury instructions whose language has a better fit with the risk-utility proof submitted.<sup>73</sup>

In this milieu, courts began to recognize that different legal tests and proof requirements were appropriate for different types of design defects. Safety adequacy design-defect cases could be processed under a "reasonable safe design" test requiring risk-utility proof, whereas design-malfunction cases and other cases could be based on other evidence and perhaps governed by different legal tests.<sup>74</sup> With this recognition, however, came a difficult dilemma for the courts: Why do the strict liability principles applied to safety adequacy design-defect cases requiring risk-utility proof look and feel so much like a negligence approach? Indeed, the risk-utility approach is based on Judge Learned Hand's famous negligence balancing formula, which he developed in 1947 in *United States v. Carroll Towing* and in other cases.<sup>75</sup> The next section develops how the courts have dealt with this conundrum.

### III. STRUGGLES TO BRING DESIGN DEFECTS WITHIN A REGIME OF STRICT LIABILITY

Because negligence is primarily based on a balancing of risk-utility evidence, judges and commentators initially believed that risk-utility proof would not be required to make out a prima facie case of product defectiveness under strict liability. It was assumed that other proof under the CET could be used instead.<sup>76</sup> In the early period after section 402A was adopted by the ALI, the CET became the dominant legal test and jury instruction.<sup>77</sup> In subsequent cases, it turned out that the CET worked well in the manufacturing defect and the warning defect contexts. But the formulation proved unsatisfactory in the predominant number of design-defect cases—the safety adequacy cases.

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73. See 2 Am. L. Prods. Liab. 3d (West) §§ 17:32–17:34 (rev. Nov. 1997).

74. See *Prentis v. Yale Mfg. Co.*, 365 N.W.2d 176, 183 (Mich. 1984).

75. See 159 F.2d 169, 173 (2d Cir. 1947); see also *Moisan v. Loftus*, 178 F.2d 148, 149 (2d Cir. 1949); *Conway v. O'Brien*, 111 F.2d 611, 612 (2d Cir. 1940). A version of the risk-utility test was adopted in the first Restatement of Torts. RESTATEMENT OF TORTS §§ 291–93 (1934); see Richard W. Wright, *Hand, Posner, and the Myth of the "Hand Formula,"* 4 THEORETICAL INQUIRIES L. 145, 148 (2003) [hereinafter Wright, *Hand*]. Professor Wright points out that the first Restatement's version of the risk-utility test was not simply an efficiency model, but incorporated significant justice principles. *Id.* at 148–49.

76. See 1 OWEN ET AL., *supra* note 65, § 5:6, at 296–97.

77. George W. Conk, *Punctual Equilibrium: Why Section 402A Flourished and the Third Restatement Languished*, 26 REV. LITIG. 799, 801, 819 (2007).

### A. *Consumer Expectations Test*

The basic rule of section 402A is that strict liability applies if a product “in a defective condition unreasonably dangerous to the user or consumer” causes injury.<sup>78</sup> The comments to section 402A elaborate the basic rule by declaring that a design is defective if a product performs less safely than an ordinary consumer would expect.<sup>79</sup> Somewhat circularly, each of the phrases of the basic rule, that is, “defective condition” and “unreasonably dangerous,” is defined in section 402A’s comments in terms of the ordinary CET.<sup>80</sup> Although the CET works well for manufacturing-defects and design-defect-malfunction cases, it poses serious problems in safety adequacy cases.

The virtue of the CET is that it focuses on the point of view of purchasers and users of products and allows proof of marketing, advertising, presentation, promotional materials, product manuals, instruction booklets, warnings, and customary uses of a product in evaluating whether a product design is safe.<sup>81</sup> The CET thereby heightens consumer protection as the significant factor in products liability.

In implementing the CET, courts have been clear that the test is objective—not a subjective test—in that the focus is on the ordinary user’s expectations and not the expectations of the actual user.<sup>82</sup> Moreover, where a product’s ordinary users are limited, as with industrial or trade equipment, expert testimony as to what the product’s typical users expect is appropriate.<sup>83</sup>

There are, however, a significant number of situations where the CET falters, and indeed, one can question whether consumer expectations are capable of being measured in any meaningful way.<sup>84</sup> Those contexts include products with open and obvious dangers; situations where the plaintiff is a bystander rather than a user or consumer; product accidents involving children; and

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78. RESTATEMENT (SECOND) OF TORTS § 402A (1965).

79. *Id.* at cmts. c, g, i.

80. *Id.* § 402A & cmts. c, g.

81. *See, e.g.*, *Lamkin v. Towner*, 563 N.E.2d 449, 457 (Ill. 1990).

82. *See* 2 Am. L. Prods. Liab. 3d, *supra* note 73, §17:27 nn.34 & 36 (Supp. 2008).

83. *See Soule v. Gen. Motors Corp.*, 882 P.2d 298, 308 & n.4 (Cal. 1994).

84. Bailey H. Kuklin, *The Justification for Protecting Reasonable Expectations*, 29 HOFSTRA L. REV. 863, 865–66 (2001).



cases where the users do not have measurable safety expectations, but the technology is readily available to make the products safer at a reasonable cost.<sup>85</sup>

Many problems developed with the application of the CET in design-defect cases. Foremost are the open and obvious defect cases, which often call for an equitable conclusion—the opposite of what the CET would require.<sup>86</sup> For example, where a product has a known or open and obvious danger, like the omission of a safety guard on an industrial punch press or the omission of child-proofing on butane cigarette lighters, the literal application of the CET excuses a manufacturer from redesigning or adding an available feasible safety device even when the danger could be eliminated or substantially reduced at slight cost. The Supreme Court of California describes such products as “embod[ying] ‘excessive preventable danger.’”<sup>87</sup> Many courts, when confronted with design-defect issues in such products, have found ways to circumvent the harsh implications of the open and obvious danger under the CET.<sup>88</sup>

These open and obvious danger examples raise the issue of whether the CET is factual (descriptive and empirical) or normative (a standard). In other words, does the test require an inquiry on what ordinary consumers *do* expect or what they *should* expect? As a factual test, the CET would only inquire as to the actual safety expectations of ordinary users and consumers, and apparent dangers or risks would bar recovery. As a normative test, however, the CET would inquire as to what ordinary users and consumers *should* expect in terms of safe use. This normative approach necessarily imports the concept of reasonableness. Thus, in a normative use of the term, if the question put to the jury asks what reasonable consumers should expect by way of safety, a jury could consider an inexpensive alternative design that would eliminate the risks even though the danger was open and obvious. Under this normative approach, the apparence of the risk might be primarily relevant only in comparative fault evaluations. To avoid inequity, many courts have created an ex-

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85. See generally Linda A. Sharo, Annotation, *Products Liability: Consumer Expectations Test*, 73 A.L.R. 5th 75, 143–59 (1999).

86. See Davis, *supra* note 34, at 1236; David A. Fischer, *Products Liability—The Meaning of Defect*, 39 MO. L. REV. 339, 348–52 (1974).

87. *Soule*, 882 P.2d at 305, 308 (quoting *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 454).

88. See AM. L. PRODS. LIAB. 3d, *supra* note 73, §17:27 nn.34 & 36 (Supp. 2008).

ception in these open and obvious risk situations, allowing consideration of risk-utility proof even if they continue to use a CET jury instruction.<sup>89</sup>

The CET's focus on consumer expectations also posed a problem for the courts because the consumer of a product frequently is not the ultimate user. Factory machinery, commercial vehicles, and airplanes are typically used by persons other than the purchasers and operators. As a result, courts have had to stretch the concept of "users" and the CET to "ordinary user" expectations.<sup>90</sup>

The CET also poses problems where the victims are bystanders rather than purchasers or users of the product.<sup>91</sup> The descriptive versus normative debate arises in this context as well. If the test is descriptive, must the perspective of the test shift from the ordinary users or consumers to foreseeable bystanders in such cases? In most cases, the potential shift in focus does not matter if the defect risk to the users is as great or greater than it is to bystanders, for example, where a defective power steering mechanism poses serious risks to the car users as well as occupants of other vehicles or pedestrians on the roadway.

In other cases, however, there may be a conflict of interest between users and bystanders. For example, many individuals buy SUVs because they believe them to be safer because of their weight, size, and height, and such individuals like riding higher than other passenger vehicles.<sup>92</sup> Unfortunately, the higher bumpers on many SUVs present a major vehicle-penetration risk to the occupants of other cars in side collisions.<sup>93</sup> This increased penetrability into other vehicles at leg or waist level has resulted in many serious injuries to occupants in other cars.<sup>94</sup> Evaluating defectiveness solely from the ordinary purchaser or user's perspective in this situation makes little sense. Instead, the risks to foreseeable third parties must be part of the calculus.

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89. *See id.*

90. *See generally* Donald Patterson, *Judicial Determination: The Consumer Expectation Standard of Liability*, 48 DEFENSE 24, 25–27 (2006), available at <http://forthedefense.org/contents.aspx?path=November,2006> (describing judicial responses to bystander injury).

91. *See generally* 2 Am. L. Prods. Liab. 3d., *supra* note 73, § 17:25.

92. *See* Stephanie Mencimer, *Bumper Mentality: Americans Buy SUV's To Feel Safer. They Should Buy Life Insurance, Too.*, 34 WASH. MONTHLY, Dec. 2002, at 44, 45.

93. *Case, supra* note 15, at 149.

94. *See id.* at 149–50.

Moreover, consumers and users have the opportunity to inspect for defects and purchase from reputable manufacturers, whereas such opportunities are not available to bystanders.<sup>95</sup> Yet a test articulated in terms of bystander expectations would be absurd. This anomaly has resulted in a variety of legal solutions: retaining the CET in bystander cases,<sup>96</sup> expanding the notion of "consumer" to include a spouse or family member who is a bystander,<sup>97</sup> changing the perspective from an ordinary to a reasonable consumer (descriptive to normative),<sup>98</sup> or applying a risk-utility approach.<sup>99</sup>

Similarly, children, particularly young children, typically have no safety expectations regarding the products they use or consume. In the butane lighter cases mentioned above, the children, of course, were oblivious to the risks of fire by their conduct. If the product is intended for children, the viewpoint is based on the ordinary parent or adult consumer.<sup>100</sup> For adult products, courts have held that the level of knowledge held by ordinary adult consumers should be used as the test, even if a child was actually injured by the product.<sup>101</sup> The most sensible approach here would be to use a normative standard of reasonable safety expectations and allow the introduction of risk-utility evidence.<sup>102</sup>

There is also the important question of what types of proof are allowable under the CET. As indicated earlier, the focus is not on the plaintiff's expectations, but on what ordinary consumers expect.<sup>103</sup> Experts and co-workers have been allowed to testify as to safety expectations.<sup>104</sup> Cross-examination of the plaintiff as to her safety expectations has often proceeded without objection by plaintiff's counsel.<sup>105</sup> Parties may also look to the overall reported

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95. *Elmore v. Am. Motors Corp.*, 451 P.2d 84, 89 (Ca. 1969).

96. *See, e.g., Horst v. Deere & Co.*, 752 N.W.2d 406, 411–12 (Wis. Ct. App. 2008).

97. *See generally* 63 AM. JUR. 2D *Products Liability* § 648 (1997).

98. *See Alevromagiros v. Hechinger Co.*, 993 F.2d 417, 420–21 (4th Cir. 1993) (citing *Sexton v. Bell Helmets, Inc.*, 926 F.2d 331, 337 (4th Cir. 1991)).

99. *See, e.g., Gomulka v. Yavapai Mach. & Auto Parts, Inc.*, 745 P.2d 986, 990 (Ariz. Ct. App. 1987).

100. 2 Am. L. Prod. Liab. 3d, *supra* note 73, § 17:26 (Supp. 2008).

101. Sharp, *supra* note 85, § 10[b]; Patterson, *supra* note 90, at 26.

102. Most courts when confronted with this issue have found ways to avoid the implications of the open and obvious danger rule under the CET. *See* 2 Am. L. Prods. Liab. 3d § 17:27 nn.34 & 36 (Supp. 2008).

103. Patterson, *supra* note 90, at 26.

104. *See id.* at 67.

105. *See id.*

accident record of the product as a gauge of consumer expectations. Few reported accidents may indicate that consumers can work safely with the product; however, many reported accidents may indicate the opposite.<sup>106</sup> If the product is in common usage, the courts allow jurors to exercise their common-sense judgment as to what ordinary consumers expect.<sup>107</sup> Where the product is not a matter of common usage, experts may testify as to what level of safety ordinary consumers of the product expect.<sup>108</sup>

A few courts have allowed the introduction of surveys of consumer expectations, relying on the common practice of survey use in trademark infringement cases.<sup>109</sup> This is a problematic development because of difficulties in framing unbiased questions, the representativeness of those surveyed, and the lack of knowledge of the respondents' backgrounds. Reliance on surveys may indirectly make the CET a cumulation of subjective, rather than objective, expectations.<sup>110</sup> It would be an unfortunate development in products liability law to turn these cases into dueling surveys. The imprecision of the CET and the lack of parameters to guide decisions have motivated courts to resort to risk-utility principles in design-defect cases.<sup>111</sup>

Most significantly, an overwhelming number of design-defect cases involve products of great utility that cause harm, and these typically require a careful balancing of the risks presented against the potential safety improvements in order to determine if the products should be characterized as defective or not. These are the safety adequacy cases alluded to earlier.<sup>112</sup> In these cases, the ordinary consumer may have no safety expectations to measure.<sup>113</sup> For example, the location of a gas tank in an automobile

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106. *See id.*

107. *See id.*

108. *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 308 n.4 (Cal. 1994); *Patterson*, *supra* note 90, at 29.

109. *See, e.g., Hanbrick v. Ken-Bar Mfg. Co.*, 422 F. Supp. 2d 627, 639–40 (W.D. Va. 2002) (citing *Glover v. Ampak, Inc.*, 74 F.3d 57, 59 (4th Cir. 1996)); *see also Tunnell v. Ford Motor Co.*, 330 F. Supp. 2d 707, 721, 723–24 (W.D. Va. 2004).

110. *Patterson*, *supra* note 90, at 67.

111. *See Conk*, *supra* note 77, at 819. An additional problem of the CET is that the safety expectations of consumers at times will actually lag behind improved safety in newer products in the marketplace. Douglas A. Kysar, *The Expectations of Consumers*, 103 COLUM. L. REV. 1700, 1716 (2003).

112. *See Robinson v. G.G.C., Inc.* 808 P.2d 522, 524–25 (Nev. 1991).

113. *See Michael D. Green, The Schizophrenia of Risk-Benefit Analysis in Design Defect Litigation*, 48 VAND. L. REV. 609, 612 (1995).

involves a complex analysis of different potential locations for the tank, the numbers and severity of accidents associated with each location, and a complicated tradeoff of risks because of the potential for leakage and a resulting fire after a collision. The ordinary consumer has no clear safety expectations as to gas tank locations without being informed by experts. In such cases, courts have allowed, even required, plaintiffs to proceed by offering risk-utility proof.<sup>114</sup>

In these cases, a subtle transformation of the CET into a normative standard takes place. The courts that continue to use the CET in safety adequacy cases, requiring proof based on risk-utility concepts, effectively modify the "ordinary consumer" into the "reasonable consumer."<sup>115</sup> Some courts openly use the concept of the reasonable consumer to allow expert testimony to inform a normative judgment on risks and safer alternatives.<sup>116</sup> A number of courts, on the other hand, have replaced the CET with other legal tests based on the reasonableness of the design, such as the reasonable prudent manufacturer test (PMT) or a risk-utility test (RUT).<sup>117</sup>

In those jurisdictions that use the CET, and a RUT in the alternative, depending on the nature of the case (the two prong test approach), the CET can be uniformly implemented in the appropriate cases as a descriptive test based on what ordinary consumers and users do in fact expect in terms of safety.<sup>118</sup> States that rely on the CET as a universal test for all design-defect cases have effectively given the CET a chameleon effect that leads to confusion. Sometimes the CET is treated as a descriptive test and other times as a normative test depending on the nature of the case.<sup>119</sup>

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114. See, e.g., *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 308 n.4 (Cal. 1994).

115. See, e.g., *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1333 (Conn. 1997).

116. See, e.g., *id.* at 1336.

117. See, e.g., *Massey-Ferguson, Inc. v. Wells*, 383 A.2d 640, 642 (Del. 1978) (adopting the PMT); *Cepeda v. Cumberland Eng'g Co.*, 386 A.2d 816, 826-27 (N.J. 1978) (adopting the RUT).

118. See *Soule*, 882 P.2d at 307-08 (discussing the objective CET and the interplay with the risk-utility test); discussion *infra* Part IV.D.

119. Compare UTAH CODE ANN. § 78B-6-703 (Repl. Vol. 2008) (setting forth a subjective CET), with *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*, 230 N.W.2d 794, 798 (Wis. 1975) (applying an objective CET).

## B. *The Risk-Utility and Reasonable Prudent Manufacturer Tests*

### 1. The Risk-Utility Test

The RUT and PMT are the two most prominent legal tests used by the courts in design-defect litigation. The RUT provides that a product has a design defect if the risk of danger exceeds the burden to the manufacturer of making the product safer.<sup>120</sup> Risk-utility proof involves two basic types of evidence that are balanced against each other. The first is proof of the danger involved in the use of the product—the probability that accidents will happen because of the product design and the gravity of the harm that will occur if accidents happen.<sup>121</sup> On the other side of the balance, proof of the proposed alternative design and its feasibility, costs, and implications for the overall utility of the product are considered.<sup>122</sup>

The risk-utility balance in tort law has never been a mere economic summing up of the dollars and cents on each side of the equation.<sup>123</sup> Rather, it is a device that helps decision makers determine if the safety costs are generally worth the preventable harm.<sup>124</sup> For greater dangers such as grievous bodily harm or loss of life, utmost precautions should be taken; at slight danger levels, only minimal precautions may be required.<sup>125</sup> Importantly, the balance is not the risk of harm versus the overall utility of the product, but rather the much narrower question of whether a

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120. See *Barker v. Lull Eng'g, Co.*, 573 P.2d 443, 456 (Cal. 1978).

121. *Id.* at 455.

122. *Id.*

123. See *Oster v. Dep't of Transp. & Dev.*, 582 So.2d 1285, 1289 (La. 1991) (stating that the court should consider a broad range of social, economic, and moral factors in the risk-utility balance).

124. See *id.*

125. See *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947). While risk-utility proof is the common framework for evidence presentation, a jury's evaluation is not and should not be restricted to strict economic efficiency. Risk-utility proof can only be a guide to the social judgment that must be made of whether a product is defective or not. The variables in the risk-utility balance are not all capable of being converted to a common denominator necessary to use a formulaic approach. See Green, *supra* note 113, at 617. It is not possible for courts, for example, to instruct on the potential severity of harm or death in terms of dollars and cents or to frame the probability of the harm in terms of anything approaching a scientifically accurate figure. See *id.* at 617 & n.39.

change in a particular design aspect, which would have prevented the harm, is practicable and cost-effective.<sup>126</sup>

Risk-utility proof, of course, is the most common basis for establishing a negligence claim. User safety expectations are properly includable within the matrix of factors in a negligence analysis, whether expressly spelled out or not. Some courts, and the *Restatement (Third) of Torts: Products Liability* ("*Restatement (Third)*") expressly indicate that consumer safety expectations are one of the factors to be considered in strict liability risk-utility analysis.<sup>127</sup>

The Supreme Court of California, while not giving an exclusive list of factors in the risk-utility balancing test, said:

[A] jury may consider, among other relevant factors, the gravity of the danger posed by the challenged design, the likelihood that such danger would occur, the mechanical feasibility of a safer alternative design, the financial cost of an improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design.<sup>128</sup>

As in negligence law, the "other relevant factors" include consumer safety expectations and the social and moral justice concerns integral to personal injury tort law.<sup>129</sup> Both the *Restatement*

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126. See *id.* at 616–17; PRODUCT LIABILITY: WINNING STRATEGIES AND TECHNIQUES §§ 4.04–4.05 (2008). See generally David G. Owen, *Risk-Utility Balancing in Design Defect Cases*, 30 U.MICH. J.L. REFORM 239 (1997) [hereinafter Owen, *Risk-Utility*].

127. See *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 305, 308 (Cal. 1994); RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. f (1998).

128. *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 455 (Cal. 1978).

