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I. Analytic Background

The history of the development of tort liability for physical injury caused by products is perhaps the most striking and dramatic of all the numerous evolutionary stories in the portfolio of tort scenarios.[1] It has been narrated on many occasions,[2] and to retell it here would dissipate the effectiveness of an attempt to concentrate on the most vexing and pressing problem of products liability that the courts are struggling with today.

Some background is necessary, however, to set the stage. In general today, a plaintiff who has suffered injury to his person or his property from a product manufactured or supplied by the defendant may sue in negligence, or for breach of an implied warranty, or in strict tort liability. Many states recognize all three theories and will permit a plaintiff to sue on all three at once; others may not recognize all of the three or may impose limitations on the ability to sue on all of them in the same action. Whichever theory is used, the plaintiff must show that the product itself is actionable—that something is wrong with it that makes it dangerous. This idea of "something wrong" is usually expressed by the adjective "defective" and the plaintiff must show that the product was defective.

As a term of art, "defective" gives little trouble when something goes wrong in the manufacturing process and the product is not in its intended condition. It is then defective in the normal sense of the expression. The condition of a product, however, may also be actionable if the product's design is not sufficiently safe or if it does not have adequate instructions or warnings. In a case of this type, the manufacturer intended the product to be in its present condition, and to assert that it is defective or that it has a

*Distinguished Professor of Law, Vanderbilt University. Reporter, *Restatement (Second) of Torts*. B.A., 1932, J.D., 1934, University of Mississippi; LL.M., 1935, S.J.D., 1942, Harvard University.

1. Like many of the stories, this one is almost entirely one of judicial change and development.

2. The classic narration is that of Dean Prosser, who was Reporter for the *Second Restatement* when § 402A was adopted. *See* Prosser, *The Assault Upon the Citadel (Strict Liability to the Consumer)*, 69 Yale L.J. 1099 (1960); Prosser, *The Fall of the Citadel (Strict Liability to the Consumer)*, 50 Minn. L. Rev. 791 (1966).

defective design is to use the term in a special sense that prevents its being very helpful in determining whether the product should be found to be actionable. "Defective" thus becomes an epithet—an expression for the legal conclusion rather than a test for reaching that conclusion.

To reiterate: whether the suit is based on negligence, on breach of implied warranty, or on strict liability, the product must be found to be unsafe—dangerous by some measure—in order to be actionable. At this point, I offer the suggestion that the measure of lack of safety will turn out to be essentially the same for each of the three theories, and that it is not in regard to this element that a distinction is to be drawn between negligence and strict liability.

An example may be found in the landmark negligence case of *MacPherson v. Buick Motor Co.*,[3] in which an automobile wheel was "made of defective wood, and its spokes crumbled into fragments."[4] The plaintiff was injured when the wheel collapsed. Judge Cardozo indicated that to be actionable a product must be "a thing . . . reasonably certain to put life and limb in peril."[5] Today we would not make the standard so demanding; it would be sufficient if the condition of the car created a significant risk to person or property. If, on the other hand, the "defect" in Mr. MacPherson's Buick was that the paint on the wheels was peeling off, with the consequence that MacPherson was injured when a jack that he had purchased separately collapsed while he was trying to take the wheel off to repair it, the Buick Motor Company probably would not be liable for the injury, even today.

In a suit based on implied warranty, the test is whether the product was of merchantable quality or was suitable for the purpose for which it was sold. If the suit is for a personal injury rather than for loss of the bargain, the question is whether the product was sufficiently safe for normal use or any particular use for which it was sold. This issue can, of course, be put in terms of whether the product was "defective." Strict tort liability grew out of the concept of implied warranty, and the test for actionability of the product is essentially the same—we have come to say that it depends upon whether the product is "defective."[6] "[I]n a products liability action in which recovery is sought under the theory of neg-

3. 217 N.Y. 382, 111 N.E. 1050 (1916).

4. *Id.* at 385, 111 N.E. at 1051.