129. See *Oster*, 582 So.2d at 1289. The *Barker* court's suggestion that juries be instructed in terms of risk-utility is unfortunate. While the instruction is generally consonant with the proof in a safety adequacy case, it may inform juries that their decisions are to be governed primarily by economic or efficiency considerations. The risk-utility language is substantially mitigated by the Supreme Court of California's requirement that the defense must establish, by a preponderance of the evidence, that the design did not contain "excessive preventable danger." See *Barker*, 573 P.2d at 454. The risk-utility formula is an important guide for trial lawyers in preparing cases and determining discovery and evidentiary objectives, and it is also helpful to judges in deciding sufficiency of the evidence motions. But it is not and should not be the only gauge for jury deliberations on design-defectiveness issues. Like a finding of negligence, a jury determination of design defectiveness, in the final analysis, is made on the basis of justice standards that are broader than efficiency alone. An express risk-utility instruction is never used in negligence cases, despite wide acceptance of the Hand formula. Juries in negligence cases are invariably instructed in terms of reasonable care under the circumstances. Such broad terminology allows for justice and moral concerns to operate along with efficiency considerations. See Wright, *Hand*, *supra* note 75, at 146–53. Section 402A of the *Restatement (Second)* states that the product must be found to have been in a "defective condition unreasonably dangerous to the user or consumer." RESTATEMENT (SECOND) OF TORTS § 402A

(*Second*) and the *Restatement (Third)* use broad language encompassing the justice factors, as well as the economics of risk through the language “unreasonably dangerous” in section 402A<sup>130</sup> and “reasonably safe” in the *Restatement (Third)*.<sup>131</sup> The Supreme Court of California accomplishes this objective through its reasoning that a product is defective in design if the jury finds that it embodies an “excessive preventable danger.”<sup>132</sup>

## 2. The Reasonable Prudent Manufacturer Test

The PMT, which is used by a significant number of courts, was developed because of the unworkability of the CET, particularly in design-defect cases involving safety-adequacy issues that require a balancing of risk-utility evidence to determine defectiveness.<sup>133</sup> The PMT also generally relies on risk-utility evidence and analysis, but frames the jury question in terms of what a reasonable manufacturer would have done in the circumstances.<sup>134</sup> Many courts opt for the PMT because it seems more appropriate in cases where the evidence is of a highly technical nature beyond the experience of ordinary consumers.<sup>135</sup> The PMT requires the trier of fact to determine

whether a reasonably prudent manufacturer or seller of a product would have produced or marketed that product in the condition that it was in at the time that the product was placed into the stream of

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(1965). The *Restatement (Third)* also used a broader standard, stating that the product must be found to be “not reasonably safe.” RESTATEMENT (THIRD) OF PRODS. LIAB. § 2 (1998).

130. RESTATEMENT (SECOND) OF TORTS § 402(A) (1965).

131. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2(b) (1998).

132. See *Soule*, 882 P.2d at 305, 308; *Barker*, 573 P.2d at 454. The burden of proof is on the defendant to show that it is more likely than not that the product does not embody “excessive preventable danger.” See *Barker*, 573 P.2d. at 455. Unfortunately, this phraseology was not included in the pattern jury instruction developed for California courts. See JUDICIAL COUNCIL OF CALIF. ADVISORY COMMITTEE ON CIVIL JURY INSTRUCTIONS, JUDICIAL COUNCIL OF CALIFORNIA, CIVIL JURY INSTRUCTIONS § 1204 (2008). Trial judges should incorporate the “excessive preventable danger” test into their design-defect jury instructions as a matter of course.

133. See *Whitehead v. St. Joe Lead Co.*, 729 F.2d 238, 244–45 (3d Cir. 1984); *Brown v. Raymond Corp.*, 318 F. Supp. 2d 591, 595–96 (W.D. Tenn. 2004); *Greene v. Brown & Williamson Tobacco Corp.*, 72 F. Supp. 2d 882, 892–93 (W.D. Tenn. 1999).

134. See David J. Marchitelli, Annotation, *Products Liability: Prudent Manufacturer Test*, 86 A.L.R. 5th 215 § 2(a) (2001).

135. See *id.* § 4(b).



commerce, assuming that the manufacturer or seller had knowledge of the particular risk of injury sustained by the plaintiff.<sup>136</sup>

In *Ray v. BIC Corp.*, the plaintiff sued for damages on behalf of her minor son, who suffered serious burn injuries, including brain damage, while playing with a BIC lighter.<sup>137</sup> The plaintiff alleged that the lighter was defective because it was not child resistant.<sup>138</sup> The federal district court granted summary judgment under the CET because it found, as a matter of law, that the lighter was not more dangerous than ordinary consumers would expect.<sup>139</sup> On appeal, the Sixth Circuit certified the interpretation of Tennessee's product liability statute to the Supreme Court of Tennessee.<sup>140</sup> The Tennessee court interpreted the statute to allow the plaintiff to prove a design defect either on the basis of the CET or the PMT.<sup>141</sup> The court compared the PMT to the RUT, stating:

In effect, the prudent manufacturer test, by definition, requires a risk-utility analysis. The determination of whether a product is unreasonably dangerous turns on whether, balancing all the relevant factors, a prudent manufacturer would market the product despite its dangerous condition. Naturally, a prudent manufacturer would consider usefulness, costs, seriousness and likelihood of potential harm, and the myriad of other factors often lumped into what plaintiff called a risk-utility test.<sup>142</sup>

The Tennessee court explained that there are design-defect cases that fall under the CET and others that are appropriately governed by the PMT: "[T]he prudent manufacturer test will often be the only appropriate means for establishing the unreasonable dangerousness of a complex product about which an ordinary consumer has no reasonable expectation."<sup>143</sup> Essentially, the court was differentiating between the safety adequacy cases requiring risk-utility proof and the alternative proof design-defect cases.

A number of state courts have decided to use a risk-utility analysis either under a RUT or a PMT in design-defect cases

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136. *Id.* § 2[a].

137. *Ray v. BIC Corp.*, 925 S.W.2d 527, 528–29 (Tenn. 1996).

138. *Id.*

139. *See id.* at 529.

140. *Id.* at 529.

141. *Id.* at 531.

142. *Id.* at 532.

143. *Id.* at 531.

where the ordinary consumer would not know what safety to expect or how the product could be made safer.<sup>144</sup>

The PMT is essentially a negligence standard, but it eliminates the need to prove that the manufacturer knew or should have known of the risk in question by presuming that the manufacturer knew of the risk.<sup>145</sup> In most cases, this distinction means very little, because, in virtually all cases, it can be easily proved that the manufacturer in fact did know or, as experts in the field, should have known of the risk.<sup>146</sup> In the cases where foresight of the risk makes a difference, such as the developmental risk cases, courts have generally shied away from applying the presumption.<sup>147</sup> Risk-utility proof is, of course, the workhorse behind the PMT in the safety adequacy cases. The PMT shifts the focus for resolving the risk-utility evidence from the ordinary consumer under the CET to the reasonable manufacturer.<sup>148</sup> This shift in focus is likely of some significance in practice before juries.

Courts using either the RUT or the PMT often speak of the rules as imposing strict liability despite the virtual overlap with negligence analysis.<sup>149</sup> This is, to say the least, confusing. However, a beneficial side effect of using the rhetoric of strict liability while essentially employing negligence principles in design-defect cases has been the willingness of courts and commentators to re-examine some negligence rules and reform them in the strict products liability context.<sup>150</sup>

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144. See *Ortho Pharms. Corp. v. Heath*, 722 P.2d 410, 413-14 (Colo. 1986), modified in *Armentrout v. FMC Corp.*, 842 P.2d 175, 183 (Colo. 1992) (rejecting shifting the burden of proof to the defendant on the risk-utility evaluation); *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1334 (Conn. 1997); *Nichols v. Union Underwear Co.*, 602 S.W.2d 429, 432-33 (Ky. 1980); *Knitz v. Minster Mach. Co.*, 432 N.E.2d 814, 818 (Ohio 1982). In *Potter*, the court did not adopt the RUT or the PMT, but it did something similar by developing a CET using risk-utility analysis in certain design-defect cases. *Potter*, 694 A.2d at 1333. *Phillips v. Kimwood Machine Co.*, led the way in establishing that the CET could reflect both the reasonable consumer and the prudent manufacturer perspectives. 525 P.2d 1033, 1036-37 (Or. 1974).

145. See John W. Wade, *On the Nature of Strict Tort Liability for Products*, 44 MISS. L.J. 825, 839-40 (1973).

146. See Sheila L. Birnbaum, *Unmasking the Test for Design Defect: From Negligence [as Warranty] to Strict Liability to Negligence*, 33 VAND. L. REV. 593, 648 (1980).

147. See *infra* Part III.B.3.b.

148. *Ray*, 925 S.W.2d at 530.

149. See Birnbaum, *supra* note 146, at 601.

150. See *id.* at 647-49 (giving examples of how courts have adjusted proof and discovery rules in design-defect cases).

Perhaps the most notable reform is the exclusion of subsequent remedial redesign measures in strict liability cases. Negligence law cases uniformly state that remedial repair evidence may not be introduced to show negligence on the part of the defendant.<sup>151</sup> Thus, the landlord who repairs the carpet in a common stairway of his apartment building after a tenant falls need not be concerned that his repair will be used against him if the tenant sues. Allowing such evidence is anachronistic in the manufacturing field for a number of reasons. First, the volume of product sales may actually necessitate re-design to avoid numerous additional injuries. Moreover, with many consumer products, of which automobiles are the best example, the re-designs are dictated by market considerations and competition, and plans for re-design may be in place long before accidents happen or lawsuits are filed.

Another change from negligence law is the imposition of liability on all sellers in the marketing chain.<sup>152</sup> Ordinarily, non-negligent intermediate sellers cannot be liable in negligence because they have not been negligent. Strict liability recognizes that sometimes the importer or retailer is the dominant player in the marketing arrangement and should bear responsibility for unsafe designs. Recent experience with lead in toys imported by major American toy manufacturers and sold by major U.S. retailers is a good example of the need for such liability.<sup>153</sup>

### 3. Problems with the Risk-Utility and the Reasonable Prudent Manufacturer Tests

The RUT works effectively in most design cases, but the important question is whether it differs from negligence at all. If not, the courts are effectively applying negligence principles under a strict liability flag.

The RUT even when based on negligence principles, is not without its problems. Some critics contend that it allows lay juries to second guess design engineers and safety regulations in

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151. See Joseph A. Hoffman & George D. Zuckerman, *Tort Reform and Rules of Evidence: Saving the Rule Excluding Evidence of Subsequent Remedial Actions*, 22 TORT & INS. L.J. 497, 498-99 (1986-1987).

152. See Keeton, *supra* note 34, at 33.

153. See Eric S. Lipton & David Barboza, *As More Toys Are Recalled, Trail Ends in China*, N.Y. TIMES June 19, 2007, at A1.

complex design cases where safety choices must be made.<sup>154</sup> It is also said that the RUT allows juries to second guess the marketplace and decide that, even though many people have purchased the product, it does not have sufficient utility to outweigh the risks.<sup>155</sup> Additionally, in many states, the design-safety determination is criticized because juries often lack adequate guidance for evaluating the risk-utility factors, for example, under a consumer expectations instruction.<sup>156</sup> Most of these criticisms are really attempts to limit liability.

There is a serious criticism of using risk-utility proof that goes to the heart of the safety reforms that strict liability pioneers were striving to achieve. Proving a defect through risk-utility evidence is usually difficult, excessively expensive, and time consuming. Consequently, only potentially high-damage-award products liability cases can be litigated. Most small-recovery products liability claims are rejected by trial lawyers. The *Restatement (Third)* probably exacerbated this problem by expressly requiring proof of a “reasonable alternative design” as a part of its definition of a design defect.<sup>157</sup> All this, however, essentially defeats one of the most significant justifications for strict products liability.

Even though the safety adequacy cases require the risk-utility approach and a return to negligence principles, courts should not be discouraged from applying strict liability concepts to other categories of design-defect cases where alternative proof—often less onerous and less expensive to plaintiffs—can be properly used in place of risk-utility evidence. We should not treat all design-defect cases alike in terms of proof requirements. The alternative-proof categories of design-defect cases are addressed in Part V, *infra*.

In allowing risk-utility proof and using the RUT or a PMT, courts distinguish strict products liability from negligence on

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154. See Davis, *supra* note 34, at 1278–80; Charles J. Walsh & Alissa Pyrich, *Rationalizing the Regulation of Prescription Drugs and Medical Devices: Perspectives on Private Certification and Tort Reform*, 48 RUTGERS L. REV. 883, 1021–23 (1996) (arguing that “vague risk-utility standards . . . [have] done little to further any safety”).

155. See Amy J. Vroom, Comment, *Fast Food or Fat Food: Food Manufacturer Liability for Obesity*, 72 DEF. COUNS. J. 56, 57 (2005).

156. See generally Douglas A. Kysar, *The Expectations of Consumers*, 103 COLUM. L. REV. 1700, 1736–40 (2003).

157. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2(b) (1998).

three primary grounds: (1) a focus on the product rather than the producer; (2) use of a hindsight test as contrasted with the foresight approach in negligence; and (3) a shifting of the burden of proof to the producer on the risk-utility balance. None of these differences are significant enough to create a meaningful distinction.

#### a. Focus on the Product

In distinguishing negligence from strict liability in product accident cases, many courts have insisted that in strict liability the focus is on the product rather than the conduct of the manufacturer.<sup>158</sup> A recent Illinois Supreme Court decision reiterated the product/conduct distinction, stating that “[i]n a negligence defective design case, the focus is on the conduct of the defendant, but in a strict liability defective design case, the focus is on the product.”<sup>159</sup> This product/conduct distinction is false. To find the product defective based on foresight of the risks and risk-utility analysis, as most courts do, is to find the design defective and the design-engineering conduct culpable. A distinguished commentator cogently criticized the Illinois court’s decision and the product conduct distinction as follows:

The Products Liability Restatement test requiring a “comparison between an alternative design and the product design that caused the injury, undertaken from the viewpoint of a reasonable person,” is the identical test utilized in deciding whether a defendant was negligent. In both, a fact-finder must determine whether a reasonable person would find that the product did not meet the reasonableness standard. . . . Robots do not make design decisions, human designers do. Juries sit in judgment on those decisions and do so from an objective perspective. There simply is no difference between reviewing the conduct of the manufacturer and the product design. Ultimately, products are neither reasonable nor unreasonable; they are deemed so only because a human fact-finder utilizing risk-utility tradeoffs decides one way or another on the issue.<sup>160</sup>

The product/conduct distinction may have arisen in American products liability law because all sellers, as opposed to the manufacturer alone, are held strictly liable for a defective design. Intermediate sellers typically have nothing to do with the design of

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158. See, e.g., *Blue v. Env'tl. Eng'g, Inc.*, 828 N.E.2d 1128, 1141 (Ill. 2005).

159. *Id.*

160. Twerski, *supra* note 14, at 12 (quoting *Blue*, 828 N.E.2d at 1141 n.1).

a product, and in these contexts it is helpful for the legal test to focus on the product rather than design conduct. Even so, in the intermediate seller cases, the foreseeability of a risk is evaluated in terms of the producer's, not the intermediate seller's, reasonable knowledge.<sup>161</sup>

#### b. Hindsight of the Risk

A number of courts have attempted to distinguish strict liability design cases from negligence cases by declaring that in strict liability, the risk-utility balance is evaluated in hindsight rather than foresight.<sup>162</sup> Thus, under the strict liability hindsight approach, if a risk of harm arising out of foreseeable uses becomes known by the time of trial, it is conclusively presumed that the manufacturer had knowledge of the risk at the time of production.<sup>163</sup> In light of the imputation of the knowledge and the danger of the risks, the question is whether there was a cure for that risk—a safer, feasible alternative—available at the time of production that would have prevented the accident.<sup>164</sup> In other words, this odd construct requires hindsight to be used for the risk but foresight for a safer design.

This would be a significant difference from negligence at least in those cases in which the risk was not reasonably knowable at the time of production but later becomes known. Thus, if the risk was known by the time of trial, a manufacturer could be liable even though the risk could not have been known at the time of marketing.<sup>165</sup> Such a distinction, however, is of no significance in almost all design-defect cases because manufacturers, through their design and safety engineers and other personnel, actually know of the risks presented in normal and foreseeable uses of their products. Furthermore, manufacturers are held to the stan-

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161. See, e.g., *Boyl v. California Chem. Co.*, 221 F. Supp. 669, 673–74 (D. Or. 1963).

162. See, e.g., *Todd v. Societe BIC, S.A.*, 21 F.3d 1402, 1409 (7th Cir. 1994); *Hornyak v. Nat'l Presto Indus.*, No. 94 C 2193, 1995 WL 239104 at \*5 (N.D. Ill. Apr. 20, 1995).

163. See Jack Berman, Comment, *Beshada v. Johns-Manville Products Corp.: The Function of State of the Art Evidence in Strict Products Liability*, 10 AM. J.L. & MED. 93, 99 (1984).

164. See *id.* at 102–03.

165. Knowledge of scientifically unknowable risks are imputed to the manufacturer at the time of production, but a later developed safety device to avoid the risks is not imputable if the state of the art precluded its availability at the time of production. See *id.* at 102–03.

dard of experts regarding their products.<sup>166</sup> Thus, in the highly unlikely event that they were unaware of foreseeable risks, they will nonetheless be held to have foreseen them because they are charged with the knowledge that reasonable experts in the field would have known.<sup>167</sup>

Most risks in products accident cases are known from the time of production because they derive from conscious engineering and scientific-design choices. Typically, mechanical and engineering deficiencies are known by the design engineers at the time of production if sufficient planning and testing are completed. Therefore, a hindsight rule would have significance only in a relatively small number of cases in which the risks could not reasonably have been known at the time of production. It is principally only in the pharmaceutical drug, over-the-counter consumable remedy products industry, and in the chemical industry, that so called "scientifically unknowable risks" are later detected.<sup>168</sup> New technologies, such as nanotechnology, may pose such risks if moved into the marketplace without adequate testing.<sup>169</sup> In most instances though, scientifically unknowable risks are very rare.

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166. See *Feldman v. Lederle Labs.*, 479 A.2d 374, 386 (N.J. 1984).

167. See *id.*

168. See, *id.* at 377 (drug side effect allegedly unknown); *Green v. Smith & Nephew AHP, Inc.*, 629 N.W.2d 727, 733 (Wis. 2000) (latex allergy allegedly unknown). Such cases typically arise with pharmaceutical drug products but have also been experienced in the asbestos and silicone breast implant cases. See, e.g., *Anderson v. Owens-Corning Fiberglas Corp.*, 810 P.2d 549, 550, 555-57 (Cal. 1991) (asbestos case); *Rosburg v. Minn. Mining & Mfg. Co.*, 226 Cal. Rptr. 299 (Cal. Ct. App. 1986) (breast implant case). It is questionable whether the hindsight approach made a difference in *Green v. Smith & Nephew AHP, Inc.* There, the plaintiff used two sets of latex gloves per work shift starting in 1978, and this increased to about forty sets per shift beginning in 1987. *Green*, 629 N.W. 2d at 732. It was not until 1989 that she began having health-related problems culminating in very serious problems in 1991. *Id.* Reports of latex allergy first appeared in the late 1970s, and the first deaths were reported in 1989. David S. Shrager & Wayne R. Spivey, *Ann. Convention Reference Materials: Products Liability—Latex Allergy*, 2 Ass'n of Trial Law's of Am. ATLA-CLE 2319 (2000).

169. See Linda K. Breggin & Leslie Carothers, *Governing Uncertainty: The Nanotechnology Environmental, Health, and Safety Challenge*, 31 COLUM. J. ENVTL. L. 285, 287 (2006). Nanotechnology deals with incredibly small particles on the order of 100 nanometers or less (a nanometer comprises one-billionth of a meter). *Id.* Nanoscale particles are already included in products such as sunscreens, stain-resistant clothing, textiles, and microchips. Barnaby J. Feder, *New Rules Expected on Safety of Nanotechnology Products*, N.Y. TIMES, June 21, 2007, at C10. Critics contend that too little research has been undertaken to assure the safety of such particles, which may lodge in human organs. *Id.* Recently, the DuPont Company and an environmental group, Environmental Defense, issued a report providing jointly developed guidelines for evaluating the safety of nanotechnology in products. ENVTL. DEF.-DUPONT NANO P'SHIP, NANO RISK FRAMEWORK 7 (June 2007), available at <http://nanoriskframework.com/page.cfm?tagID=1095>.