5. *Id.* at 389, 111 N.E. at 1053.

6. "The reasons justifying strict liability emphasize that there must be something wrong, if not in the manufacturer's manner of production, at least in his product." Traynor, *The Ways and Means of Defective Products and Strict Liability*, 32 TENN. L. REV. 363, 366 (1965).

ligence, the plaintiff must establish the existence of a defect in the product just as he does in an action where recovery is sought under the strict liability theory or for breach of warranty."[7] The essential difference between an action in negligence and one in strict liability (or breach of warranty) lies not in the condition of the product but in the requirement in the negligence action of additional proof regarding the nature of the defendant's conduct. In the negligence action, not only must the product itself be found actionable, but the defendant must also be found negligent in letting the product get into that dangerous condition, or in failing to discover the condition and take reasonable action to eliminate it. In strict liability, this is not required; all that the plaintiff must do is show that the product was in the dangerous condition when it left the defendant's control.[8]

In this connection, breach of implied warranty is to be classified with strict liability. In neither action need the plaintiff show fault in the defendant's conduct in letting the chattel be in an unsafe condition. Implied warranty has always been a strict liability action. The same is also true in some instances of negligence per se involving certain criminal statutes. An example is found in the pure food statutes, which provide that foodstuffs must be wholesome and not adulterated or contaminated. If the statute is construed as being violated by a sale of unwholesome food, regardless of whether the defendant was negligent in being responsible for its condition, then to treat this condition as negligence per se is to impose strict liability, regardless of the name that is given to it.[9]

The courts have long had the recognized authority to provide as a rule of law that certain specific conduct constitutes negligence (e.g., failure to stop at a railroad grade crossing), even in the absence of a criminal statute.[10] Under this established authority, a court may declare that putting a product on the market if it is not duly safe is negligence per se—negligence as a matter of law. This is essentially the strict liability of an implied warranty of merchantability, and it should be so regarded despite the language of negligence. Expressly recognizing this, several courts have explained their adoption of strict liability for products in terms of

7. Browder v. Pettigrew, 541 S.W.2d 402, 404 (Tenn. 1976).

8. *Id.*

9. *E.g.*, Donaldson v. Great A & P Co., 186 Ga. 870, 199 S.E. 213 (1938); McKenzie v. Peoples Baking Co., 205 S.C. 149, 31 S.E.2d 154 (1944); Doherty v. S. S. Kresge Co., 227 Wis. 661, 278 N.W. 437 (1938).

10. "[T]he question of due care very generally is left to the jury. But we are dealing with a standard of conduct, and when the standard is clear it should be laid down once for all by the Courts." Baltimore & O.R.R. v. Goodman, 275 U.S. 66, 70 (1927) (Holmes, J.).

negligence per se.[11] It would be a myopic mistake to accuse them of persisting in using a straight negligence approach and failing to impose strict liability.

II. Development of the Standard for Determining Product Actionability

A. *Historical Developments*

In the landmark case of *Greenman v. Yuba Products Co.*,[12] Justice Traynor declared that a "manufacturer is strictly liable in tort when an article he places on the market, knowing that it is to be used without inspection for defects, proves to have a defect that causes injury to a human being."[13] A subsequent sentence in the opinion declares that a plaintiff may recover if "he was injured while using the [product] in a way it was intended to be used as a result of a defect of design and [or?] manufacture of which plaintiff was not aware that made the [product] unsafe for its intended use."[14] Here, then, are two different tests—"defective" in manufacture or design, and "unsafe" for its intended use.

Section 402A of the *Restatement (Second) of Torts* had not been officially promulgated at the time that *Greenman* was decided, but Justice Traynor was a member of both the Reporter's Advisory Committee and the Council of the American Law Institute when the proposed section was subjected to critical discussion; moreover, the public distribution of the section as it appeared in *Tentative Draft No. 6*[15] and discussion of it on the Institute floor had taken place before he wrote his opinion in *Greenman*. Justice Traynor was thus aware of the fact that, as originally approved by the Torts Advisers and submitted to the Council, section 402A required that the product be "in a condition dangerous to the consumer," and that it had been changed by the Council to read "in a defective condition unreasonably dangerous to the user or consumer or to his property." As the Reporter, Dean Prosser, explained on the Institute floor, the change was made to keep certain types of products—whiskey, for example—from always being regarded as unreasonably dangerous in their normal condition. Thus, the Advisers sought to ensure that it was understood that there

11. *E.g.*, Cassell v. Altec Indus., Inc., 335 So. 2d 128 (Ala. 1976); Dippel v. Sciano, 37 Wis. 2d 443, 155 N.W.2d 55 (1967).

12. 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963).

13. *Id.* at 62, 377 P.2d at 900, 27 Cal. Rptr. at 700.

14. *Id.*

15. Restatement (Second) of Torts § 402A (1965).

must be something wrong with the product.[16] As defined in the comments to section 402A, a "defective condition" is "a condition not contemplated by the ultimate consumer, which will be unreasonably dangerous to him."[17] Thus, "defective condition" is the description of the product, but "unreasonably dangerous" is the test to be applied.

There was no indication that Justice Traynor contemplated that *Greenman* was laying down a different standard from that being expressed in section 402A; when Dean Prosser prepared the final draft of section 402A after *Greenman* was decided, he did not regard it as offering a different approach or as suggesting a modification of the language of the section or its comments. At any rate, the combination of *Greenman* and section 402A provided the impetus for converting evolutionary change into revolutionary change. Jurisdiction after jurisdiction abruptly changed over from dubious devices for supplying the required privity in implied warranty cases to a frank recognition of strict tort liability for products, in which privity need not be proved. *Greenman* and section 402A were uniformly cited as the authoritative legal bases of the new doctrine.

The major point of discussion quickly switched from the question whether strict products liability should be adopted to a consideration of the details of the doctrine. Cases and commentators focused on the standards to be applied and on how far the doctrine should expand. There was considerable treatment of the nature of the legal theory behind strict liability and of the most useful tests for determining when the action could be maintained. Strict product liability had developed out of liability for breach of an implied warranty for merchantability. This carried with it a background of loss of a bargain, of failing to receive what one had contracted for. This in turn raised connotations of the expectations of the purchaser of the product in regard to the product's safety. Some commentators asserted[18] and cases agreed[19] that the most appropriate test for determining whether a product was actionable turned on the reasonable expectations of the consumer.

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16. This is treated in more detail in Wade, *On the Nature of Strict Tort Liability for Products*, 49 MISS. L.J. 825, 830 (1973).

17. RESTATEMENT (SECOND) OF TORTS § 402A, Comment g (1965).

18. *E.g.*, Dickerson, *Product Liability: How Good Does a Product Have to Be?*, 42 IND. L.J. 301 (1967); Rheingold, *What are the Consumer's "Reasonable Expectations?,"* 22 BUS. LAW. 589 (1967). *See also* RESTATEMENT (SECOND) OF TORTS § 402A, Comment i (1965) ("The article 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.")

19. *E.g.*, Vinor v. Esther Williams All-Aluminum Swimming Pool Co., 69 Wis. 2d 326, 230 N.W.2d 794 (1975).

Other commentators thought it more appropriate for the test to be derived from the law of torts rather than of contracts, and suggested that the issue should depend on whether a reasonable supplier would put the product on the market, assuming that he knew of its actual dangerous condition.[20] It was the supplying of scienter—the knowledge of the dangerous condition—that differentiated strict liability from negligence; the plaintiff was under no obligation to show that the defendant negligently caused the product to be in the dangerous condition or that he was negligent in failing to discover it and do something about it. This approach, too, was adopted in several cases.[21] The suggestion was then made that the test might be two-fold, so that a plaintiff could prevail by showing either that the product did not meet the reasonable expectations of the ordinary consumer or that a reasonable supplier would not put it on the market if he knew of its actual condition. This suggestion also acquired its adherents.[22]