Where a risk could not reasonably have been foreseen at the time of marketing—known as a “developmental risk” in European Union terminology—the application of strict liability would be considerably different than in negligence law. Whether it would be appropriate to create a whole new strict liability cause of action for all design defects, when only a tiny number diverge from negligence claims and benefit from the new approach, is a matter of grave doubt.

Scientifically unknowable or developmental risks do arise occasionally in failure-to-warn cases involving pharmaceutical drugs. In this context, most U.S. courts require foreseeability when faced with the hindsight/foresight choice.<sup>170</sup> The reality is that, while courts recite the rhetoric of hindsight, they do not employ the concept when it counts. When it would make an important difference—when the risk was unknowable at the time of production—virtually no courts have been willing to eliminate foresight as a requirement.<sup>171</sup> Only a few courts have held that foresight of the risk is not required in strict products liability.<sup>172</sup> Thus, most courts fall back on foresight and forsake hindsight.

It is, of course, anomalous to require a manufacturer to warn consumers of a risk that was not scientifically knowable at the time of marketing. Similarly, in the design-defect context a major conceptual difficulty of the hindsight test is the manufacturer's duty to develop a safer design for risks unknowable at the time of manufacture and marketing but later known by the time of trial. In such situations, the manufacturers arguably never had the chance to make their products safer. Surely it is incongruous to impose producer-design-defect liability for risks not reasonably knowable at the time of production yet at the same time relieve the producer of such liability if a cure for the risk—a safer de-

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170. See Ellen Wertheimer, *The Biter Bit: Unknowable Dangers, the Third Restatement, and the Reinstatement of Liability Without Fault*, 70 BROOK. L. REV. 889, 899–900 (2005). One area of exception has been in asbestos cases where the developmental risk issue was argued forcefully. See *Beshada v. Johns-Manville Prods. Corp.*, 447 A.2d 539, 542–43 (1982). But even with asbestos, a strong case can be made that the risks associated with the material were reasonably foreseeable to manufacturers employing the substance. See *id.* 542, 548–49.

171. See *Anderson*, 810 P.2d at 555; *Brown v. Super. Court*, 751 P.2d 470, 482–83 (Cal. 1991). *Feldman*, 479 A.2d at 388–89. See generally Wertheimer, *supra* note 170, at 898–909.

172. See, e.g., *Johnson v. Raybestos-Manhattan, Inc.*, 740 P.2d 548, 549 (Haw. 1987) (asbestos risk allegedly unknown); *Sternhagen v. Dow Co.*, 935 P.2d 1139, 1140, 1147 (Mont. 1997) (herbicide exposure risk allegedly unknown); *Green*, 629 N.W.2d at 737.



sign—was not readily available at the time of production. To a large extent, it seems that courts are caught up in the fictional language of strict products liability without admitting or understanding that their handling of these cases is inconsistent with their language.<sup>173</sup>

In another variation on the foresight issue, a few courts have differentiated strict products liability from negligence by placing the burden of establishing the absence of reasonable foresight of the risk at the time of production on the defendant.<sup>174</sup> This makes logical sense in light of the expertise of product producers where the issue is in dispute. But it is not of much practical consequence because, in most instances, if a manufacturer plans to produce expert testimony to show that the risk was unforeseeable, the plaintiff must in turn invest in the investigation and expertise to counter this defense testimony.

### c. Shifting the Burden of Proof on Risk-Utility

A few courts, with California in the lead, have created a basis for distinction between strict liability and negligence in design-defect cases by placing the burden of proof—production and persuasion—on the manufacturer.<sup>175</sup> Under this approach, if the plaintiff can show that some design aspect of the product caused his injuries, the burden of showing that the product is not defective is shifted to the defendant.<sup>176</sup> The purpose of this shift is to mitigate the difficulties in establishing a *prima facie* case.<sup>177</sup>

The allocation of such burden is particularly significant in this context inasmuch as this court's product liability decisions . . . have repeatedly emphasized that one of the principal purposes behind the strict product liability doctrine is to relieve an injured plaintiff of many of the onerous evidentiary burdens inherent in a negligence cause of action. Because most of the evidentiary matters which may be relevant to the determination of the adequacy of a product's design under the "risk-benefit" standard—e.g., the feasibility and cost

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173. See *Feldman*, 479 A.2d at 387–88; see also Wertheimer, *supra* note 170, at 902–03 (discussing the difficulty of laying down bright-line rules in cases that rely on public interest arguments).

174. See, e.g., *Feldman*, 479 A.2d at 388.

175. See *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871, 885 (Alaska 1979) (citing *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 455 (Cal. 1978)).

176. See *Barker*, 573 P.2d at 455–56 (indicating that upon the shift of burden, a design defect is determined by either CFT or RUT).

177. *Id.* at 455.

of alternative designs—are similar to issues typically presented in a negligent design case and involve technical matters peculiarly within the knowledge of the manufacturer, we conclude that once the plaintiff makes a prima facie showing that the injury was proximately caused by the product's design, the burden should appropriately shift to the defendant to prove, in light of the relevant factors, that the product is not defective. Moreover, inasmuch as this conclusion flows from our determination that the fundamental public policies embraced in *Greenman* dictate that a manufacturer who seeks to escape liability for an injury proximately caused by its product's design on a risk-benefit theory should bear the burden of persuading the trier of fact that its product should not be judged defective, the defendant's burden is one affecting the burden of proof, rather than simply the burden of producing evidence.<sup>178</sup>

This burden-of-proof procedural distinction at least demonstrates some difference between negligence and strict liability claims. As a practical matter, however, plaintiffs do not and cannot avoid proof of defect. No competent plaintiff's lawyer will yield the floor on defectiveness to the defendant without first presenting proof of his or her version of the defect and how the design could have been remedied cost effectively.<sup>179</sup> In modest damage claim cases that cannot justify the expenditures for experts and discovery, the procedural shift might prove to be helpful. On-

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178. *Id.*

179. See Gary T. Schwartz, *Foreword: Understanding Products Liability*, 67 CAL. L. REV. 435, 469 (1979). Ordinarily, plaintiffs have a distinct advantage because they go first with opening arguments and last with closing arguments. See Jansen Voss, Comment, *The Science of Persuasion: An Exploration of Advocacy and the Science Behind the Art of Persuasion in the Courtroom*, 29 LAW & PSYCHOL. REV. 301, 311–12 (2005)

Primacy and recency are theories suggesting when to present evidence in trial to gain the greatest possible effect from that evidence. Although experts disagree on which is most effective, all agree that an argument or piece of evidence has more of an impact if presented at the beginning or end of a witnesses' examination. The law of primacy in persuasion, formulated by F.H. Lund, holds that people are influenced most by the information received first. Lund found that in a debate the first argument presented had the greatest impact on the audience. Similarly, a jury uses the first arguments and pieces of evidence to form preliminary opinions about the case. These initial opinions have been found to bias the interpretation of subsequent evidence. Inconsistent evidence, received later, "tends to be disregarded or misinterpreted" by the jury. Several articles suggest that the most favorable evidence will have its greatest impact if presented first. Experts have found that "jurors tend to sustain belief in the validity of their initial theories long after logic suggests those theories have been discredited." The principle of recency asserts that people are more likely to remember what they have been exposed to most recently.

*Id.* (citations omitted).

ly in the rare case where the jury is in equipoise on the defectiveness question might the burden of proof shift be meaningful.

### C. *Development of the Restatement (Third) on Products Liability*

The continuing difficulties with the implementation of section 402A motivated the ALI to authorize a thorough study of the products liability field with a view towards adopting a new restatement to bring more coherence into products liability law.<sup>180</sup> In 1998, thirty-four years after section 402A, the ALI adopted the *Restatement (Third)*.<sup>181</sup> It provides that persons in the business of selling or distributing products are liable if a defective product causes harm to person or property.<sup>182</sup> Product defects are expressly divided into the three categories—manufacturing defects, design defects, and warning defects—and, for each, different standards of liability are adopted.<sup>183</sup> Strict liability applies to manufacturing defects, but the design- and warning-defect sections reject strict liability principles.<sup>184</sup> Instead, they both use language that evokes a negligence standard without using the word “negligence.”<sup>185</sup> Design- and warning-defect liability arises only from foreseeable risks and products that are determined to be “not reasonably safe.”<sup>186</sup> For design defects, the *Restatement (Third)* requires risk-utility evidence, and additionally, claimants must prove that the harm suffered could have been avoided by a “reasonable alternative design.”<sup>187</sup> The factors that may be taken into account in determining whether or not a product is “reasonably safe” consist of a detailed elaboration of risk-utility considerations.<sup>188</sup> The CET was expressly rejected as a legal test for design defect, but as a compromise, consumer expectations were included as a factor in the risk-utility analysis.<sup>189</sup>

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180. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §1 cmt. a (1998); American Law Institute's Restatement of the Law Third, Torts: Products Liability, [http://www.ali.org/ali\\_old/promo6081.htm](http://www.ali.org/ali_old/promo6081.htm) (last visited Apr. 8, 2009).

181. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §1 cmt. a (1998).

182. *Id.* § 1.

183. See *id.* § 2.

184. See *id.* § 2 cmt. a.

185. See *id.*

186. *Id.* § 2(b)–(c).

187. See *id.* § 2(b) & cmt. a.

188. See *id.* § 2 cmt. a.

189. *Id.* § 2 cmt. g.

The comments to the *Restatement (Third)* explain the “reasonably safe” factors as follows:

A broad range of factors may be considered in determining whether an alternative design is reasonable and whether its omission renders a product not reasonably safe. The factors include, among others, the magnitude and probability of the foreseeable risks of harm, the instructions and warnings accompanying the product, and *the nature and strength of consumer expectations regarding the product, including expectations arising from product portrayal and marketing*. . . . The relative advantages and disadvantages of the product as designed and as it alternatively could have been designed may also be considered. Thus, the likely effects of the alternative design on production costs; the effects of the alternative design on product longevity, maintenance, repair, and esthetics; and the range of consumer choice among products are factors that may be taken into account. A plaintiff is not necessarily required to introduce proof on all of these factors; their relevance, and the relevance of other factors, will vary from case to case. . . . [E]vidence that a proposed alternative design would increase production costs may be offset by evidence that product portrayal and marketing created substantial expectations of performance or safety, thus increasing the probability of foreseeable harm.<sup>190</sup>

Another comment expressly develops the role of consumer expectations as a factor:

Such [consumer] expectations are often influenced by how products are portrayed and marketed and can have a significant impact on consumer behavior. Thus, although consumer expectations do not constitute an independent standard for judging the defectiveness of product designs, they may substantially influence or even be ultimately determinative on risk-utility balancing in judging whether the omission of a proposed alternative design renders the product not reasonably safe.<sup>191</sup>

The *Restatement (Third)* was a considerable intellectual effort in striving for coherence and clarity in products liability law. It applies strict liability principles for manufacturing and malfunction design defects and negligence principles for all other design and warning defects, by requiring risk-utility proof. This structure largely reflects what courts were doing as products liability law matured. Yet, the courts tended to use the language of strict liability even as they required risk-utility proof in the safety ade-

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190. *Id.* § 2 cmt. f (emphasis added).

191. *Id.* § 2 cmt. g.

quacy contexts.<sup>192</sup> The reasonable-alternative-design requirement of the *Restatement (Third)* section 2(b) has been a considerable stumbling block to the adoption of its design-defect provision.<sup>193</sup> Thus, the plethora of design-defect tests has not been reduced very much by the new *Restatement (Third)*.<sup>194</sup> It is fair to say that section 402A continues to wield considerable influence in products liability law.

#### IV. HARMONIZATION AT THE PROOF LEVEL IN DESIGN-DEFECT CASES

##### A. *Considerable Uniformity at the Proof Level Using Risk-Utility Proof or Alternative Proof*

All of the different design-defect tests—the CET, RUT, PMT, two-prong tests, and other combinations used by the different state courts—give the appearance of inordinate confusion in American products liability law. However, a close examination of the design-defect cases reveals considerable consensus and harmonization at the proof level, despite the variation at the design-defect-test and jury-instruction levels.

Focusing on the proof acceptable to make out a prima facie case of design defect in strict products liability shows two significant commonalities in the various courts. The first important commonality at the proof level is that, in virtually all courts across the United States, risk-utility proof is accepted as a proper method for proving a design defect, regardless of the legal test or jury instruction.<sup>195</sup> Indeed, in the safety adequacy cases, it has become

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192. See *Flock v. Scripto-Tokai Corp.*, 319 F.3d 231, 242 (5th Cir. 2003) (“[L]iability for a design defect may attach even if the defect is apparent [to the consumer]”); *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1334 (Conn. 1997) (“Furthermore, we emphasize that our adoption of a risk-utility balancing component to our consumer expectation test does not signal a retreat from strict tort liability. In weighing a product’s risks against its utility, the focus of the jury should be on the product itself, and not on the conduct of the manufacturer.”) (footnotes omitted).

193. See *Potter*, 694 A.2d at 1331 & n.11; Jerry J. Phillips, *The Unreasonably Unsafe Product and Strict Liability*, 72 TENN. L. REV. 833, 854–55 (2005).

194. See 1 MARSHALL S. SHAPO, *THE LAW OF PRODUCTS LIABILITY* § 9.15 (4th ed. 2001). See generally Conk, *supra* note 77, at 800–01, 838–52; J. Denny Shupe & Todd R. Steggerda, *Toward a More Uniform and “Reasonable” Approach to Products Liability Litigation: Current Trends in the Adoption of the Restatement (Third) and Its Potential Impact on Aviation Litigation*, 66 J. AIR L. & COM. 129, 144–57 (2000).

195. Cf. James A. Henderson & Aaron D. Twerski, *Closing the American Products Liability Frontier: The Rejection of Liability Without Defect*, 66 N.Y.U. L. REV. 1263, 1292

increasingly clear that risk-utility proof is required regardless of the legal test used.<sup>196</sup>

The second important commonality among the states at the proof level is that “alternative proof”—proof other than risk-utility evidence—is allowable in a number of categories of design-defect accident cases other than the safety adequacy cases.<sup>197</sup> The alternative-proof design-defect cases in litigation are considerably fewer in number, but nonetheless significant. The categories include: (1) the product malfunction contexts discussed above, (2) contaminated and unwholesome food cases, (3) safety statute and regulation violation cases, (4) manifest defect cases, (5) safety representation cases based on advertising and product promotion, (6) manufacturer safety performance standard failures, (7) intimate bodily use products, and (8) deviation from industry trade

(1991) (noting that a products’ defectiveness is ultimately determined by RUT considerations). See generally David G. Owen, *Defectiveness Restated: Exploding the “Strict” Products Liability Myth*, 1996 U. ILL. L. REV. 743, 754–55.

196. See *Potter* 694 A.2d at 1333; *McCathern v. Toyota Motor Corp.*, 23 P.3d 320, 331–32 (Or. 2001). See generally 2 Am. L. Prods. Liab. 3d, *supra* note 73, § 17:32–34. The *Restatement (Third)* analyzed all of the design-defect cases existing at the time and divided them into four categories to show that the predominate approach was to allow or require risk-utility evidence in design-defect cases. A reporters’ note says:

Before turning to the reported decisions themselves, it will be useful to describe the four general categories into which the cases are grouped. FIRST are the jurisdictions that explicitly require a plaintiff to whom the important alternative bases of liability described above are not available to prove that a reasonable alternative design would have reduced or avoided the plaintiff’s harm. SECOND are the jurisdictions that apply a general risk-utility test for defective design without explicitly requiring proof of a reasonable alternative design. Recognition of a risk-utility standard for judging the defectiveness of product designs implicitly commits the court to the requirement of a reasonable alternative design. THIRD are the jurisdictions that purport to rely on a consumer expectations test but in fact engage in a risk-utility analysis that, as with the SECOND approach, implicitly commits the court to a reasonable alternative design requirement. And FOURTH are the jurisdictions, relatively few in number, that apply a true consumer expectations test, independent of risk-utility, without requiring proof of a reasonable alternative design.

Taken together, the FIRST, SECOND, and THIRD of these approaches require, either explicitly or implicitly, the plaintiff to establish the availability of a reasonable alternative design in cases not involving product malfunction, safety standard violation, or egregiously dangerous design. Taken together, they represent the overwhelming majority of American jurisdictions. Admittedly the FOURTH category of decisions in which consumer expectations, standing alone, determine defective design does not support the position reflected in § 2(b). But the FOURTH approach—reliance on consumer expectations standing apart from risk-utility—is recognized in only a small minority of jurisdictions.

RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB., § 2, reporters’ note cmt. (d)(I).

197. See *infra* Part V.A.

association safety codes.<sup>198</sup> These are elaborated in the following sections. By identifying and recognizing these categories of design-defect cases, courts typically allow plaintiffs recourse to less-burdensome alternative proof to establish a case, and consequently uphold, at least in part, the consumer protection principles underlying the original products liability reform effort.<sup>199</sup>

<b>PROOF IN DESIGN DEFECT CASES</b>	
<b><u>Types of Design Defects</u></b>	<b><u>Proof Required or Allowed</u></b>
Safety Adequacy Design Defects	Risk Utility Evidence
Specific Recognized Categories of Design Defects (e.g., product malfunction in normal use)	Alternative Proof or Risk Utility Evidence

For the judge, the lawyer, the torts teacher, and the law student, this is good news. When evaluating a design-defect case or problem, regardless of the applicable state law, one of the first things we can reliably focus on is whether the case involves a safety adequacy design-defect claim requiring risk-utility proof, or whether the case fits an alternative-proof category of design defect. This conclusion on the proof issue will guide investigation, discovery, proof submission, summary judgment, and directed-

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198. See *infra* Part V.B. The most common situation in which alternative proof is allowed is in product malfunction cases based on circumstantial evidence. Malfunction design-defect cases typically are those in which a description of the nature of the accident, the age and condition of the product, and the operator's non-culpable conduct makes it reasonable for juries to infer that the accident would not have happened unless the product was defective. See David G. Owen, *Manufacturing Defects*, 53 S.C. L. REV. 851, 871-74 (2002).

199. See *infra* Part.V.A.

verdict-motion determinations. Thus, one of the most important considerations in design-defect law is the determination of the dividing line or boundary between design-defect cases requiring risk-utility proof and those allowing alternative proof.<sup>200</sup> In effect, we need to differentiate between the safety adequacy cases requiring risk-utility proof and the other categories of design defects that allow alternative proof.<sup>201</sup> Identifying the boundary between these two types of design-defect cases permits us to differentiate on the basis of the type of proof required or allowed and is an important step in harmonizing design-defect law.<sup>202</sup>

### B. *Analogy of Alternative Proof in Negligence Law*

The notion of a dichotomy between risk-utility proof and alternative proof to make out a prima facie case is not unique to strict products liability—it is mirrored in negligence law. It is commonly understood that proving negligence involves proving both the foreseeable risks arising from the defendant's conduct and the gravity and probability of the harm that might occur. Then the evidence is contrasted with proof of a safer, feasible, cost-effective course of conduct the defendant could have undertaken that would not have unduly interfered with the utility of the activity.<sup>203</sup> Generally, such feasible, safer, and cost-effective conduct proof is permitted to establish negligence.<sup>204</sup> Even in negligence law, however, alternative proof is allowable in certain contexts to ease the plaintiff's considerable burden of proof.<sup>205</sup>

Res ipsa loquitur cases are perhaps the best example of alternative proof in negligence law.<sup>206</sup> In some cases, proof of the spe-

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200. See 1 OWEN ET AL., *supra* note 65, at § 8.2.

201. See *id.*

202. See Donald P. Blydenbaugh, *Analyzing Inconsistent Verdicts in Products Liability Cases*, 73 DEF. COUNS. J. 46, 55 (2006).

203. See *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947).

204. See RESTATEMENT (SECOND) OF TORTS §§ 292–93 (1965). Of course, justice factors play an equal, if not greater role, in determining reasonable conduct beyond efficiency notions. Indeed, courts instruct on the justice oriented reasonable person standard rather than the economic risk-utility standard. See generally Wright, *Hand*, *supra* note 75, at 147–52, 273.

205. See Daniel Givelber, *The Right to Minimum Social Decency and the Limits of Evenhandedness: Intentional Infliction of Emotional Distress by Outrageous Conduct*, 82 COLUM. L. REV. 42, 56 (1982).