The common law of torts was developing according to its accustomed wont. It was reaching a consensus on the concept that the product must be unreasonably dangerous to be actionable, and it was working out a usable and meaningful test to submit to the jury for determining whether a particular product was unreasonably dangerous. Then, in 1972, the Supreme Court of California rendered its decision in *Cronin v. J.B.E. Olson Corp.*[23] The court reexamined its opinion in *Greenman* and decided that the standard articulated in that case differed from the *Restatement* standard in that the former required only that the product be defective, not that it be unreasonably dangerous. The latter concept, the court declared, "rings of negligence,"[24] and it had adopted strict liability, which it said was not based on the unreasonableness idea in negligence or on a form of culpability. All that the plaintiff need do was to show that the product was "defective." The *Cronin* decision was soon followed by the Alaska Supreme Court[25] and by an intermedi-

20. Keeton, *Manufacturer's Liability: The Meaning of "Defect" in the Manufacture and Design of Products*, 20 SYRACUSE L. REV. 559 (1969); Keeton, *Product Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30 (1973); Wade, *Strict Tort Liability of Manufacturers*, 19 SW. L.J. 5 (1965); Wade, *supra* note 16.

21. *E.g.*, Cepeda v. Cumberland Eng'r Co., 76 N.J. 152, 386 A.2d 816 (1978); Phillips v. Kimwood Mach. Co., 269 Or. 581, 525 P.2d 1033 (1974).

22. *E.g.*, Welch v. Outboard Marine Corp., 481 F.2d 252 (5th Cir. 1973); Henderson v. Ford Motor Co., 519 S.W.2d 87 (Tex. 1974); Montgomery & Owen, *Reflections on the Theory and Administration of Strict Tort Liability for Defective Products*, 27 S.C. L. REV. 803 (1976).

23. 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972).

24. *Id.* at 132, 501 P.2d at 1159, 104 Cal. Rptr. at 442.

25. Butaud v. Suburban Marine & Sporting Goods, Inc., 555 P.2d 42 (Alaska 1976).

ate court in New Jersey.[26]

Cronin was vigorously attacked in several articles.[27] "Defective" might possibly have useful meaning in a case involving a miscarriage in the manufacturing process, the writers suggested, but it gave no real gnidance in a case involving a design claimed to be insufficiently safe or a failure to provide an adequate warning. Without explanation of some nature in the instructions, a jury would be utterly at sea and deliberately left to decide according to its own ungnided whim or caprice.

The criticism told, and *Cronin* was not followed elsewhere. A number of courts gave thorough and careful consideration to the problem and determined to retain the *Restatement*'s unreasonably-dangerous approach[28]—usually with some basis for translating it to the jury in terms of reasonable expectations or reasonableness in putting the product on the market in that condition, or a combination of the two. Courts referred frequently to factors to be taken into consideration—at least by the court—in deciding whether the unreasonably dangerous issue was appropriate to submit to the jury in the particular case. The *Cronin* episode thus turned out to be a mere side eddy in the orderly flow of the common law system toward an established and settled conclusion.

B. Current Developments

In the last two years, however, the orderly flow of development has turned into a swampy quagmire and threatens to split into several different streams with diverse destinations. A number of appellate judges, aware that they are engaged in the conscious task of molding the law of strict products liability, have become concerned that they are not differentiating with sufficient clarity between strict liability and negligence, especially in design cases. In response, they have sought to devise a significant and well-articulated distinction. At the same time, other judges, who have become concerned that the differentiation is becoming too great, have attempted to devise means of keeping the broadening scope of strict liability in check. The result has been several cases in which the standard for strict liability in the design area has been very care-