206. See, e.g., *Bedal v. Hallack & Howard Lumber Co.*, 226 F.2d 526, 538–39 (9th Cir. 1955); *Byrne v. Boadle*, (1863) 159 Eng. Rep. 299, 300–01 (Exch. Div.).



cific, negligent conduct and its unreasonableness is unnecessary. It may be sufficient to establish circumstantial evidence of the facts of the accident, the likelihood that such accidents do not ordinarily occur in the absence of someone's negligence and that, if anyone was negligent, it was, more likely than not, the defendant.<sup>207</sup> Thus, if ceiling plaster in a hotel falls on a sleeping guest at night, it is likely sufficient for the guest to prove what happened and to show the hotel's control over its facilities. The jury will then be allowed to infer negligence because of the general knowledge and common expectation that ceilings do not fall in the absence of negligence.<sup>208</sup>

Moreover, proof of custom deviation by the defendant is also allowable alternative proof in negligence.<sup>209</sup> While such custom-deviation evidence is not necessarily conclusive of negligence, it may alone be deemed sufficient proof.<sup>210</sup> Similarly, in most states an applicable safety statute or regulation violation is either conclusive or persuasive proof of negligence.<sup>211</sup> In addition, many common accidents demonstrate manifest negligence, making specific proof of alternative conduct unnecessary.<sup>212</sup> If a plaintiff proves that the defendant was text messaging at the time his car swerved into the plaintiff's traffic lane, such proof is undoubtedly sufficient to establish negligence without more.<sup>213</sup> Thus, in negligence, the common use of risk-utility proof lives compatibly with alternative-proof contexts. These alternative-proof contexts are important because they often ease a plaintiff's burden of proof in terms of investigation, the use of experts, and reduction of litigation costs.

### C. *The Strict Products Liability Context*

Today, it is widely recognized that risk-utility proof is the most common way of establishing a design defect in strict liability cas-

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207. DAN B. DOBBS, *THE LAW OF TORTS* §§ 154–55 (2000).

208. See *RESTATEMENT (SECOND) OF TORTS* § 328D cmt. e, illus. 4 (1965).

209. See Clarence Morris, *Custom and Negligence*, 42 *COLUM. L. REV.* 1147, 1151–53 (1942).

210. See 1 OWEN ET AL., *supra* note 65, § 2.7 & n.8.

211. DOBBS, *supra* note 207, § 134.

212. 18 *AM. JUR. TRIALS* § 30 (1971).

213. Cf. Robert L. Sachs, Jr., *Txt Msgs and Other Driving Distractions*, 44 *TRIAL* 20, 22 (2008) (discussing a University of Utah study that demonstrated the dangers of text messaging while driving).

es.<sup>214</sup> Where such proof strongly favoring the plaintiff is available, plaintiffs readily use it because of its persuasive character. If plaintiffs can establish a safer, feasible, cost-effective alternative design that does not unduly interfere with the utility of the product, they will typically want to utilize such inherently persuasive evidence. Additionally, such evidence often tends to show the culpability of the producer, notwithstanding the strict liability label of the action.<sup>215</sup>

While risk-utility proof is typically used, it is important to recognize that it is not required for all design-defect cases. Courts have implicitly differentiated between the safety adequacy design-defect cases where risk-utility is required and other categories of design defects where alternative proof is allowed. The development of this proof dichotomy in design-defect cases is best illustrated by the case law in the states using a two-prong test for design defect.<sup>216</sup> Courts using a two-pronged approach typically have to develop a boundary between contexts allowing the application of the CET and those contexts that require the RUT.<sup>217</sup> This boundary identifies the proof required or allowable, as well as the applicable jury instructions.<sup>218</sup> If the RUT is applicable in safety adequacy cases, then risk-utility proof is required.<sup>219</sup> If the

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214. See *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 308–09 (Cal. 1994); *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1333 (Conn. 1997); *McCathern v. Toyota Motor Corp.*, 23 P.3d 320, 331 (Or. 2001).

215. Generally, plaintiffs are not required to prove an actual alternate design that works, but they can present proof of a theoretical model through expert testimony. In some cases where the danger is great and the risk presented by the product is not integral to the purpose of the product, juries may be allowed to infer that an alternate, safer design could have been developed. See *Potter*, 694 A.2d at 1331. The *Restatement (Third)*, on the other hand, explicitly requires proof of a “reasonable alternative design.” RESTATEMENT (THIRD) OF TORTS: PROD. LIAB. § 2(b) (1998). It is not clear how demanding the standard is because it is seriously qualified in the comments. *Id.* § 2 cmt. b, e. Many states that have considered the issue have rejected the explicit requirement of an alternate design, while a few have endorsed it. See Annotation, *Burden of Proving Feasibility of Alternative Safe Design in Prods. Liability Action Based on Defective Design*, 78 A.L.R. 4th 154, §§ 3–4 (1990).

216. The two-pronged approach was first established in *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 457–58 (Cal. 1978). Professor Wright counts eleven states that have followed the two-pronged approach. Richard W. Wright, *The Principles of Product Liability*, 26 REV. LITIG. 1067, 1080 & n.72 (2007).

217. See Blydenbaugh, *supra* note 202, at 56.

218. See *id.* at 55.

219. See *Soule*, 882 P.2d at 308; DOBBS, *supra* note 207, § 357.

CET applies, then alternative proof can be used to establish the prima facie case.<sup>220</sup>

Significantly, the boundary developed in the two-prong approach turns out to be equally important in all states. Even those states using a single, universal test for design defect must also decide on the kinds of proof required to make out a prima facie case in different product accident contexts and, in doing so, they differentiate between cases requiring risk-utility proof and cases allowing alternative proof.<sup>221</sup> Thus, a boundary determination related to the nature of the proof required effectively applies in all states. To be more explicit, the boundary question—the dividing line between design-defect cases requiring risk-utility proof and those allowing alternative proof—is common to all states. In the two-prong approach, the boundary operates both at the proof and jury-instruction levels, whereas in states with a single, universal test for design defect, the boundary question operates only at the proof level.<sup>222</sup>

Two significant questions for courts and lawyers arise: When is risk-utility proof required, and when is alternative proof an allowable substitute? In other words, what is the dividing line that determines which type of proof can or must be used, and what is the nature of the allowable alternative proof? The California courts have developed a general boundary to differentiate between risk-utility and alternative-proof cases, and the state's heavy volume of product liability cases has provided the grist for identifying the different categories of design-defect cases allowing alternative proof.<sup>223</sup> The alternative-proof cases are comprised of at least eight different categories to date, and the nature of the alternative proof allowed varies with the category.<sup>224</sup> These categories, as indicated above, are relevant and helpful to all states, not just the states using the two-prong approach.

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220. See *Soule*, 882 P.2d at 308.

221. See *McCathern v. Toyota Motor Corp.*, 23 P.3d 320, 331 (Or. 2001) (risk-utility proof not always required in design defect cases); *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1334 (Conn. 1997) (noting that certain contexts require a distinction between risk-utility and alternative proof despite adopting a single modified CET).

222. See *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 457 (Cal. 1978).

223. See Kristine Cordier Karhezis, Annotation, *Products Liability: Modern Cases Determining Whether Product Is Defectively Designed*, 96 A.L.R. 3d 22, § 5 (1979).

224. See *infra* Part V.A–B.

D. *Proof of Design Defect in the States Following the Two-Prong Approach*

The California cases provide an excellent starting point for examination of the kinds of proof required or allowed to establish a prima facie case. In 1978, the Supreme Court of California developed a two-prong legal test for design defect in *Barker v. Lull Engineering Co.*<sup>225</sup> *Barker* involved a piece of heavy construction equipment called a Lull High-Lift Loader, which was used to lift loads of up to five thousand pounds to a height of thirty-two feet.<sup>226</sup> The loader was quite large in length and breadth and sat on four tires that were each about five feet in diameter.<sup>227</sup> The loader was designed such that its load could be kept level even if the loader was on a slope.<sup>228</sup> On the day of the accident, the plaintiff was operating the loader on sharply sloping ground and was trying to lift a load some ten to eighteen feet high on the second story of a building under construction.<sup>229</sup> As the load was being lifted it began to tip, and co-workers shouted for the plaintiff to jump from the loader.<sup>230</sup> The plaintiff jumped, but he was struck by a piece of falling lumber and seriously injured.<sup>231</sup> The plaintiff contended that the accident was caused by one or more defects in the loader, whereas the defense argued that the accident was caused by the plaintiff's inexperience or misuse.<sup>232</sup> The principal alleged defect was the manufacturer's failure to include outriggers in the design of the loader—mechanical arms with pads at the ends that could be extended outward from the machine and placed on the ground to provide stability.<sup>233</sup> The jury returned a verdict in favor of the defendants.<sup>234</sup> The plaintiff appealed on the ground that the trial court erred in instructing the jury.<sup>235</sup>

Justice Tobriner, writing for the court, reversed and provided some understanding of the concept of defectiveness in the design

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225. See *Barker*, 573 P.2d at 455–56.

226. *Id.* at 447.

227. See *id.*

228. *Id.*

229. *Id.*

230. *Id.*

231. *Id.*

232. *Id.*

233. *Id.* at 448.

234. *Id.* at 449.

235. *Id.*

context.<sup>236</sup> He first acknowledged that design defect is “neither self-defining nor susceptible to a single definition applicable in all contexts.”<sup>237</sup> The court concluded that two tests were operative to establish design defect.<sup>238</sup> First, a product could be found to be defective in design “if the plaintiff demonstrates that the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner.”<sup>239</sup> The court, in a later decision, emphasized this basic concept by stating that the CET is “reserved for cases in which the *everyday experience* of the product’s users permits a conclusion that the product’s design violated *minimum* safety assumptions . . . .”<sup>240</sup>

Secondly, the *Barker* court asserted that other California cases had indirectly recognized that a product could be found to have a defective design if, in hindsight, the jury determines that the “risk of danger inherent in the challenged design outweighs the benefits of such design.”<sup>241</sup> In undertaking the balance of risk and benefit, the court said that the jury may consider, among other relevant factors:

the gravity of the danger posed by the challenged design, the likelihood that such danger would occur, the mechanical feasibility of a safer alternative design, the financial cost of an improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design.<sup>242</sup>

The court distinguished this second design-defect test from a negligence test in two ways. First, it ruled that, unlike negligence law’s use of foresight, it would apply the strict liability risk-benefit test with the hindsight of all risks that became known since the product arrived on the market.<sup>243</sup> Second, the court stated that if the plaintiff establishes that a product’s design proximately caused his injury, then the defendant bears the bur-

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236. *Id.* at 445, 446, 452–53.

237. *Id.* at 453.

238. *Id.* at 455–56.

239. *Id.* at 454.

240. *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 308 (Cal. 1994).

241. *Barker*, 573 P.2d at 454.

242. *Id.* at 455.

243. *Id.* at 457; *see infra* Part III.B.3.b (discussing this principle as it relates to the pharmaceutical drug market).

den of production and persuasion to establish that, on balance, the benefits of the design outweigh the risk of danger.<sup>244</sup>

The *Barker* court summed up its approach to design defects by stating its two-prong test as follows:

[A] product may be found defective in design if the plaintiff establishes that the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner. Second, a product may alternatively be found defective in design if the plaintiff demonstrates that the product's design proximately caused his injury and the defendant fails to establish, in light of the relevant factors, that, on balance, the benefits of the challenged design outweigh the risk of danger inherent in such design.<sup>245</sup>

Justice Tobriner stated that under the CET standard, "an injured plaintiff will frequently be able to demonstrate the defectiveness of a product by resort to circumstantial evidence, even when the accident itself precludes identification of the specific defect at fault."<sup>246</sup> He cited three cases in which the CET would be the appropriate legal test.<sup>247</sup> Each of the cases involved situations where vehicles were being operated normally and malfunctions occurred causing accidents.<sup>248</sup> The court found the malfunction proof in each case sufficient to allow an inference of defect.<sup>249</sup> Thus, under *Barker*, not only were there two different tests for defect, but concomitantly two different means of proving a defect depending on the test.<sup>250</sup> The court would allow risk-utility evidence under the RUT and alternative proof, as yet undefined, under the CET.<sup>251</sup>

*Barker* brought clarity to the design-defect world, but there were still many questions to be answered. The risk-utility prong was easier to implement because it operates similarly to negli-

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244. *Barker*, 573 P.2d at 455-56 (discussing the public policy behind this shifted burden).

245. *Id.*

246. *Id.* at 454.

247. *See id.* at 454 (citing *Elmore v. Am. Motors Corp.*, 451 P.2d 84 (Cal. 1969); *Vandermark v. Ford Motor Co.*, 391 P.2d 168 (Cal. 1964); *Culpepper v. Volkswagen of Am., Inc.*, 109 Cal. Rptr. 110 (Ct. App. 1973)).

248. *See Elmore*, 451 P.2d at 85; *Vandermark*, 391 P.2d at 169; *Culpepper*, 109 Cal. Rptr. at 112.

249. *See Elmore*, 451 P.2d at 88; *Vandermark*, 391 P.2d at 170; *Culpepper*, 109 Cal. Rptr. at 115-16.

250. *See Barker*, 573 P.2d at 455-56.

251. *See id.*

gence principles, with adjustments for the hindsight and burden-of-proof-shifting characteristics. The consumer expectations prong was more problematic. It remained to be determined to what design-defect contexts the CET applied and the proof required in such situations. One of the more difficult issues created by *Barker* was the geographic domain of each of the tests. Lower courts were called on to decide when each test applies and whether both tests can be operative in a single case. In 1982, the Supreme Court of California provided some interpretive relief in *Campbell v. General Motors Corp.*<sup>252</sup>

The plaintiff in *Campbell* was injured when the bus she was riding lurched and stopped abruptly causing her to be thrown to the floor.<sup>253</sup> The plaintiff was sitting in the first forward-facing single seat on the right.<sup>254</sup> All such seats had a horizontal metal "grab bar" at shoulder level attached to their backs.<sup>255</sup> There was no such bar in front of the plaintiff because her seat faced the side of a lateral-facing double side seat.<sup>256</sup> There was a metal armrest on the side seat, but it was at waist level.<sup>257</sup> Every other seat had a vertical metal pole connecting the aisle end of the grab bar to the ceiling.<sup>258</sup> The lateral-facing double seats also had a floor-to-ceiling pole half-way in front of the seats.<sup>259</sup> No vertical pole was near the plaintiff's seat.<sup>260</sup> The plaintiff testified that as she felt the bus turn sharply, she reached out for something to hold onto, but "[t]here was nothing to grab."<sup>261</sup> The trial court granted the defendant's motion to dismiss for insufficient evidence of a design defect and lack of causation.<sup>262</sup> The Supreme Court of California first concluded that the plaintiff had introduced enough evidence to invoke the RUT, shifting the burden of proof to the defendant.<sup>263</sup> The plaintiff's evidence demonstrated the lack of a stability assistance device near her seat and raised a jury question as

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252. 649 P.2d 224, 233 (Cal. 1982).

253. *Id.* at 226.

254. *Id.*

255. *Id.*

256. *Id.*

257. *Id.*

258. *Id.*

259. *See id.*

260. *See id.*

261. *Id.*

262. *Id.* at 226-27.

263. *See id.* at 230, 232.

to whether the presence of one would have avoided the injuries.<sup>264</sup> The court found expert testimony unnecessary in these circumstances for the plaintiff to establish a prima facie case under the risk-utility prong of *Barker*.<sup>265</sup> The burden of proof then shifted to the defendant to prove that the benefits of the design outweighed the risks.<sup>266</sup>

More significantly, *Campbell* also concluded that the plaintiff presented sufficient evidence to make out a prima facie case under the consumer expectations prong of *Barker*.<sup>267</sup> The court found that the use of public buses and the risks associated with sudden turns and stops were matters of common experience; therefore, expert testimony was not required.<sup>268</sup> Where a product is within the common experience of ordinary consumers, evidence presented under the CET is sufficient where a plaintiff shows: "(1) his or her use of the product; (2) the circumstances surrounding the injury; and (3) the objective features of the product which are relevant to an evaluation of its safety."<sup>269</sup> *Campbell* established important guidelines on the requirements to prove a viable CET case based on a manifest defect in a commonly used product.<sup>270</sup> The defendant clearly failed to provide a stability assistance device—a grab bar—for all vulnerable seating.<sup>271</sup> The opinion left open whether the CET could be applied in contexts in which the use of a product was not within the common experience of ordinary consumers and, if so, the nature of the expert testimony required in such situations.<sup>272</sup>

Thus, in the evolving California law on design defect under the two-prong test, not only are there two different tests for establishing a defect, but also, each test allows for a different means of proving the defect. Under the RUT, the plaintiff need only prove that his or her injuries were proximately caused by the product's design.<sup>273</sup> The burden of proof then shifts to the defendant to in-

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264. *See id.* at 231.

265. *See id.* at 231–32.

266. *See id.* at 232.

267. *Id.* at 232.

268. *Id.* at 233.

269. *Id.*

270. *See id.* at 232–33.

271. *See id.*

272. *See, e.g., Soule v. Gen. Motors Corp.*, 882 P.2d 298, 306 (Cal. 1994).

273. *Campbell*, 649 P.2d at 228; *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 455 (Cal. 1978).



roduce risk-utility evidence.<sup>274</sup> The plaintiff might then rebut with his or her own evidence on risks and benefits.<sup>275</sup> The defense carries the burden of persuasion on the balance of risks and benefits.<sup>276</sup> The defense must establish by a preponderance of the evidence that the design did not contain "excessive preventable danger."<sup>277</sup> In practice, a plaintiff who wants to rely exclusively or primarily on the RUT prong of *Barker* will most likely set forth his or her view of how and why the accident happened and how it could have been prevented by a safer, feasible, cost-effective alternative design that does not interfere with the product's underlying utility, rather than wait until rebuttal.

Understanding the nature of the alternative proof potentially allowable under the CET is important to practitioners in developing trial strategy—particularly on directed verdict motions. *Campbell* described alternative proof requirements in the manifest design-defect context under the CET and alluded to the product malfunction category of cases relying on circumstantial evidence.<sup>278</sup> In 1994, the Supreme Court of California returned to the question of the boundary line between the CET and the RUT in *Soule v. General Motors Corp.* and confirmed the general principle differentiating the dichotomy.<sup>279</sup>

*Soule* involved a collision between two vehicles in which the force of the accident caused the left front wheel of the plaintiff's vehicle to break free in a rearward direction, smashing the floorboard or "toe pan" into her feet and causing severe injuries.<sup>280</sup> The parties introduced substantial technical expert testimony on defect and causation.<sup>281</sup> The plaintiff contended that the weld on a critical failed bracket was excessively porous and therefore defective, and that there were alternative designs used by other car

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274. *Campbell*, 649 P.2d at 228; *Barker*, 573 P.2d at 455.

275. *See Campbell*, 649 P.2d at 230.

276. *Campbell*, 649 P.2d at 232; *Barker*, 573 P.2d at 455.

277. *See Barker*, 573 P.2d at 454–55 (citing *Buccery v. Gen. Motors Corp.*, 132 Cal. Rptr. 605, 612 (Ct. App. 1976); *Self v. Gen. Motors Corp.*, 116 Cal. Rptr. 575, 578 (Ct. App. 1974); *Hyman v. Gordon*, 111 Cal. Rptr. 262, 264–65 (Ct. App. 1973)).

278. *See Campbell*, 649 P.2d at 230–31 (citing *McNeil v. Yellow Cab. Co.*, 147 Cal. Rptr. 733, 734–35 (Ct. App. 1978); *Dimond v. Caterpillar Tractor Co.*, 134 Cal. Rptr. 895, 902–03 (App. 1976); *Lewis v. Am. Hoist & Derrick Co.*, 97 Cal. Rptr. 798, 805 (Ct. App. 1971)).

279. *Cf. Soule v. Gen. Motors Corp.*, 882 P.2d 298, 307–09 (Cal. 1994).

280. *Id.* at 301.