26. Glass v. Ford Motor Co., 123 N.J. Super. 599, 309 A.2d 562 (1973).

27. Keeton, *Product Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30 (1973); Wade, *supra* note 16.

28. *E.g.*, Aller v. Rodgers Mach. Mfg. Co., 268 N.W.2d 830 (Iowa 1978); Cepeda v. Cumberland Eng'r Co., 76 N.J. 152, 386 A.2d 816 (1978); Phillips v. Kimwood Mach. Co., 269 Or. 581, 525 P.2d 1033 (1974); Seattle-First Nat'l Bank v. Tabert, 86 Wash. 2d 145, 542 P.2d 774 (1975).

fully examined by the court and often vigorously debated by the judges themselves. There is, at present, much uncertainty as to the outcome of the turmoil, and an examination of the important recent cases and analysis of their significance may be useful.

As is so often true in the torts field, the present analysis begins with a California case. In *Barker v. Lull Engineering Co.*, [29] involving an alleged "design defect" in a high-lift loader, the California Supreme Court held that the trial court erred when it instructed the jury that the loader must be unreasonably dangerous, because such instructions had been ruled out by *Cronin.* The court recognized indirectly, however, that the *Cronin* rule—simply using the word "defective"—was inadequate. In its place, the *Barker* court proposed a "two-pronged definition of design defect." Under this definition, a "design defect" is held to exist

> (1) 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, or (2) if the plaintiff proves that the product's design proximately caused his injury and the defendant fails to prove, in light of the relevant factors . . . that on balance the benefits of the challenged design outweigh the risk of danger inherent in such design.[30]

A careful reading of the opinion indicates that the *Barker* rule has substantially modified the court's position in *Cronin.* At this point, then, the essential difference between the present California rule and the "unreasonably dangerous" language of the *Second Restatement* is one primarily of semantics, except that the burden of proof has been shifted from plaintiff to defendant. The *Barker* court was careful to phrase the test not in terms of defendant's conduct, but in terms of the actionability of the product itself. In balancing the benefits of the particular design against the risk of danger inherent in it, the court employs a cost-benefit analysis to determine if the product is unreasonably dangerous, whether that language is used or not. As it did with *Cronin,* the Supreme Court of Alaska followed *Barker* in *Caterpillar Tractor Co. v. Beck.*[31]

Barker and *Caterpillar* should be compared with the recent decision of the Texas Supreme Court in *Turner v. General Motors Corp.*[32] This case involved the question of "defective design" in a car roof that caved in when the car rolled over. Texas earlier had adopted the *Restatement* approach that to be actionable the product must be unreasonably dangerous; this was explained to the jury

29. 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978).
30. *Id.* at 435, 573 P.2d at 457-58, 143 Cal. Rptr. at 239-40.
31. 593 P.2d 871 (Alaska 1979).
32. 584 S.W.2d 844 (Tex. 1979).

by the "bifurcated test" of whether it would (1) meet the reasonable expectations of the ordinary consumer as to its safety, or (2) be placed on the market by a prudent manufacturer who was aware of the danger involved in its alleged defect. The intermediate court had reversed a jury verdict for the plaintiff, substituting for the bifurcated test a list of four factors to be balanced by the jury.[33] The Texas Supreme Court reversed and restored the jury verdict for plaintiff. The opinion held first, that the issue to be posed for the jury was whether the product was "defectively designed," and second, that this term means "a product that is unreasonably dangerous as designed, taking into consideration the utility of the product and the risk involved in its use."[34] It agreed that the bifurcated test should be eliminated as an instruction to the jury, on the ground of the "inclusiveness of the idea that jurors would know what ordinary consumers would expect in the consumption and use of a product, or that jurors would or could apply any standard or test outside of their own experiences and expectations."[35] As for the balancing factors, the court found that "evidence necessary to address the appropriate elements . . . should be overtly advanced by both parties . . . ; but this does not necessarily lead to the conclusion that the jury should be specifically instructed concerning these considerations."[36]

The Supreme Court of Oregon expressly declined to follow the California *Barker* ruling in the case of *Wilson v. Piper Aircraft Corp.*[37] In comprehensive opinions in two previous cases,[38] it had held that to be actionable a product must be "dangerously defective," and that the test for this is whether "a reasonable person would . . . put [it] into the stream of commerce *if he had knowledge of its harmful character;*"[39] the court also quoted a list of factors to be used by the court in determining whether a case had been sufficient to submit to the jury. The *Wilson* case involved the crash of a Piper Cherokee light airplane. At issue was the design of the aircraft, specifically the use of a carburetor rather than a fuel injector to get the fuel-air mixture to the combustion chambers.

33. General Motors Corp. v. Turner, 567 S.W.2d 812, 818 (Tex. Civ. App. 1978).

34. *Id.* at 847 n.1.

35. 584 S.W.2d at 851.

36. *Id.* at 849.

37. 282 Or. 61, 577 P.2d 1322, *rehearing denied with opinion,* 282 Or. 411, 569 P.2d 1287 (1978).

38. Phillips v. Kimwood Mach. Co., 269 Or. 581, 525 P.2d 1033 (1974); Roach v. Kononen, 269 Or. 457, 525 P.2d 125 (1974).

39. Phillips v. Kimwood Mach. Co., 269 Or. 581, 594, 525 P.2d 1033, 1037 (1974) (emphasis in original).

There was evidence that a carburetor is subject to icing, which causes engine failure, while an engine with a fuel injection system is immune from this risk. Plaintiffs also demonstrated that carburetor icing was a probable cause of the plane crash. On the other hand, the evidence showed that eighty to ninety percent of comparable airplanes have carbureted rather than fuel injected engines, although no explanation was given of why this was the case. There was no evidence of what effect the substitution of a fuel injection design would have had upon "the airplane's cost, economy of operation, maintenance requirement, over-all performance, or safety in respects other than susceptibility to icing."[40] The court held that whether the use of a carburetor constituted a dangerous defect was not an issue to be submitted to the jury for it to determine "solely on the basis of inference and common knowledge."[41] The trial court must "be satisfied that there is evidence from which the jury could find the suggested alternatives are not only technically feasible but also practicable in terms of cost and the over-all danger and operation of the product."[42] In the absence of this evidence this issue should not have been submitted to the jury.[43]

The Pennsylvania case of *Azzarello v. Black Brothers Co.*[44] is confusing and of uncertain significance. In *Azzarello,* the plaintiff suffered injury to her right hand when it was caught between two hard rubber rolls in a coating machine used in her employment. Plaintiff brought action against the manufacturer who impleaded plaintiff's employer. The trial resulted in a verdict in favor of the manufacturer and against the employer. On appeal, the Supreme Court of Pennsylvania quoted and relied upon *Cronin,* declaring that "the words 'unreasonably dangerous' have no independent significance and merely represent a label to be used where it is determined that the risk of loss should be placed upon the supplier."[45] In the view of the court, the words should, therefore, not be used in an instruction to the jury; to put them in an instruction was thus held to be reversible error.[46] The opinion then addressed the relative functions of judge and jury, stating that the "lay jury . . . [is] competent in resolving a dispute as to the condition of a product"; it is the court, however, that makes the decision as to whether that condition justifies placing liability upon the supplier:

40. Wilson v. Piper Aircraft Corp., 282 Or. at 70, 577 P.2d at 1328.
41. *Id.* at 69, 577 P.2d at 1327.
42. *Id.*
43. *Id.*
44. 480 Pa. 547, 391 A.2d 1020 (1978).
45. *Id.* at 556, 391 A.2d at 1025.
46. *Id.*

> Should an ill-conceived design which exposes the user to a risk of harm entitle one injured by the product to recover? . . . When does the utility of a product outweigh the unavoidable danger it may pose? These are questions of law and their resolution depends upon social policy. . . . It is a judicial function to decide whether, under plaintiff's averment of the facts, recovery would be justified; and only after this judicial determination is made is the cause submitted to the jury to determine whether the facts of the case support the averments of the complaint.[47]