281. *See id.* at 302.

manufacturers that would have prevented the injuries.<sup>282</sup> The trial court instructed the jury on each of the two prongs of *Barker*, and the jury returned a verdict for the plaintiff.<sup>283</sup> The defendant appealed, contending that it was improper to instruct on the CET in a complex design-defect case.<sup>284</sup>

The *Soule* court framed the critical issue in the case as whether “a product’s design [may] be found defective on grounds that the product’s performance fell below the safety expectations of the ordinary consumer if the question of how safely the product should have performed cannot be answered by the common experience of its users[.]”<sup>285</sup> The court concluded that performance of the wheel assembly and toe pan in accidents was outside ordinary consumer expectations, and thus, the jury should have only considered the evidence under the RUT.<sup>286</sup>

The court stated that the CET, as *Barker* indicated, reflects the “relationship between strict tort liability . . . and the common law doctrine of warranty, which holds that a product’s presence on the market includes an implied representation ‘that it [will] safely do the jobs for which it was built.’”<sup>287</sup> Justice Baxter concluded that when a design-defect claim calls for a “careful assessment of feasibility, practicality, risk, and benefit,” it must be resolved under the RUT.<sup>288</sup> He relied on *Self v. General Motors Corp.* as an example of such a situation.<sup>289</sup> *Self* was a crashworthiness case regarding the location of an auto gas tank and whether changing the location to avoid fires and explosions might create even greater risks of injury in other commonly occurring situations.<sup>290</sup> Regarding the safety adequacy cases such as *Self*, the *Barker* Court stated that “as a practical matter, in many instances it is simply impossible to eliminate the balancing or weighing of competing

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282. *Id.*

283. *Id.* at 303.

284. *Id.*

285. *See id.* at 301.

286. *Id.* at 310. The court concluded, however, that the error in the instructions was not a prejudicial error warranting a retrial. *Id.* at 310–11.

287. *Id.* at 304 (quoting *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 454 (Cal. 1978)).

288. *Id.* at 305.

289. *Id.* (citing *Self v. Gen. Motors Corp.*, 116 Cal. Rptr. 575, 578–79 (Ct. App. 1974)).

290. *Self*, 116 Cal. Rptr. at 577, 580.

considerations in determining whether a product is defectively designed or not."<sup>291</sup>

For such cases, the *Barker* court's jury instruction is more reflective of the risk-utility proof required.<sup>292</sup>

In *Soule*, Justice Baxter then turned his attention to the scope of application of the CET.<sup>293</sup> Significantly, his opinion reaffirmed *Barker's* broad general principle for the proper application of the CET.<sup>294</sup> The *Soule* court stated that the use of the CET is appropriate where the circumstances of the product's failure allow for a reasonable inference that "the product's design performed below the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers."<sup>295</sup>

Justice Baxter rejected the defense's contentions that the CET was incapable of precise definition, focused on the subjective opinions of consumers, and eliminated the careful balancing of risks and benefits relevant to the design process.<sup>296</sup> He stated:

We fully understand the dangers of improper use of the consumer expectations test. However, we cannot accept GM's insinuation that ordinary consumers lack any legitimate expectations about the minimum safety of the products they use. In particular circumstances, a product's design may perform so unsafely that the defect is apparent to the common reason, experience, and understanding of its ordinary consumers. In such cases, a lay jury is competent to make that determination.<sup>297</sup>

Thus, the CET is the minimum standard for design defects. For tort law purposes, a product's presence on the market carries an implied representation that it will safely perform the tasks for which it was designed.<sup>298</sup> A product is defective in design, at a minimum, if it fails to perform as safely as an ordinary consumer

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291. *Barker*, 573 P.2d at 456.

292. *Id.* at 455 (asking a jury to consider the "gravity of the danger posed . . . , the likelihood [of] such danger . . . , the mechanical feasibility of a safer alternative design, the financial cost of [such] an improved design, and [any] adverse consequences . . . result[ing] from an alternative design").

293. *See Soule*, 882 P.2d at 306-08.

294. *Id.* at 307-08 (noting that the CET "is reserved for cases in which the *everyday experience* of the product's users permits a conclusion that the product's design violated *minimum safety assumptions . . .*").

295. *Id.* at 309.

296. *Id.* at 309-10.

297. *Id.* at 310.

298. *Id.* at 304 (quoting *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 454 (Cal. 1978)).

would expect when used in an intended or reasonably foreseeable manner.<sup>299</sup> The malfunction and manifest defect-design cases are two contexts where alternative proof is allowed, in which the California courts use the CET jury instruction.<sup>300</sup> Importantly, it is also clearly established that if a product's design passes the minimum test of the CET, it may still be found defective under a risk-utility analysis.<sup>301</sup>

The Supreme Court of California's decisions and the succeeding intermediate appellate cases have begun to flesh out the contexts in which the CET is properly operative. The erstwhile distinction between complex and simple products discussed in some cases and the legal literature has not worked. *Soule's* analysis showed that malfunction cases involving complex products, such as mechanical deckboards used on truck loading docks, are properly governable by the CET.<sup>302</sup> While there is an element of truth in the difference between complex and simple products in many cases, such phraseology is more misleading than helpful and should be avoided. In reality, there is no single dividing line between the CET and the RUT. Consumer product accidents are more likely to be governed by the CET, but there have been a number of CET cases outside the consumer product arena requiring risk-utility proof as well.

### E. *Relevance of the Two-Prong Proof Boundary to All States*

The alternative proof categories developed by California and other states using the two-prong approach should prove to be relevant in all other states. Courts using only the CET as a universal legal test of design defect have necessarily allowed alternative methods of proof as well as risk-utility evidence.<sup>303</sup> They have allowed proof of defect by circumstantial evidence in the malfunction cases from the early days of strict products liability.<sup>304</sup> Similarly, alternative proof is allowed in manifest defect cases and in contaminated and unwholesome food contexts to establish design

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299. *See id.* at 303.

300. *See Akers v. Kelley Co.*, 219 Cal. Rptr. 513, 524-25 (Ct. App. 1985).

301. *See Barker*, 573 P.2d, at 454.

302. *See Soule*, 882 P.2d at 306-07, 310.

303. *See, e.g., id.* at 308-09.

304. *See Barker*, 573 P.2d at 454.

defects where safety statutes are violated.<sup>305</sup> Moreover, those states that use the RUT or the PMT implicate risk-utility evidence as a matter of course and also recognize the alternative proof cases.<sup>306</sup> Thus, even though all states, regardless of the nature of the legal test used for design defect, recognize the need for risk-utility proof in the safety adequacy design cases, they also recognize that alternative proof categories can be applicable in other cases.

Oregon recognized the boundary issue between those cases requiring risk-utility proof and those allowing alternative proof using the CET exclusively in jury instructions as required by legislation.<sup>307</sup> In *McCathern v. Toyota Motor Corp.*, a design-defect case based on the rollover of an SUV, the Supreme Court of Oregon recognized that, despite the legal test and jury instruction based on the CET, a safety adequacy design-defect claim may require risk-utility proof.<sup>308</sup> The court stated:

[I]n some cases, consumer expectations about how a product should perform under specific conditions will be within the realm of jurors' common experience. However, some design-defect cases involve products or circumstances that are "not so common . . . that the average person would know from personal experience what to expect." When a jury is "unequipped, either by general background or by facts supplied in the record, to decide whether [a product] failed to perform as safely as an ordinary consumer would have expected," this court has recognized that additional evidence . . . may consist of evidence that the magnitude of the product's risk outweighs its utility, which often is demonstrated by proving that a safer design alternative was both practicable and feasible.<sup>309</sup>

Similarly in Connecticut, the court modified its CET in order to accommodate the safety adequacy design-defect cases which require risk-utility proof. The court in *Potter v. Chicago Pneumatic Tool Co.* framed it this way:

Although today we continue to adhere to our long-standing rule that a product's defectiveness is to be determined by the expectations of an ordinary consumer, we nevertheless recognize that there may

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305. See *infra* Part V.B.2, 4, 6, 8; see also RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 3, 4, 7 (1998).

306. See, e.g., *Morson v. Super. Court*, 109 Cal. Rptr. 2d 343, 350-51, 356, 359 (Ct. App. 2001).

307. See OR. REV. STAT. § 30.920 (2007).

308. See 23 P.3d 320, 331-32 (Or. 2001).

309. *Id.* at 331 (quoting *Heaton v. Ford Motor Co.*, 435 P.2d 806, 809 (Or. 1967)).

be instances involving complex product designs in which an ordinary consumer may not be able to form expectations of safety. . . . In such cases, a consumer's expectations may be viewed in light of various factors that balance the utility of the product's design with the magnitude of its risks. We find persuasive the reasoning of those jurisdictions that have modified their formulation of the consumer expectation test by incorporating risk-utility factors into the ordinary consumer expectation analysis. . . . Thus, the modified consumer expectation test provides the jury with the product's risks and utility and then inquires whether a reasonable consumer would consider the product unreasonably dangerous.<sup>310</sup>

These cases illustrate that courts, regardless of the legal test they use, are recognizing a two-path *proof* approach in the design-defect area, resulting in the requirement of risk-utility evidence in safety adequacy design-defect cases and allowing alternative proof in other cases.

## V. DESIGN-DEFECT CONTEXTS APPROPRIATE FOR ALTERNATIVE PROOF

### A. *Background*

One of the primary reasons for the adoption of strict products liability was to relieve the plaintiff's difficult burden of proving negligence by showing that the dangers of the design outweighed the burden of a safer design.<sup>311</sup> The California courts, in developing their two-prong approach, have developed categories of product accident cases in which risk-utility proof is not essential.<sup>312</sup> Regardless of the test or jury instruction used for design-defect cases, these alternative proof categories blaze a path for all states in identifying design-defect contexts in which risk-utility evidence is not required.

The cases discussed so far illustrate two categories of design-defect cases that allow for alternative proof to make out a prima facie case of defectiveness. The multipurpose lathe product mal-

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310. 694 A.2d 1319, 1333 (Conn. 1997).

311. See *Campbell v. Gen. Motors Corp.*, 649 P.2d 224, 228 (Cal. 1982).

312. Of course, the California Supreme Court went further and shifted the burden of production and persuasion onto the defendant. See *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 455 (Cal. 1978). Discussion of a number of unreported California cases have been included in this study, not primarily for their legal analysis, but for the fact patterns they represent in categorizing the types of design-defect cases that allow for alternative proof.

function case of *Greenman v. Yuba Power Products, Inc.*, illustrates one category.<sup>313</sup> In such cases, proof is based on circumstantial evidence by analogy to *res ipsa loquitor* in negligence law.<sup>314</sup> The manifest defect bus stability bar case of *Campbell v. General Motors Corp.* illustrates the second category.<sup>315</sup> *Campbell* is a case of manifest design defect because ordinary consumers have common experience with buses, the nature of the risk, and the availability and need for safety grab bars.<sup>316</sup>

The *Restatement (Third)* recognizes two major exceptions to the risk-utility proof requirement for design defects—circumstantial evidence cases and safety regulation violations—but otherwise freezes all design-defect cases into the risk-utility proof format.<sup>317</sup> There are, however, a number of categories of cases for which alternative proof is properly applicable. At least four different categories can be deduced from the decisions. Beyond that, logic and analogies indicate that there are at least four other alternative proof categories that should be recognized. Isolating the characteristics of these categories will clarify the area and assist the litigating of claims. Most importantly, these alternative proof cases demonstrate the continuing value of the common law process in the modern context. The common law of products liability allows for a way forward—continual adaptation and development consistent with today's circumstances. The next section develops in more detail the eight existing or evolving categories of design-defect cases in which alternative proof is or should be allowed.

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313. See 377 P.2d 897, 901 (Cal. 1963).

314. See RESTATEMENT (SECOND) OF TORTS § 328 D (1965).

315. See 649 P.2d 224, 233 (Cal. 1982).

316. *Id.* at 232–33.

317. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 2 cmt. e, 3, 4 (1998) (providing exceptions to risk-utility proof for circumstantial evidence cases in section 3, for regulatory violations in section 4, and, very indirectly, for manifest defect cases in section 2, comment e). Food products that are unwholesome or contaminated can utilize alternative proof based on circumstantial evidence or regulatory violations. See *id.* § 7; *infra* text accompanying notes 433–40.

<b>Alternative Proof Contexts</b>
1. Malfunction Cases—Circumstantial Evidence of Product Design Defect
2. Manifest Design Defects
3. Deviation from Statutory or Regulatory Safety Standards
4. Deviation from Safety Performance Standards
5. Product Safety Representations and Promotions
6. Food Products
7. Intimate Bodily Use Products
8. Deviation from Industry Wide Safety Codes and Standards

### B. *Types of Alternative Proof Cases*

#### 1. Malfunction Cases—Circumstantial Evidence of Product Design Defect

It has been well accepted since *Byrne v. Boadle* that, at times, descriptions of the circumstances surrounding accidents inferentially demonstrate the negligence of the defendant, without proof of specific wrongful conduct.<sup>318</sup> Similarly, it became quickly accepted that circumstantial evidence could be used to establish an inference of product defect<sup>319</sup> under strict products liability.<sup>320</sup> In

318. See (1863), 159 Eng. Rep. 299, 300–01 (Exch. Div.) The translation of “*res ipsa loquitur*” is “the thing speaks for itself.” RESTATEMENT (SECOND) OF TORTS § 328 D cmt. a (1965). One wit has said, “If it speaks for itself, why doesn’t it speak English?”

319. See, e.g., *Adkins v. K-Mart Corp.*, 511 S.E.2d 840, 847 (W. Va. 1998) (quoting *Anderson v. Chrysler Corp.*, 403 S.E.2d 189, 194 (W. Va. 1991)); see also RESTATEMENT (SECOND) OF TORTS § 328 D (1965); Robert A. Barker, *Circumstantial Evidence in Strict*



actuality, the circumstantial proof approach in strict liability is simpler than in negligence because it only requires a reasonable inference of a product defect that existed at the time of sale, whereas negligence cases require not only proof of the defect, but also proof that the defendant's negligent conduct caused the defect.<sup>321</sup>

The circumstantial proof approach is explicitly recognized in the *Restatement (Third)* in section 3, which provides:

It may be inferred that the harm sustained by the plaintiff was caused by a product defect existing at the time of sale or distribution, without proof of a specific defect, when the incident that harmed the plaintiff:

- (a) was of a kind that ordinarily occurs as a result of product defect; and
- (b) was not, in the particular case, solely the result of causes other than product defect existing at the time of sale or distribution.<sup>322</sup>

The *Barker* court, in establishing the CET component of its two-prong test, recognized that circumstantial proof of defect was an appropriate way of satisfying the test in some cases:

When a product fails to satisfy . . . ordinary consumer expectations as to safety in its intended or reasonably foreseeable operation, a manufacturer is strictly liable for resulting injuries. Under this standard, an injured plaintiff will frequently be able to demonstrate the defectiveness of a product by resort to circumstantial evidence, even when the accident itself precludes identification of the specific defect at fault.<sup>323</sup>

*Akers v. Kelley Co.*, decided after *Barker* and cited favorably in *Soule*,<sup>324</sup> described circumstantial proof of defect as a proper cate-

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*Liability Cases*, 38 ALBANY L. REV. 11, 13-14 (1973); J. Gregory Marks, *Determining the Indeterminate Defect*, 36 ST. MARY'S L.J. 237, 239 (2005); Charles H. Cranford, Note, *Circumstantial Evidence and Proof of Defect*, 50 N.C. L. REV. 417, 419 (1972); Allan E. Korpele, Annotation, *Products Liability: Proof of Defect Under Doctrine of Strict Liability in Tort*, 51 A.L.R. 3D 8 § 2[a] (1973).

320. See *Elmore v. Am. Motors Corp.*, 451 P.2d 84, 87 (Cal. 1969); *Vandermark v. Ford Motor Co.*, 391 P.2d 168, 170 (Cal. 1964); *Codling v. Paglia*, 298 N.E.2d 622, 628-29 (N.Y. 1973).

321. See *Adkins*, 511 S.E.2d at 846 (quoting *Morningstar v. Black & Decker Mfg. Co.*, 253 S.E.2d 666, 677, 680 (W. Va. 1979)).

322. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 3 (1998).

323. *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 454 (Cal. 1978) (citations omitted); see also *Elmore*, 451 P.2d at 87; *Vandermark*, 391 P.2d at 170; *Culpepper v. Volkswagen of Am., Inc.*, 109 Cal. Rptr. 110, 116 (Ct. App. 1973).

324. See *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 306-07 (Cal. 1994).

gory of alternative proof under the CET.<sup>325</sup> In *Akers*, a mechanical “dockboard” flew apart, severely injuring the loading dock supervisor.<sup>326</sup> A dockboard is a device that connects the loading dock and the floor of a truck trailer, and adjusts the height between the two so that a forklift truck carrying goods can be driven back and forth between the dock and trailer.<sup>327</sup> The Court of Appeals ruled that, based on the plaintiff’s proof of the accident’s occurrence, the jury did not require instruction on the risk-utility test:

There are certain kinds of accidents—even where fairly complex machinery is involved—which are so bizarre that the average juror, upon hearing the particulars, might reasonably think: “Whatever the user may have expected from that contraption, it certainly wasn’t that.” Here, a dockboard flew apart and injured Akers. A reasonable juror with no previous experience of dockboards could conclude that the dockboard in question failed to meet “consumer expectations” as to its safety.<sup>328</sup>

In *Soule*, the Supreme Court of California reiterated the circumstantial evidence rule under the CET:

The crucial question in each individual case is whether the circumstances of the product’s failure permit an inference that the product’s design performed below the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers. . . . In particular circumstances, a product’s design may perform so unsafely that the defect is apparent to the common reason, experience, and understanding of its ordinary consumers. In such cases, a lay jury is competent to make that determination.<sup>329</sup>

Similarly, in *Deleage v. Saab Automobile, A.B.*, the court expressly relied on the circumstantial evidence rule in deciding that the CET was the appropriate jury instruction.<sup>330</sup> In *Deleage*, the plaintiff’s car caught fire while parked in his garage, causing damage to his house and personal property.<sup>331</sup> The facts showed that the plaintiff had trouble with his four-year-old, employer-owned Saab, requiring two separate jump-starts.<sup>332</sup> That evening, the plaintiff parked the car in his garage and, upon returning

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325. See 219 Cal. Rptr. 513, 524 (Ct. App. 1985).

326. *Id.* at 519.

327. *Id.* at 517.

328. *Id.* at 524.

329. *Soule*, 882 P.2d at 309–10 (footnote omitted).

330. No. A086149, 2002 WL 475268, at \*6 (Cal. Ct. App. Mar. 29, 2002).

331. *Id.* at \*1.

332. *Id.*

from an evening out, found the house destroyed by fire.<sup>333</sup> The homeowner's insurance company took the burned 1988 Saab, sold the car for salvage, and destroyed it before it could be examined.<sup>334</sup> Neither side had evidence of an inspection of the burned vehicle.<sup>335</sup> The plaintiff introduced reports of wiring defects and dashboard fires in pre-1990 Saabs.<sup>336</sup> Plaintiff's expert, Pello, concluded that the fire in question was caused by the same defective wire connection alluded to in the reports.<sup>337</sup> The defense claimed the fire resulted either from improper jump-starting or improper installation of a cellular phone.<sup>338</sup> The court summed up the evidence in the case as follows:

Evidence showed that Deleage's fire started in his car's dashboard, that Deleage was experiencing electrical problems with the car on the day of the fire, and that Deleage and/or his wife detected the smell of burning electrical wiring coming from the car before leaving for the opera. Numerous reports concerning pre-1990 Saab 9000s revealed dashboard fires caused by a loose Plus-30 wire or wire chafing. Of course, this evidence was circumstantial, as was the evidence relied on by Saab's expert, who reached a conclusion different from Pello's. Evidence supporting Pello's opinion, however, was sufficient to support the jury's conclusion that Deleage's injuries were caused by a design defect.<sup>339</sup>

The court concluded that the CET was the appropriate jury instruction, considering the circumstances.<sup>340</sup> The court reasoned that "[n]o special expertise in car design or electrical circuitry was needed for a lay person to conclude that a car prone to spontaneous combustion falls below commonly accepted expectations of minimal safety."<sup>341</sup>

If a product malfunctions shortly after purchase, a plaintiff may be able to raise an inference of design or manufacturing defect by the description of the accident itself and by the removal of third party potential causes. In other cases, expert testimony of a potential defect may be critical in enabling the plaintiff to sustain

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333. *Id.*

334. *Id.*

335. *Id.* at \*3.

336. *Id.*

337. *Id.*

338. *Id.*

339. *Id.*

340. *Id.* at \*6.