These cryptic remarks are extremely difficult to interpret. The court may be saying that the jury merely determines the facts and that the judge determines whether the product is actionable on those facts. But the judge's decision is on the "plaintiff's averment of the facts."[48] Is this treated like a demurrer or motion to dismiss? Is this like strict liability of the type of *Rylands v. Fletcher*,[49] under which the judge decides as a matter of law whether an activity is abnormally dangerous and instructs the jury that strict liability is imposed or negligence is required? Or is it the rule that since the law imposes strict liability on products in general, the decision is already made for the judge? From the opinion, one cannot be sure.

This may not be a matter of consequence, because the *Azzarello* court proceeded immediately to the determination of "when liability should attach in cases where a 'bad design' is charged."[50] The court quoted from two earlier cases, one to the effect that "a manufacturer . . . is effectively the guarantor of his products' safety . . . [and] impliedly represents that it is safe for its intended use;"[51] and the other that a "seller must provide with the product every element necessary to make it safe for use."[52] To these remarks it adds:

> For the term guarantor to have any meaning in this context the supplier must at least provide a product which is designed to make it safe for the intended use. Under this standard . . . the jury may find a defect where the product left the supplier's control lacking any element necessary to make it safe for its intended use or possessing any feature that renders it unsafe for the intended use.[53]

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47. *Id.* at 558, 391 A.2d at 1026.

48. *Id.*

49. L.R. 3 H.L. 330 (1868).

50. 480 Pa. at 558, 391 A.2d at 1026.

51. *Id.* (quoting Salvador v. Atlantic Boiler Co., 457 Pa. 24, 32, 319 A.2d 903, 907 (1974)).

52. *Id.* at 559, 391 A.2d at 1027 (quoting Berkebile v. Brantley Helicopter Corp., 462 Pa. 83, 100, 337 A.2d 893, 902 (1975)).

53. *Id.* A footnote to this statement approves as an "adequate charge to the jury" the following:

> The [supplier] of a product is the guarantor of its safety. The product must, therefore, be provided with every element necessary to make it safe for [its intended] use. If you find that the product, at the time it left the defendant's control, lacked any element

In New Jersey, the case of *Cepeda v. Cumberland Engineering Co.*[54] had thoroughly treated the subject of design defects and had come to be recognized as a leading case espousing the consensus view described in Section II B of this Article. It was overruled fifteen months later in *Suter v. San Angelo Foundry Machine Co.*[55] The new opinion, relying on the California *Cronin* case, repudiated the incorporation "of the 'defective condition unreasonably dangerous' language in the jury charge [because it] appears to impose a greater burden on plaintiff than is warranted."[56] Instead, the court held that the trial court

> should charge generally that a manufacturer has an obligation to distribute products which are reasonably fit, suitable and safe for their intended or foreseeable purposes . . . . In those design defect situations in which the defect is not self-evident, the trial court should also charge the jury on whether the manufacturer, it being deemed to have known of the harmful propensity of the product, acted as a reasonable prudent one. Depending on the proofs, the trial court should explain pertinent factors related to the determination of reasonable prudence.[57]

In this simplified exposition of the standard for determining design defect, there are overtones of warranty ("fit and suitable") and negligence ("reasonabl[y] prudent") that are emphasized at greater length in the opinion. Simplified a little more, however, they may turn out to be not substantially different from the standard in *Cepeda.*

Some language on the relative functions of the judge and jury may also be not entirely clear. At one point, the court provides a brief list of factors that may be considered by the jury in deciding the

> reasonableness of the manufacturer's conduct [including] the technological feasibility of manufacturing a product whose design would have prevented or avoided the accident, given the known state of the art; and the likelihood that the product will cause injury and the probable seriousness of the injury.[58]

The court also says, however, that "it is the function of the court to decide whether the manufacturer has the duty and obligation im-

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necessary to make it safe for [its intended] use, then the product was defective, and the defendant is liable for all harm caused by such defect.