341. *Id.*

the inference. In *Deleage*, the car was four years old at the time of the accident, which raised questions regarding maintenance and maltreatment by third parties.<sup>342</sup> The plaintiff in *Deleage* overcame these problems by relying on one expert to demonstrate that pre-1990 Saabs had dashboard electrical problems and that such problems were the likely cause of the fire.<sup>343</sup> Similarly, in *Akers*, the plaintiff used experts to suggest that the broken welds and deformations in the thirteen-year-old dockboard were the result of inadequate design considering the foreseeable circumstances of use.<sup>344</sup>

In strict liability design-defect litigation, the plaintiff, in relying on the circumstantial evidence rule, must establish that the product malfunctioned during normal use and that no one negligently contributed to the accident.<sup>345</sup> The age and maintenance of the product and a comparison with similar products are often relevant considerations in such cases.<sup>346</sup>

In *Glanzman v. Uniroyal, Inc.*, the Ninth Circuit, in applying Idaho law, stated:

[A] plaintiff who brings a products liability action may rely upon circumstantial evidence and the inferences arising therefrom based on expert opinion testimony on the condition of the product after the accident. A plaintiff need not prove a specific defect to carry his burden of proof. He may prove a prima facie case by direct or circumstantial evidence of a malfunction of the product and the absence of evidence of abnormal use and the absence of evidence of reasonable secondary causes which would eliminate liability of the defendant.<sup>347</sup>

*Glanzman* involved a tire blowout that resulted in serious injuries.<sup>348</sup> The plaintiff's proof was deemed sufficient to allow an inference of product defect where he and others established that he properly maintained and serviced the tires, did not contribute to the accident, did not run over any large object, and that the tires

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342. *See id.* at \*3, \*6.

343. *See id.* at \*3.

344. *Akers v. Kelley Co.*, 219 Cal. Rptr. 513, 519-20 (Ct. App. 1985).

345. 2 Am. L. Prods. Liab. 3d, *supra* note 73, § 17:68.

346. *Id.* §§ 17:61, 17:64.

347. 892 F.2d 58, 60 (9th Cir. 1989) (citing *Farmer v. Int'l Harvester Co.*, 553 P.2d 1306, 1311 (Id. 1976)).

348. *Id.* at 59.

showed signs of tread separation resulting from the time of manufacture.<sup>349</sup>

Thus, product malfunction or the unexpected occurrence of an accident is widely accepted as sufficient evidence of a product manufacturing or design defect when combined with other circumstantial evidence establishing the normal use of the product and the absence of another cause not related to defectiveness.<sup>350</sup> Risk-utility proof is not required in such cases.<sup>351</sup>

## 2. Manifest Design Defects

The manifest design-defect cases are another example of the use of alternative proof to establish defectiveness in strict liability. Where the risk is obviously unreasonable because of common knowledge of effective ways to reduce the risk, expert testimony on risk-utility is not necessary.<sup>352</sup> This common-knowledge approach of evaluating ways to reduce risks without proof by experts occurs frequently in negligence law. For example, cases involving inattentiveness to the road while operating a vehicle or allegations of text messaging while driving do not require proof of safer alternatives; juries are allowed to reach a decision based on common knowledge and understanding.

The manifest design-defect category is based on a common-sense understanding of accident circumstances where it is reasonable to draw an inference of a design defect in the product. In *Soule*, the court described the manifest defect category in these words: "In particular circumstances, a product's design may perform so unsafely that the defect is apparent to the common reason, experience, and understanding of its ordinary consumers. In such cases, a lay jury is competent to make that determination."<sup>353</sup>

The manifest design-defect category is best illustrated by *Campbell v. General Motors Corp.*, discussed earlier, involving the failure to provide a stability grab bar for a bus passenger

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349. *Id.* at 60–61.

350. See Christopher H. Hall, *Annotation, Strict Products Liability: Product Malfunction or Occurrence of Accident as Evidence of Defect*, 65 A.L.R. 4TH 346, 354–63 (1988).

351. 63A AM. JUR. 2D *Products Liability* § 948 (1997).

352. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. f (1997).

353. *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 310 (Cal. 1994).

seat.<sup>354</sup> Where the particular product or nature of the accident falls within the common experience of ordinary consumers, proof of the accident facts, relevant features of the product, and the plaintiff's use of the product may be enough to demonstrate a manifest defect without the invocation of risk-utility proof.<sup>355</sup> Thus in *Campbell*, the plaintiff made out a prima facie case by relying on the public's experience with bus transportation, the need for stability grab bars, the defendant's provision of stability assistance devices for all the other seats, and the absence of any negligence on the part of the patron.<sup>356</sup> Proof of the provision of grab bars for other seats demonstrated the critical need, feasibility, and practicality for a safety grab bar for the plaintiff's seat.<sup>357</sup> Where the risk that injured the plaintiff is obviously unreasonable, proof related to the balancing of the danger against the burden of redesigning the product is unnecessary.<sup>358</sup> *Campbell* instructs that in such manifest defect contexts alternative proof is sufficient to establish defectiveness if it shows "[the plaintiff's] use of the product; the circumstances surrounding the injury; and the objective features of the product which are relevant to an evaluation of its safety."<sup>359</sup>

A classic early example of a manifest defect in a negligence action is presented by *Matthews v. Lawnlite Co.*, in which a customer at an outdoor furniture shop sat in an aluminum rocking lounge chair.<sup>360</sup> As the customer sat in the chair he laid his right hand on the arm rest, extending one of his fingers over the front of the arm rest and under its front end.<sup>361</sup> Immediately, his "third finger of his right hand was completely severed by the moving parts of said chair and the finger fell upon the floor."<sup>362</sup> The court described the chair as

a rocking chair with moving parts; it rocks back and forth. It was constructed of aluminum and was used for rest and recreation; it looks harmless, every aspect of it suggested ease and comfort. There was no notice of any kind that beneath its restful armrest there were

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354. See *supra* Part IV.D.

355. See *Campbell v. Gen. Motors Corp.*, 649 P.2d 224, 233 (Cal. 1982).

356. See *id.* at 231-32.

357. See *id.* at 231.

358. 2 Am. L. Prods. Liab. 3d, *supra* note 73 at § 17:27.

359. *Campbell*, 649 P.2d at 233 (numbers omitted).

360. 88 So.2d 299, 300 (Fla. 1956).

361. *Id.*

362. *Id.*

moving metal parts so constructed that they would amputate the occupant's fingers with the ease that one clips a choice flower with pruning shears. It was designed, constructed and delivered to the public with these moving parts that were essential to its use. They were completely concealed from the user and as essential parts of the chair were inherently dangerous. No one would suspect that such a dangerous device would be concealed in such an innocent looking instrumentality.<sup>363</sup>

The appellate court found that the plaintiff was entitled to proceed with his negligent design claim.<sup>364</sup>

Another manifest design-defect case is *Miller v. Mazda Motor of America, Inc.*, a case involving the design of a rounded "rear step bumper" of a pickup truck used for access to the truck bed.<sup>365</sup> The bumper surface had a downward curvature and was made of rubber and chrome, instead of all rubber.<sup>366</sup> The manufacturer explained that the bumper was to be used for "step up loading."<sup>367</sup> The plaintiff was injured trying to exit the bed of the truck when her foot slipped on the rounded chrome portion of the bumper.<sup>368</sup> Proof of the *Campbell* requirements was sufficient to demonstrate a defective design without introducing risk-utility evidence.<sup>369</sup>

In an Oregon case, the plaintiff was injured when he fell from a cylindrical fuel tank on the left side of his tractor.<sup>370</sup> After hooking up the tractor to the trailer of the truck, the plaintiff climbed up to and stood on the fuel tank to access air and electric hoses, which he needed to attach to the trailer.<sup>371</sup> The plaintiff, and other drivers using the same kind of truck, customarily approached the hoses by stepping onto the fuel tank and then onto the deck plate, an elevated area located in the center of the tractor behind the cab.<sup>372</sup> There was no level step on top of the fuel tank nor ma-

363. *Id.* at 301.

364. *See id.*

365. Nos. B142181, B143856, 2002 WL 819856, at \*1 (Cal. Ct. App. May 1, 2002).

366. *See id.*

367. *Id.*

368. *Id.*

369. *See id.* at \*3-5. The facts of these unreported California appellate cases are important for categorizing the kinds of design-defect cases that have arisen since *Barker* was decided, and for isolating the types of cases in which the CET was considered appropriate from those cases requiring the RUT.

370. *Liedtke v. Paccar, Inc.*, 605 P.2d 1377, 1378 (Or. Ct. App. 1980).

371. *Id.*

372. *Id.*

terial on the fuel tank to prevent slipping.<sup>373</sup> This evidence was held sufficient to raise a jury question of defectiveness.<sup>374</sup> There was a question of fact whether the product was manifestly defective because of the failure to include skid-proof material on the deck plate as a part of the design of the fuel tank.<sup>375</sup>

In a New Jersey case, the plaintiff, an assistant manager of a convenience store, slipped and lost his balance while walking to empty a trash can.<sup>376</sup> As he reached out to steady himself, his right hand contacted the unattended and unguarded rotating blade of a slicing machine.<sup>377</sup> The safety guard had been removed from the slicer either for cleaning or to sharpen the blade.<sup>378</sup> The plaintiff's expert testified that there were safety devices readily available, such as interlock devices, that would prevent such a machine from operating when the guard was removed.<sup>379</sup> The court concluded that the use of the CET in instructing the jury was appropriate:

The design of a product is "self-evidently" defective when there are no relevant considerations which make the hazard inherent in the product or reasonably necessary to its functioning. With respect to such a product, the risk-utility balancing test is unnecessary. The only material question is whether the product has been designed so as to pose a hazard that is contrary to the user's reasonable expectations. In the present case, the evidence did not suggest any consideration of feasibility, cost or functionality which might tend to justify the omission of a blade guard interlock. The only relevant question left for the jury was whether the Globe Model 500 slicing machine was so hazardous that it was contrary to a user's reasonable expectations.<sup>380</sup>

The *Restatement (Third)* obliquely recognizes that there are situations of manifest defect where proof of an alternate safer design is not required, but it does so in a fashion that disparages and discourages the use of the category.<sup>381</sup> The comments in the *Restatement (Third)* restrict a manifestly defective design to those

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373. *Id.*

374. *Id.* at 1379.

375. *See id.*

376. *Mettinger v. W.W. Lowerstein, Inc.*, 678 A.2d 1115, 1119 (N.J. Super. Ct. App. Div. 1996).

377. *Id.*

378. *Id.*

379. *See id.* at 1121.

380. *Id.* at 1123.

381. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2, cmt. e (1998).



products that should be completely removed from the market.<sup>382</sup> The only example explicitly given in the *Restatement (Third)* comments is a toy hard pellet gun.<sup>383</sup> The comments imply that if a safer, alternative design is available, it must be proven.<sup>384</sup> The products the *Restatement (Third)* has in mind are products that—after a thorough risk-utility analysis—should be banned as a matter of law because of their exceptionally high danger, the inability of eliminating their risks, and their very low utility.<sup>385</sup> The category as described by the *Restatement (Third)* is effectively meaningless because courts are naturally very reluctant to find that products are so dangerous and have so little utility that they should not be marketed at all. Only in the case of toys might courts conceivably do so.

The *Restatement (Third)* ignores the caselaw and the logic regarding the alternative proof category of manifest defects; it fails to acknowledge that the absence of a commonly available safety device known to the general public, or a totally unexpected danger in a common consumer item, can make an otherwise useful product manifestly defective without the need of experts.<sup>386</sup> Such a conclusion does not necessarily require banning the product, but rather eliminating the risk by an easy redesign.

It can be argued, of course, that the three proof elements established by the *Campbell* case essentially constitute inferential risk-utility proof, but no examples of such cases are provided in the comments or reporters' notes to guide the courts in understanding the breadth of the manifest design-defect-alternative proof category as developed in this article.<sup>387</sup> The *Restatement (Third)* effectively overlooks the alternative-proof category of manifest defects.

There can be some overlap between the malfunction and the manifest defect categories, but they are more commonly indepen-

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382. See *id.* at cmts. d, e.

383. See *id.* at cmt. e.

384. See *id.* at cmt. d.

385. But see Michael J. Töke, *Categorical Liability for Manifestly Unreasonable Designs: Why the Comment d Caveat Should Be Removed from the Restatement (Third)*, 81 CORNELL L. REV. 1181, 1201 (1996) (arguing against comment d's exception to the requirement that plaintiffs must prove that a reasonable alternative design would have reduced their foreseeable risk of injury).

386. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. e. (1998).

387. See *id.* at cmt. e, reporters' notes.

dent of each other. The manifest defect category clearly implicates a design defect while the malfunction category can often be either a design or a manufacturing defect. Moreover, in the manifest design-defect cases, the plaintiff can usually identify the defect, invoking common experience and common sense to demonstrate that there are feasible and practicable cost-effective ways to design the product to avoid risks, without the need for expert testimony. In addition, it is often very awkward to characterize and understand the manifest defect cases as product malfunction cases.

### 3. Deviation from Statutory or Regulatory Safety Standards

Proof of a statutory or regulatory product-design safety requirement constitutes a third category of a product-design-defect case that does not require risk-utility proof. This is familiar doctrine from negligence law.<sup>388</sup> Proof of a violation of a relevant safety statute and a causal relation between the violation and the injury is usually sufficient to establish a prima facie case of negligence.<sup>389</sup> The procedural effect of such violations—per se negligence, presumption of negligence, or evidence of negligence—may vary from state to state, but proof of the violation is often enough to show a breach of duty.<sup>390</sup> This is also true for establishing defectiveness in product accident cases under strict liability.<sup>391</sup>

In strict products liability, proof of a relevant safety regulation violation and its causal linkage to the injury is enough to establish a product's deficiency.<sup>392</sup> The *Restatement (Third)* adopted an express rule to this effect that states:

In connection with liability for defective design or inadequate instructions or warnings:

(a) a product's noncompliance with an applicable product safety statute or administrative regulation renders the product defective with respect to the risks sought to be reduced by the statute or regulation; and

(b) a product's compliance with an applicable product safety statute or administrative regulation is properly considered in determining

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388. See DOBBS, *supra* note 207, § 134.

389. See *id.* § 134 & n.5.

390. See *id.* § 134.

391. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 4 (1998).

392. See *id.*; see also *id.* § 15 (noting that causation is governed by standard tort principles).

whether the product is defective with respect to the risks sought to be reduced by the statute or regulation, but such compliance does not preclude as a matter of law a finding of product defect.<sup>393</sup>

A “relevant” product safety regulation is one that seeks to eliminate or reduce the type of risks that caused the plaintiff’s injuries and was in effect prior to the marketing of the product in question.<sup>394</sup>

Although all states will undoubtedly allow relevant design safety regulation violations as proof of design defects under strict liability, there have been very few such appellate cases.<sup>395</sup> The few product design regulation violation cases that have reached the appellate courts have typically been based on negligence claims.<sup>396</sup> Recognizing “regulatory design defectiveness” is eminently consistent with the reform objectives of strict products liability. The law and consumers expect manufacturers to design products in accordance with safety regulations. The absence of case law may indicate a high level of compliance with design safety regulations, or, more importantly, a strong likelihood that regulatory violation cases are settled without trial.<sup>397</sup>

While states allow for some excuses for regulatory violations in negligence cases such as emergencies, impossibility of compliance, and situations where it is more dangerous to comply,<sup>398</sup> there are no readily apparent occasions for invoking excuses regarding violations of design regulations. Since manufacturers are charged with knowledge of design regulation requirements,<sup>399</sup> the occasions for justifiable excuses are narrowed, if not eliminated.

Thus, violations of design-safety statutes and regulations are an additional category of alternative proof in design-defect litigation. Proof of the regulation violation is sufficient to establish a

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393. *Id.* § 4.

394. *Id.* at cmts. b & c.

395. See *Mikolajczyk v. Ford Motor Co.*, 901 N.E.2d 329, 335 (Ill. 2008) (quoting *Anderson v. Hyster Co.*, 385 N.E.2d 690, 692–93 (111.1979)); *Robles v. Shoreside Petroleum, Inc.*, 29 P.3d 838, 843–44 (Alaska 2001); *Harned v. Dura Corp.*, 665 P.2d 5, 10 (Alaska 1983); *McGee v. Cessna Aircraft Co.*, 188 Cal. Rptr. 542, 547 (Ct. App. 1983).

396. See *Robles*, 29 P.3d at 840; *Harned*, 665 P.2d at 10–11; *McGee*, 188 Cal. Rptr. at 542–46.

397. See 4B Am. L. Prods. Liab. 3d § 57:1 (West) (rev. Nov. 2007) (discussing high likelihood of products liability cases settling before trial).

398. RESTATEMENT (SECOND) OF TORTS § 288A (1965).

399. See *Bachner v. Rich*, 554 P.2d 430, 436–37 (Alaska 1976); RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 4, reporter’s note, cmt. d.

prima facie case of design defect without introducing any risk-utility evidence.<sup>400</sup>

#### 4. Deviation from Safety Performance Standards

Safety components designed into products to reduce risks should be expected to operate within their design specifications. Where a product in normal use fails to operate within the manufacturer's own established safety performance specifications and causes harm, proof of such failure alone should be sufficient under an alternative-proof standard to establish the defectiveness of the product. This safety performance category is closely analogous to manufacturing defects.<sup>401</sup> The legal test for manufacturing defects is whether the product failed to meet the manufacturer's own design specifications.<sup>402</sup> There is no reason to distinguish between product physical design specifications and product safety performance specifications; they are both design specifications.

The California decision in *McCabe v. American Honda Motor Co.* illustrates this category in a setting where a car's safety device failed to operate.<sup>403</sup> In *McCabe*, the plaintiff was injured when the driver's side air bag in her Honda Civic did not deploy in a frontal collision with another car.<sup>404</sup> The plaintiff filed a strict liability design-defect claim against the manufacturer, relying on proof that the air bag did not deploy within the manufacturer's own performance specifications.<sup>405</sup> Defense expert testimony proved that the side air bag was designed to deploy when one or more vehicles in a collision are traveling at or above twelve miles per hour and the frontal collision range is within thirty degrees of the centerline of the vehicle.<sup>406</sup> The plaintiff and her witnesses testified that the car that collided with her stopped vehicle was traveling at a "high speed" in excess of thirty-five miles per hour

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400. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 4 (1998).

401. See *id.* § 2.

402. See *id.* cmt. d.

403. 123 Cal. Rptr. 2d 303, 307 (Ct. App. 2002).

404. *Id.*

405. See *id.* at 313.

406. *Id.*

and that the collision was "head on."<sup>407</sup> The plaintiff had photographs showing extensive front end damage.<sup>408</sup>

The reconstruction expert for the defense testified that the speed of the oncoming car was about four miles per hour and the point of impact was at thirty-five degrees of the centerline.<sup>409</sup> The defense also asserted that designing the air bag deployment parameters is a very technical process requiring the balancing of competing safety considerations, and it relied on an earlier California case requiring risk-utility proof in an air bag case.<sup>410</sup> The defense pointed out that airbags themselves can cause injuries, and such injuries must be balanced against the potential injuries from low speed collisions in deciding the point at which the airbags should deploy.<sup>411</sup>

The court concluded that the evidence introduced by the plaintiff was sufficient to raise a jury question of defectiveness because it was for the jury to determine whether the collision occurred within the design parameters for deployment or not.<sup>412</sup> If the collision was within the design parameters, the airbag should have deployed and the plaintiff's collision injuries would have been avoided.<sup>413</sup> The court held that it was up to the jury to determine which version of the accident facts was more probable.<sup>414</sup> Thus, proof of the safety performance specification parameters, coupled with evidence of the accident occurring within those parameters, was enough to raise a jury question of design defect without the introduction of risk-utility proof.<sup>415</sup> The safety performance standard category of design-defect cases is related to the next category involving manufacturer safety representations.

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407. *Id.* at 307-08.

408. *Id.* at 308.

409. *Id.*

410. *See id.* at 308, 312 (quoting *Pruitt v. Gen. Motors Corp.*, 86 Cal. Rptr. 2d 4, 6 (Ct. App. 1999)). There was a division of authority in California courts over whether ordinary consumers could have minimum safety expectations regarding air bags. *Compare Pruitt*, 86 Cal. Rptr. 2d at 6 (deployment in a low speed collision is not part of everyday experience of the consuming public), *with Bresnahan v. Chrysler Corp.*, 76 Cal. Rptr. 2d 804, 808 (Ct. App. 1998) (minor rear end collision provided a basis for applying the consumer expectations test).

411. *See McCabe*, 123 Cal. Rptr. 2d at 307.

412. *See id.* at 313-14.

413. *See id.* at 314.

414. *See id.*

415. *Id.* at 313-14.

## 5. Product Safety Representations and Promotions

Product advertising and all other forms of promotion, of course, create impressions about the uses and safety of products. They are a dominant feature of the marketplace. Where product promotion constitutes representations of safety that are relevant to an accident in question, proof of these promotional representations is generally admissible in establishing defectiveness in strict liability.<sup>416</sup> Just as manufacturers are expected to meet their own design specifications in product production, they should similarly be held to their own representations of safety. While it may be difficult in some cases to determine whether advertising amounts to a safety representation, the principle of representation liability is nonetheless an important one to uphold in appropriate cases. Courts can and should exercise considerable control over what constitutes actionable safety representations, but, in clear cases, proof of the failure of the product to perform safely in accordance with the producer's own safety promotions should alone be sufficient to establish defectiveness of the product.<sup>417</sup>

The early case of *Greenman v. Yuba Power Products, Inc.*, in which strict products liability was born,<sup>418</sup> involved a product—the Shopsmith—that failed to measure up to the manufacturer's promotional safety statements about it.<sup>419</sup> The manufacturer's product brochure read: "(1) 'WHEN SHOPSMITH IS IN HORIZONTAL POSITION—Rugged construction of frame provides rigid support from end to end. Heavy centerless-ground steel tubing insures [sic] perfect alignment of components.' (2) 'SHOPSMITH maintains its accuracy because every component has positive locks that hold adjustments through rough or precision work.'"<sup>420</sup> These statements were introduced as proof in strict tort

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416. See Tracy Bateman Farrell, Annotation, *Products Liability: Statements in Advertisements as Affecting Liability of Manufacturers or Sellers for Injury Caused by Product Other than Tobacco*, 93 A.L.R. 5TH 103, § 23[a] (2001).

417. Cf. Rebecca Korzec, *Dashing Consumer Hopes: Strict Products Liability and the Demise of the Consumer Expectations Test*, 20 B.C. INT'L & COMP. L. REV. 227, 240–41 (1997) (explaining that if producers are not liable for false safety promotions, a "consumer lose[s] both the benefit of his or her bargain and his or her bargaining autonomy").

418. 63 AM. JUR. 2D *Products Liability* § 530 (1997).

419. 377 P.2d 897, 898 (Cal. 1963).

420. *Id.* at 899 n.1.

liability that the Shopsmith was unsafe for its intended use and could have been found to constitute express warranties.<sup>421</sup>

In virtually all of the cases to date, safety advertising proof has been supplemental to risk-utility proof in establishing a design defect. This may be the result of attorney hesitance to rely solely on advertising proof when risk-utility proof is also available. *Leichtamer v. American Motors Corp.*, involved a “pitchover” of a Jeep all-terrain vehicle as it came over the brow of a steep hill at an off-road recreational facility, resulting in injuries to the plaintiffs.<sup>422</sup> The case was premised on the design inadequacy of the provided roll bar.<sup>423</sup> The plaintiff was allowed to introduce proof of an advertising campaign and television commercials, both of which stressed the ability of the Jeep to safely drive up and down steep hills.<sup>424</sup>

Similarly, in *McCathern v. Toyota Motor Corp.*<sup>425</sup>—an SUV rollover case—the plaintiff relied on television and brochure advertising to show that the vehicle was specifically marketed as one that could engage in evasive maneuvers during highway driving. In *Conde v. Velsicol Chemical Corp.*, the plaintiff-homeowners were able to proceed under the CET where the manufacturer’s labels, manuals, and advertisements contained misstatements that its insecticide was lethal to termites but harmless to humans.<sup>426</sup> The manufacturer in *Miller v. Mazda Motor of America, Inc.*, discussed earlier, advertised the bumper, on which the plaintiff slipped, as being for “step-up loading.”<sup>427</sup> Where a relatively new tire, driven less than two thousand miles, suddenly deflated and caught fire, a Pennsylvania court acknowledged that “[p]rospective purchasers are the objects of sustained and vigorous advertising campaigns extolling the toughness of automobile tires, their reliability and dependability[ ]” and that “[c]ommon exper-

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421. *Id.* at 899.

422. 424 N.E.2d 568, 571 (Ohio 1981) (defining “pitchover” as the movement of a vehicle’s rear that passes through the air in a 180 degree arc causing the vehicle to land upside down).

423. *See id.* at 571–72.

424. *Id.* at 579–80.

425. 23 P.2d 320, 324 (Or. 2001).

426. 804 F. Supp. 972, 979–80 (S.D. Ohio 1992), *aff’d on other grounds*, 24 F.3d 809, 814 (6th Cir. 1994).

427. *Miller v. Mazda Motor of Am., Inc.*, Nos. B142181, B143856, 2002 WL 819856, at \*1 (Ct. App. May 1, 2002).

ience indicates that no owner of a tire expects it to fail with less than [two thousand] miles on its treads."<sup>428</sup>

In design-defect cases with incapacitating injuries, plaintiffs' lawyers will certainly want to go beyond advertising proof and rely on risk-utility evidence if they can. Using advertising and promotional materials related to safety as supplemental evidence is a common practice.<sup>429</sup> There are cases, however, where the potential recoverable damages are insufficient to justify the expense of investigation and the use of experts to show a safer, feasible, alternative design.<sup>430</sup> In such cases, if there is clear proof that the product did not perform safely in accordance with the promotional representations, the plaintiffs should be able to proceed on the basis of the representations alone. Relieving the victims of burdensome proof requirements was a primary purpose of strict products liability,<sup>431</sup> and it is appropriate to use proof of clear advertising safety representations where the manufacturer sets a safety expectation and then fails to meet it.<sup>432</sup>

## 6. Food Products

Unwholesome food has always received special consideration in the law. Warranty law provides consumers with considerable protection from the sale and distribution of contaminated and unwholesome food.<sup>433</sup> There is an implied warranty of wholesomeness and fitness for human consumption in the sale of food products.<sup>434</sup> Persons who are injured by eating unwholesome food or food containing deleterious substances can sue sellers or servers for the breach of that implied warranty.<sup>435</sup> Sellers and servers of unwholesome food are liable despite the exercise of all possible

428. *McCann v. Atlas Supply Co.*, 325 F. Supp. 701, 704 (W.D. Pa. 1971).

429. *See supra* notes 419–28 and accompanying text.

430. *See* Aaron Arnold, Note, *Rethinking Design Defect Law: Should Arizona Adopt the Restatement (Third) of Torts: Products Liability?*, 45 ARIZ. L. REV. 173, 190–91 (2003).

431. *See id.* at 190.

432. The injured person should not have to prove specific reliance on the advertising in order to recover. *See King v. Kayak Mfg. Corp.*, 387 S.E.2d 511, 522 (W. Va. 1989). Where sellers have created the impression of safety through promotional efforts, it is inconsistent with the consumer protection goals of strict products liability for courts to impose an actual reliance requirement. *See id.*

433. *See* 5 Am. L. Prods. Liab. 3d (West) § 81:2 (rev. Nov. 2003).

434. *See id.*

435. *See id.*



care in handling and preparing the food.<sup>436</sup> The plaintiff need only prove the defective condition of the food and the causal relationship to his or her illness.<sup>437</sup> Therefore, sellers and servers are held strictly liable for injuries caused by the distribution of unwholesome food.<sup>438</sup>

There also are many state and federal statutes, regulations, and municipal ordinances regulating the wholesomeness of food, and violation of these provisions is generally considered negligence per se.<sup>439</sup> This is a form of strict liability operating within negligence law. Products in violation of such safety statutes should also be recognized as "defective per se" under strict products liability.<sup>440</sup>

The strict liability implications of the unwholesome food cases influenced Dean Prosser's scholarship and Justice Traynor's opinions in *Escola* and *Greenman*.<sup>441</sup> As Dean Prosser stated:

Since the early days of the common law those engaged in the business of selling food intended for human consumption have been held to a high degree of responsibility for their products. As long ago as 1266 there were enacted special criminal statutes imposing penalties upon victualers, vintners, brewers, butchers, cooks, and other persons who supplied "corrupt" food and drink. In the earlier part of this century this ancient attitude was reflected in a series of decisions in which the courts of a number of states sought to find some method of holding the seller of food liable to the ultimate consumer even though there was no showing of negligence on the part of the seller.<sup>442</sup>

A plaintiff injured by unwholesome food who asserts a tort claim based on strict products liability law must prove the same elements required in the implied warranty context. The plaintiff need merely prove the sale of the food, its unwholesome or contaminated character, and its relationship to the plaintiff's ill-

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436. *See id.*

437. *See id.*

438. *See id.* § 81:3.

439. *Id.* § 81:7.

440. *See supra* Part V.B.3.

441. *See Greenman v. Yuba Power Prods., Inc.*, 377 P.2d 897, 900 (Cal. 1963); *Escola v. Coca Cola Bottling Co. of Fresno*, 150 P.2d 436, 442-43 (Cal. 1944). *See generally* Prosser, *supra* note 70, at 1103-10 (describing the development and application of strict liability to food products).

442. RESTATEMENT (SECOND) OF TORTS, § 402A cmt. b (1965).

ness.<sup>443</sup> Many of the unwholesome food cases of necessity rely on circumstantial evidence.<sup>444</sup> Generally, a plaintiff need only exclude all other reasonable causes of the illness and introduce sufficient facts to make reasonably probable the conclusion that the food in question was unwholesome and caused the plaintiff's illness.<sup>445</sup>

Since a safer, feasible alternative in the form of wholesome food is legally presumed, the plaintiff need not introduce risk-utility proof.<sup>446</sup> The *Restatement (Third)* expressly adopts this approach:

One engaged in the business of selling or otherwise distributing food products who sells or distributes a food product that is defective under § 2 [manufacturing, design and warning defects], § 3 [circumstantial evidence of defect], or § 4 [violation of statute establishing defect] is subject to liability for harm to persons or property caused by the defect. Under § 2(a) [manufacturing defect], a harm-causing ingredient of the food product constitutes a defect if a reasonable consumer would not expect the food product to contain that ingredient.<sup>447</sup>

The *Restatement (Third)*, therefore, recognizes that proving a defective food product claim can be based on alternative proof rather than on risk-utility evidence.<sup>448</sup>

It is also significant to note that in the context of contaminated food, the *Restatement (Third)* chose to utilize the consumer expectations test.<sup>449</sup> A number of states instead distinguish between substances naturally found in food (i.e., bones in fresh chicken soup) and foreign substances (i.e., stones in chicken soup).<sup>450</sup> This has proven to be troublesome in prepared food contexts, such as chicken salad, and processed foods, such as canned chicken soup.<sup>451</sup> Because of this, courts tend to use a reasonable expectation test that focuses on whether consumers ought to anticipate the presence of the troublesome substance in the food.<sup>452</sup> The food

443. See 5 Am. L. Prods. Liab. 3d *supra* note 433, §§ 81:2, 81:3.

444. See *id.* § 81.

445. See *id.*

446. See *id.* § 81:2.

447. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 7 (1998).

448. See *id.*

449. See *id.*

450. See *id.* § 7 cmt. b; 5 Am. L. Prods. Liab. 3d, *supra* note 433; § 80:5.

451. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 7 cmt. b (1998).

452. See *id.*; 5 Am. L. Prods. Liab. 3d, *supra* note 433, § 80:5.

cases demonstrate another alternative proof category in strict products liability.

## 7. Intimate Bodily Use Products

Intimate bodily use products include those personal care products we apply or take into our body for health or cosmetic reasons such as skin creams, lotions, salves, deodorants, perfumes, shampoos, hair preparations, tampons, sanitary pads, and douches.<sup>453</sup> These types of products, like food products, demand the highest standards of design and preparation because of the potential for harm.<sup>454</sup> Here too, warranty law gradually became quite protective of consumers by imposing strict liability if such products foreseeably could cause harm in the absence of warnings (hereinafter the "warning-defect approach").<sup>455</sup> Dean Prosser, as the Reporter for section 402A the *Restatement (Second)*, cited the warranty law treatment of intimate bodily use products as supportive of strict liability in torts.<sup>456</sup> He noted that the principles from strict liability food cases were first extended "into the closely analogous cases of other products intended for intimate bodily use, where, for example, as in the case of cosmetics, the application to the body of the consumer is external rather than internal."<sup>457</sup>

Dean Prosser spoke to the situation of allergic reactions as follows:

In order to prevent the product from being unreasonably dangerous, the seller may be required to give directions or warning, on the container, as to its use. The seller may reasonably assume that those with common allergies, as for example to eggs or strawberries, will be aware of them, and he is not required to warn against them. Where, however, the product contains an ingredient to which *a substantial number of the population are allergic*, and the ingredient is one whose danger is not generally known, or if known is one which the consumer would reasonably not expect to find in the product, the seller is required to give warning against it, if he has knowledge, or by the application of reasonable, developed human skill and fore

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453. See 6 Am. L. Prods. Liab. 3d (West) § 86-1 (rev. Aug. 2003).

454. See RESTATEMENT (SECOND) OF TORTS § 402A cmt. b.

455. See 6 Am. L. Prods. Liab. 3d, *supra* note 453, §§ 86:1-86:2.

456. RESTATEMENT (SECOND) OF TORTS § 402A cmt. b (1965).

457. *Id.*; see also Prosser, *supra* note 42, at 1111-12.

sight should have knowledge, of the presence of the ingredient and the danger.<sup>458</sup>

Advertising asserting that a personal care product is safe, mild, gentle, or harmless can also lead to warranty liability if the product causes injury in normal use.<sup>459</sup> In warranty and negligence law, the courts developed a rule that for such product defects to be actionable, the risks of harm must be foreseeable to an appreciable or substantial number of persons or class of persons using the products.<sup>460</sup> This limitation was created so that highly useful products would not bear liability if only a few persons with idiosyncratic allergic reactions were affected.<sup>461</sup> On one hand, when serious allergic reactions from personal care products affected only a tiny number of the user community (for example, three in 225,000,000, or four in 7,000,000, or four in 600,000) the courts have not imposed liability.<sup>462</sup> On the other hand, 373 complaints out of 82 million users, and, in another case in which five to seventeen percent of users complained of injury, courts held these small numbers sufficient to create a jury question on the substantiality issue.<sup>463</sup> Most of the appellate cases in this area involve

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458. RESTATEMENT (SECOND) OF TORTS, § 402A cmt. j (emphasis added).

459. See 6 Am. L. Prods. Liab. 3d, *supra* note 453, § 86:1.

460. See *id.* § 86.5.

461. See *id.*

462. *Id.* § 86:5 & n.32 (citing *Mountain v. Procter & Gamble Co.*, 312 F. Supp. 534, 535 (E.D. Wis. 1970); *Booker v. Revlon Realistic Profl Prods., Inc.*, 443 So.2d 407, 409 (La. Ct. App. 1983); *Kaempfe v. Lehn & Fink Prods. Corp.*, 249 N.Y.S.2d 840, 843-44 (1964)).

463. *Green v. Smith & Nephew AHP, Inc.*, 629 N.W.2d 727, 731 (Wis. 2001); see *Wright v. Carter Prods., Inc.* 244 F.2d 53, 56 (2d Cir. 1957). One commentator has described the allergy analysis as follows:

The conclusion that a manufacturer "should have known" of the allergenic nature of its product is based on the plaintiff's showing that at the time of injury the plaintiff was a member of a substantial, significant, or appreciable class of individuals who were or could have been harmed by the allergenic nature of the product.

There is no set number of people that the plaintiff must show to have suffered a reaction. Most courts play what is described as a numbers game in determining whether a plaintiff was a member of an appreciable class. The greater the likelihood of an allergic reaction following the use of the manufacturer's product, the more likely a duty to warn will be imposed on the manufacturer. However, as ambiguous as the requisite number appears to be, it is clear that it must be more than merely a few.

For example, in *Wright v. Carter Products*, the lower court held that, because only a minuscule percentage of the potential customers would be in danger using the product, it did not warrant finding that the manufacturer had no duty to warn of the harmful effects of which the manufacturer had knowledge. On appeal, the United States Court of Appeals for the Second Circuit held to the contrary. The court remanded the case to determine (1)

claims of failure to warn rather than design defect, even though the products also may have been unsafely designed.<sup>464</sup>

The courts in California have a mixed record in applying strict liability to the intimate bodily use product design-defect cases. In *Soule*, the Supreme Court of California cited favorably a lower court's application of the CET to a vaginal tampon design-defect case.<sup>465</sup> In *West v. Johnson & Johnson Products, Inc.*, the plaintiff contracted toxic shock syndrome while using the defendant's tampon.<sup>466</sup> At the time of *West*, the "exact molecular mechanism" as to how the tampons contributed to toxic shock syndrome had not been established by any scientific study, but the plaintiff's experts pointed to alleged design defects in the tampon and gave opinions that there was a causal connection.<sup>467</sup> The court concluded that where the product had been distributed nationally for three years and the plaintiff had been using the tampons for close to five years, a jury could reasonably infer that ordinary users of the tampon "had every right to expect, that use of the product would not lead to a serious (or perhaps fatal) illness."<sup>468</sup> The court ruled that the plaintiff's satisfaction of the proof requirements established by the *Campbell* case and expert proof on causation

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whether, in the exercise of reasonable precaution, the defendant could have foreseen that at least some of the potential users of their deodorant would suffer serious injury from the use of that product and (2) whether the defendant had a duty to warn.

Michael K. Barrett, *Latex Gloves: Medical-Legal Issues for Health Care Professionals*, 22 J. LEGAL MED. 263, 270-71 (2001).

A plaintiff should only have to prove the normal use of the product in accordance with instructions and warnings and the resulting harm caused by the product. Because of the virtual impossibility and expense in requiring the consumer to introduce survey data showing a substantial number of people adversely affected by a personal care product, the burden of proof (production and persuasion) should be placed on the defendant-manufacturer as an expert in the business to show that the product does not cause harm to a substantial number of users. The ubiquitousness of the patch tests accompanying personal care products today demonstrates the effectiveness of imposing such liability on manufacturers in providing cautionary practices to consumers. See *Taylor v. Jacobson*, 147 N.E.2d 770, 775-76 (1958); 6 Am. L. Prods. Liab. 3d, *supra* note 453, § 86:5.

464. See 6 Am. L. Prods. Liab. 3d, *supra* note 453, §§ 86:1-86:9 (discussing and citing a majority of failure to warn cases).

465. *Soule v. Gen. Motors Corp.* 882 P.2d 298, 307 (Cal. 1994) (citing *West v. Johnson & Johnson Prods., Inc.*, 220 Cal. Rptr. 437, 458 (Ct. App. 1985)).

466. 220 Cal. Rptr. 437, 441-42 (Ct. App. 1985).

467. *Id.* at 445-47.

468. *Id.* at 458.

raised a jury question of whether the product was more dangerous than the ordinary consumer would expect.<sup>469</sup>

In *Morson v. Superior Court*, however, the court of appeals concluded that the CET did not apply to the plaintiffs' allergic reactions to the use of latex gloves in their work as health care professionals.<sup>470</sup> Apparently, upwards of ten percent of frequent users of latex gloves suffer from the most severe type of allergic reactions.<sup>471</sup> The *Morson* court believed, however, that the proof that plaintiffs proposed to submit at trial was not "relatively straightforward."<sup>472</sup> The court said that "the subject of allergic reactions is a complex biological and medical phenomenon" and that "the alleged circumstances of the product's failure involve technical and mechanical details about the operation of the manufacturing process, and then the effect of the product upon an individual plaintiff's health."<sup>473</sup> The court apparently confused the defectiveness issue with the causation issue. The need for expert causation testimony does not preclude the application of the CET on the defectiveness issue.<sup>474</sup>

*Unde v. L'Oreal USA, Inc.* involved the application of a facial cream that allegedly made preexisting spots grow darker instead of lighter.<sup>475</sup> The plaintiff represented himself in the trial court and on appeal.<sup>476</sup> The trial court granted summary judgment for the defendant on the design-defect strict liability claim.<sup>477</sup> On the negligence claim, the plaintiff relied on his own testimony and that of two witnesses that the spots on his face became darker after using the product.<sup>478</sup> At the close of the plaintiff's evidence,

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469. *Id.* at 456–58 (citing *Campbell v. Gen. Motors Corp.*, 649 P.2d 224, 232–33 (Cal. 1982)). Similarly, in *Unde v. L'Oreal USA, Inc.*, No. C043002, 2004 WL 740034, at \*6 (Cal. Ct. App. 7 2004), involving an alleged adverse reaction from a facial cream, the court confused the defectiveness issue with the causation issue.

470. 109 Cal. Rptr. 2d 343, 345, 359 (Ct. App. 2001).

471. Barrett, *supra* note 463, at 266.

472. See *Morson*, 109 Cal. Rptr. 2d at 356.

473. *Id.* at 348, 356.

474. See *Jones v. John Crane, Inc.*, 35 Cal. Rptr. 3d 144, 154 (Ct. App. 2005) (noting that although expert testimony was needed to establish legal causation, it did not mean that ordinary users would be unable to form assumptions about the product's safety).

475. *Unde v. L'Oreal USA, Inc.*, No. C043002, 2004 WL 740034, at \*1 (Cal. Ct. App. 2004).

476. *Id.*

477. See *id.* at \*2.

478. See *id.*

the trial court dismissed the negligence claim for lack of proof on the standard of care and causation.<sup>479</sup>

The Court of Appeals, in considering the strict liability theory, concluded that the CET did not apply and cited *Morson*, stating that "courts have found the alleged creation or exacerbation of allergies by a product beyond the purview of the consumer expectations test."<sup>480</sup> The court also found that there was insufficient evidence to raise a jury question on causation on the ground that "the mere possibility that a defendant's conduct might have caused a plaintiff's injury is not sufficient to establish causation."<sup>481</sup> *Unde* is essentially a causation case, and the court never properly analyzed the design-defect issue under the CET.

In asbestos exposure cases, on the other hand, California courts have uniformly applied the CET in design-defect cases.<sup>482</sup> While asbestos obviously is not an intimate bodily use product, the asbestos cases pose a problem for the *Morson* reasoning. In *Sparks v. Owens-Illinois, Inc.*, the first asbestos design-defect case, the court affirmed the jury's determination that the defendant was liable based on the CET.<sup>483</sup> *Sparks* involved the claim of a former U.S. Navy metalsmith who was exposed repeatedly to asbestos dust while inspecting pipes and pipelines aboard his ship.<sup>484</sup> In order to inspect the pipes, he had to remove the insulation, which contained asbestos, from the valves by sawing or cutting it away.<sup>485</sup> This process, as well as the cleanup procedures involving compressed air and brooms, generated a large amount of dust that the plaintiff inhaled.<sup>486</sup>

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479. *See id.*

480. *Id.* at \*6 (citing *Morson v. Super. Court*, 109 Cal. Rptr. 343, 359 (Ct. App. 2001)).

481. *Id.* at \*7 (citing *Spencer v. Beatty Safeway Scaffolding Co.*, 297 P.2d 746, 751 (Cal. Dist. Ct. App. 1956)). In *Rosburg v. Minnesota Mining & Manufacturing Co.*, the plaintiff asserted that she did not know at the time of surgery that saline implants have a tendency to deflate over time. 226 Cal. Rptr. 299, 303 (Cal. Ct. App. 1986). The court concluded that breast implants were not within the common experience of ordinary consumers. *Id.* at 303-04. Thus, the court reasoned, expert testimony that surgeons knew that saline implants were deflatable was admissible and could be relied on to conclude that the product was not more dangerous than the ordinary user or consumer could expect. *Id.* at 304.

482. *See, e.g.*, *Morton v. Owens-Corning Fiberglas Corp.*, 40 Cal. Rptr. 2d 22, 24-25 (Ct. App. 1995).

483. 38 Cal. Rptr. 2d 739, 748 (Ct. App. 1995).

484. *See id.* at 741.

485. *Id.*

486. *Id.*

*Sparks* involved a thermal insulation called Kaylo, containing thirteen to twenty percent asbestos, which was available in pipe-covering and block forms.<sup>487</sup> It was intended for high temperature thermal insulation and was commonly used on ships.<sup>488</sup> The court held that the product failure was the emission of highly toxic, respirable fibers in the normal course of the product's intended use and maintenance.<sup>489</sup> It reasoned that "[t]here were neither 'complicated design considerations,' nor 'obscure components,' nor 'esoteric circumstances' surrounding the 'accident' in the instant case."<sup>490</sup> The product was a "simple, stationary product in its ordinary uses" made of friable material that generated large amounts of dust when cut to shape irregular objects during installation, removal, inspection, and replacement processes.<sup>491</sup>

There was a reasonable inference from the evidence that the emission of fibers that cause a fatal lung disease after a long latency period was a product failure "beyond the 'legitimate, commonly accepted minimum safety assumptions of its ordinary consumers.'"<sup>492</sup> The *Sparks* court further analogized the case to *West v. Johnson & Johnson Products, Inc.*, the tampon toxic shock syndrome case.<sup>493</sup> The court stated that, like in *West*, "the plaintiff 'had every right to expect' that use of such a seemingly innocuous product 'would not lead to a serious (or perhaps fatal) illness.'"<sup>494</sup>

Despite the decision in the *Morson* latex glove case, the California courts have continued to apply the CET to asbestos cases. The court in *Cadlo v. Superior Court* followed *Sparks* and held that "[t]he design failure was in [the] emission of highly toxic, respirable fibers in the normal course of [the product's] intended use," which raised the reasonable inference that the products' defect exceeded the "legitimate, commonly accepted minimum safety assumptions of its ordinary consumers."<sup>495</sup> The court distin-

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487. *Id.* at 741.

488. *Id.*

489. *Id.* at 747-48.

490. *Id.* at 747.

491. *Id.*

492. *Id.* (quoting *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 309 (Cal. 1994)).

493. *See id.* at 747 (citing *West v. Johnson & Johnson Prods., Inc.*, 220 Cal. Rptr. 437 (Ct. App. 1985)).

494. *Id.* at 38 (quoting *West v. Johnson & Johnson Prods., Inc.*, 220 Cal. Rptr. 437, 458 (Ct. App. 1985)).

495. *Cadlo v. Super. Court*, No. A109193, 2005 WL 459075 at \*2 (Cal. Ct. App. 2005) (quoting *Sparks*, 38 Cal. Rptr., at 747).



guished *Morson* on the grounds that the defect in *Cadlo* was seen as the straightforward release of respirable toxic fibers that could cause a fatal illness “during the routine and relatively straightforward use and maintenance of defendants’ products,”<sup>496</sup> whereas the court in *Morson* described the defect as “far from simple.”<sup>497</sup>

In *Jones v. John Crane, Inc.*, another asbestos insulation case, the court noted that even though expert testimony was needed to establish legal causation of the injuries, it did not mean “that an ordinary user of the product would be unable to form assumptions about the safety of the products.”<sup>498</sup> The *Jones* court rejected the application of *Morson*.<sup>499</sup> Following *Sparks*, the courts have continued to approve the application of the CET in asbestos design-defect cases. All of the cases apply essentially the same reasoning as *Sparks*, and in most cases, directly cite the *Sparks* analysis.<sup>500</sup>

In contrast to *Morson*, the Wisconsin Supreme Court in *Green v. Smith & Nephew AHP, Inc.*, a design-defect case, applied the CET to latex gloves.<sup>501</sup> The plaintiff, in her strict liability action, alleged that the defective and unreasonably dangerous level of latex proteins in the cornstarch-coated gloves caused her to have allergic reactions and suffer serious injuries.<sup>502</sup> Her job as a CT scan technologist required her to use up to forty pairs of gloves per work shift.<sup>503</sup> Researchers found that seventy-five percent of people reacted adversely to the high protein gloves, while only seven percent reacted to the low protein gloves.<sup>504</sup> Moreover, the use of cornstarch to more easily don and remove the gloves increased the risk that users would inhale the latex proteins when combined with the cornstarch powder.<sup>505</sup> This evidence was held sufficient to raise a jury question under the CET.<sup>506</sup>

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496. *Id.* at \*4.

497. *Morson v. Super. Court*, 109 Cal. Rptr. 2d 343, 356 (Ct. App. 2001); see *Cadlo*, 2005 WL 459075, at \*4.

498. 35 Cal. Rptr. 3d 144, 154 (Ct. App. 2005).

499. *Id.*

500. See, e.g., *Morton v. Owens-Corning Fiberglas Corp.*, 40 Cal. Rptr. 2d 22, 24–25 (Ct. App. 1995).

501. *Green v. Smith & Nephew AHP, Inc.*, 629 N.W.2d 727, 732–33, 743 (Wis. 2001).

502. *Id.* at 731–33.

503. *Id.* at 732.

504. *Id.* at 733.

505. *Id.* at 733–34 & n.5.

506. *Id.* at 731. At the time that the plaintiff began experiencing medical problems,

*Morson* and other intimate bodily use product cases do present a difficult substantive issue, namely that the design-defect approach under the CET and the warning-defect approach blend into one another. Warning-defect cases at their core, after all, are actually only a subspecies of design defects. On the one hand, it makes sense to conclude that latex gloves, as supremely useful products, should not be deemed defective if an adequate warning can be provided to alert the small number of users subject to allergic reactions to cease use before developing serious medical disorders. In a warning-defect case, the plaintiff is required to show that a substantial number of persons are adversely affected by the use of the product;<sup>507</sup> however, the defendant can defeat causation by showing that the plaintiff knew of the responsible agent for his or her medical difficulties and yet continued the exposure.<sup>508</sup> If the plaintiff cannot prove the former, or if the defendant can prove the latter, there is no liability.<sup>509</sup> Conversely, in a design-defect case under the CET, the plaintiff would not have to introduce proof regarding the numbers of people likely to have serious allergic reactions, and, furthermore, plaintiff's knowledge of the cause of his or her medical ills would only be a comparative fault defense. The dilemma of which paradigm to select is essentially a choice between imposing either strict liability or fault as the culpability standard for the manufacturer.

The California asbestos cases apply the common sense approach that a user's daily work with a product lacking apparent risks or warnings creates an expectation that the product is reasonably safe.<sup>510</sup> In the case of asbestos, the courts have concluded that a reasonable inference can be drawn that the substance is

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however, "the health care community was unaware that persons could be allergic to latex." *Id.* at 752-53. The court concluded that "regardless of whether a manufacturer could foresee potential risks of harm inherent in its . . . product, strict products liability holds that manufacturer responsible for injuries caused by that product." *Id.* at 746.

Although products liability law is intended in part to make products safer for consumers, the primary "rationale underlying the imposition of strict liability on manufacturers and sellers is that the risk of the loss associated with the use of defective products should be borne by those who have created the risk and who have reaped the profit by placing a defective product in the stream of commerce."

*Id.* at 750 (quoting *Kemp v. Miller*, 453 N.W.2d 872, 879 (Wis. 1990)).

507. See *RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB.* § 2(c) & cmt. k (1998).

508. See *id.* § 2(c) & cmt. i.

509. See *id.* § 2(c) cmts. i, k.

510. See, e.g., *Morton*, 40 Cal. Rptr. 2d 22, 22-25 (Ct. App. 1995); *Sparks v. Owens-Illinois, Inc.*, 38 Cal. Rptr. 2d 739, 747-48 (Ct. App. 1995).

defective, at least without warnings, and the danger exceeded the "legitimate, commonly accepted minimum safety assumptions of its ordinary users."<sup>511</sup> The theory of the asbestos cases should be applicable to intimate bodily use products. It is equally appropriate for intimate bodily use products that an inference of design defect be permitted from normal use which leads to injury, at least without warnings. This application will encourage producers of such products to thoroughly test their products before mass production and to monitor closely reports of adverse reactions once marketing has begun.<sup>512</sup>

## 8. Deviation from Industry-Wide Safety Codes and Standards

There are numerous decisions that allow evidence of custom deviation of industry and trade standards as relevant and persuasive proof of design defect.<sup>513</sup> The court in *Frazier v. Continental Oil Co.* reasoned that these industry standards "generally represent not merely the opinion of one expert in a particular field but 'a consensus of opinion carrying the approval of a significant segment of an industry.'"<sup>514</sup> Also, the Illinois Supreme Court recently reaffirmed its commitment to allowing proof of a design defect by evidence of the product design's lack of conformity to "design guidelines provided by an authoritative voluntary association."<sup>515</sup>

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511. *Sparks*, 38 Cal. Rptr. 2d at 747 (quoting *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 309 (Cal. 1994)).

512. See Conk, *supra* note 77, at 872-73 (discussing how manufacturers of medical products—socially important but high risk products—should be held to a higher standard).

513. See, e.g., *Dixon v. Int'l Harvester Co.*, 754 F.2d 573, 587 (5th Cir. 1985); *Frazier v. Cont'l Oil Co.*, 568 F.2d 378, 381-82 (5th Cir. 1978); *Nesselrode v. Executive Beechcraft, Inc.*, 707 S.W.2d 371, 381 (Mo. 1986); *Brown v. N. Am. Mfg. Co.*, 576 P.2d 711, 718 (Mont. 1978); *Hansen v. Abrasive Eng'g & Mfg., Inc.*, 856 P.2d 625, 628 (Or. 1993). A few courts have held that custom deviation and compliance evidence are irrelevant in design-defect strict liability actions because the issue is the defective character of the product—not the conduct of the defendant. This distinction is without merit as shown earlier. See *supra* Part III.B.3.a. In any event, this minority approach ignores the widespread acceptance of risk-utility evidence to prove design defect in the safety adequacy cases. Once the door is open in these cases to proof of feasible, safer, cost-effective alternative designs, custom evidence is very relevant. See 2 Am. L. Prods. Liab. 3d, *supra* note 73, § 17.85.

514. *Frazier*, 568 F.2d at 382 (quoting James L. Foutch, Comment, *Admissibility of Safety Codes, Rules and Standards in Negligence Cases*, 37 TENN. L. REV. 581, 587 (1970)).

515. *Mikolajczyk v. Ford Motor Co.*, 901 N.E.2d 329, 335 (Ill. 2008), (quoting *Anderson v. Hyster Co.*, 385 N.E.2d 690, 692-93 (Ill. 1979)).

Standards such as those of the American National Standards Institute, the National Electric Safety Code, Underwriters Laboratories, and the recommendations of the Consumer Product Safety Commission are so widely recognized and respected as minimum standards of safety,<sup>516</sup> that courts should recognize product deviation from such industry-wide safety codes as an additional category of sufficient alternative proof in design-defect cases.<sup>517</sup> This would be consistent with the reform objective of reducing the burden of proof on claimants in products liability cases. By overtly recognizing this category, the courts will assist lawyers in recognizing that proof of such deviations is sufficient to establish defectiveness and present the issue of safety expectations to the jury.

Additionally, if such safety code deviation proof is relevant to the design and injury in question and was in effect at the time of manufacture, then the burden of proof, as in negligence per se, should shift to the defendant to justify the deviation. Justification proof should not be allowed simply to debate the merits of the industry standard, but should be limited to those instances where the defense asserts that the product design in question was more advanced and safer than the industry standard. Manufacturer compliance with industry standards, on the other hand, as in negligence law, should be relevant to the reasonableness of the design, but should not give rise to any presumptive effect, as the industry standard may not reflect optimum safety.<sup>518</sup>

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516. See, e.g., MICHAEL J. KEATING & THOMAS H. CASE, CORPORATE COMPLIANCE SERIES: DESIGNING AN EFFECTIVE PRODUCTS LIABILITY COMPLIANCE PROGRAM §§ 1:18, 1:23, 1:25 (2008); IEEE Standards Association, NESC Zone, <http://standards.ieee.org/nesc/index.html> (last visited Apr. 8, 2009).

517. See Jerry J. Phillips, *Consumer Expectations*, 53 S.C. L. REV. 1047, 1063 (2002) (discussing the consumer's right to expect that products comply with industry customs and regulations).

518. See 2 Am. L. Prods. Liab. 3d, *supra* note 73, § 17:80. In *Frazier*, the Fifth Circuit noted:

In holding admissible advisory materials promulgated by a governmental agency, this Court's decision is in accord with the modern trend of cases finding national safety codes representative of "a consensus of opinion carrying the approval of a significant segment of an industry" and offerable as exemplifying safety practices prevailing in the industry. Courts have become increasingly appreciative of the value of national safety codes and other guidelines issued by governmental and voluntary associations to assist the trier of fact in applying the standard of due care in negligence cases. Though the law is by no means settled, this Court finds that the inherent trustworthiness of such codes and recommendations, coupled with the need for their introduc-

## VI. THE PRODUCTS LIABILITY COMMON LAW PROCESS

The products liability cases serve as a significant paradigm of the modern era operation of the common law process. A major attribute of the common law system is that judges do not have to know the exact geography of a boundary when they first create a distinction in the law. Thus, in placing the safety adequacy balancing cases on one side of the line, and the malfunction and manifest defect-alternative-proof cases on the other side, the courts did not have to understand the exact metes and bounds of the distinction. It was left to lawyer advocacy and judicial insight in later cases to determine if other categories of alternative proof should be developed. The process is open-ended and as reason and equity dictate, more categories can be added.<sup>519</sup>

The *Restatement (Third)* in section 2(b) provides that all design-defect cases require risk-utility proof with exceptions noted only for the malfunction and safety regulation contexts.<sup>520</sup> This approach locks all products liability cases into a risk-utility evidence mode even if circumstances equitably call for an alternative proof approach. If section 2(b) were codified as legislation, it would be classified as a closed-end system, and future elaboration by the courts would be considerably restrained. Of course, legislation can be open-ended as well, allowing the courts to reason out future categories, but this is becoming increasingly rare as a legislative and interpretational phenomenon in the United States.<sup>521</sup>

In *Soule*, California took the common law open-ended approach and, for the last fifteen years, has allowed the lower courts to work out the geography of the boundary between the design-defect cases requiring risk-utility proof and those allowing alternative proof.<sup>522</sup> The open-ended approach expresses a continuing faith in the common law system, relies on experience and reason to elaborate the future rules, and utilizes private law-making

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tion in order to impart relevant information not contained elsewhere, is sufficient to justify their admission, notwithstanding the traditional dangers of hearsay evidence.

568 F.2d at 382 (quoting *Muncie Aviation Corp. v. Party Doll Fleet, Inc.*, 519 F.2d 1178, 1183 (5th Cir. 1975)).

519. See Frances E. Zollers et al., *Looking Backward, Looking Forward: Reflections on Twenty Years of Product Liability Reform*, 50 SYRACUSE L. REV. 1019, 1032 (2000).

520. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2(b) & cmt. d (1998).

521. See generally Zollers et al., *supra* note 519, at 1026-33.

522. See *Soule v. General Motors Corp.*, 882 P.2d 298, 309-10 (Cal. 1994).

through lawyer advocacy to work out additional rules of law. Where there is long experience with a legal problem, the closed-ended approach is most appropriate for setting the boundaries in order to settle matters fairly and to avoid litigation. But where there is insufficient experience with the types of cases that may subsequently present themselves, an open-ended solution works best.

In the California courts, the experience with the two-prong approach demonstrates the wisdom of using an open-ended system for situations where product users have developed minimum safety expectations that should be governed by alternative proof requirements. This article has also suggested several other categories for consideration. One clear lesson of the strict products liability experience is that we were not able to foresee at the time of the adoption of section 402A the many ramifications and complications that subsequently unfolded. We may not be there yet.

## VII. CONCLUSION

This article has examined the proof required and allowed in various types of design-defect categories. Risk-utility evidence is generally required in the safety adequacy design-defect cases, and alternative proof is allowed in a range of other design-defect categories. Understanding this duality provides order and clarity in design-defect law. It also allows the common law process to continue to work on refining and identifying the alternative proof categories.

An understanding of the alternative proof categories in design-defect law is helpful for at least four important reasons: (1) it provides guidance to courts in understanding the applicable legal test and the appropriate instructions to give juries; (2) it enables attorneys to plan and develop more easily the requisite legal and evidentiary strategy for their cases; (3) it allows products liability law to develop in a more sensible and coherent fashion; and (4) it allows us to understand that the original objectives of Justice Francis, Justice Traynor, and Dean Prosser in developing strict products liability reform are applicable to some design-defect cases. Isolating this boundary line allows strict liability to remain an important standard in alternative proof cases while negligence principles apply in substance in other design-defect cases requiring risk-utility proof.

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