Pa. Standard Jury Instr. 8.02 (Civil), Subcomm. Draft (June 6, 1976).

54. 76 N.J. 152, 386 A.2d 816 (1978).

55. 81 N.J. 150, 406 A.2d 140 (1979).

56. 406 A.2d at 152.

57. *Id.* at 153. The court also speaks twice of an "improper design" as amounting to a defect.

58. *Id.* at 152. The court noted that "[s]tate of the art refers not only to the common practice and standards of the industry but also to other design alternatives within practical and technological limits at the time of distribution." *Id.*

posed by the strict liability principle."[59] The court adds that: "The trial court must determine whether the duty of strict liability exists. In doing so, it should weigh all pertinent risk/utility factors."[60] What standard should the trial judge use when determining when to let the case go to the jury?

In *Fischer v. Cleveland Punch and Shear Works Co.*,[61] the Supreme Court of Wisconsin rendered a decision that solidified an incipient aberration in the Wisconsin law of products liability. The suit was against the manufacturer of a punch press that injured the plaintiff, allegedly because of defects in the design of the safety system. The unit had two circuit switches and a foot-control switch; the press could become activated even when the obvious stop switch was punched, if the operator stepped on the foot switch. The plaintiff's arm was injured when he inadvertently operated the press in this manner. The court held that the trial court correctly permitted the plaintiff to sue both in strict liability on the *Restatement* basis of a product "in a defective condition unreasonably dangerous" and also on a basis of ordinary negligence. The jury found the press free of design defects that would render it unreasonably dangerous, but found that the defendants were negligent in the design of the product. Rejecting defendants' contention that the verdict was inconsistent, the court quoted from an earlier case:

> Where a plaintiff proves negligence—in this case, the lack of ordinary care in the design of a product—there is no doubt that there may be recovery in the event the defective design results in an unreasonably dangerous product, but there may be recovery for the negligent design of a product even though it is not unreasonably dangerous in the 402A sense. All that is necessary to prove is that the product is designed with a lack of ordinary care and that lack of care resulted in injury.[62]

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59. *Id.* at 151.

60. *Id.* at 153.

61. 91 Wis. 2d 85, 280 N.W.2d 280 (1979).

62. *Id.* at 98, 280 N.W.2d at 286 (quoting Greiten v. LaDow, 70 Wis. 2d 589, 603-04, 235 N.W.2d 677, 685 (1975) (Heffernan, J., concurring). The *Greiten* case is a strange one. The purported majority opinion (Rohert W. Housen, J.), carefully spells out the development of Wisconsin's negligence per se theory of products liability in Dippel v. Sciano, 37 Wis. 2d 443, 155 N.W.2d 55 (1967), and quotes Vinor v. Esther Williams All-Aluminum Swimming Pool Co., 69 Wis. 2d 326, 330, 230 N.W.2d 794, 797 (1975): "However, even under negligence law, the plaintiff still must prove that the product causing the injury was dangerous and defective." *Greiten* holds: "Thus if the plaintiff [in the negligence action] did not establish that the alleged defect in design was 'unreasonably dangerous to the user or consumer' he cannot recover." 70 Wis. 2d at 595, 235 N.W.2d at 682. A directed verdict for the defendant was therefore affirmed. In a concurring opinion which referred to the *Housen* opinion as the majority opinion, Heffernan, J., agreed with the affirmance of the trial court but said, "While I completely agree with the majority opinion that the proof was insufficient, I am satisfied that the threshold question is not whether the product was unreasonably dan-

It would appear that both the jury and the supreme court acted under a misconception regarding the meaning of the phrase, "in a defective condition unreasonably dangerous," as used in section 402A. Very likely, the jury's misapprehension was of the words "defective condition." They must have thought that "defective" meant that the product must turn out to be in a different condition from what the manufacturer intended; that is, it must have been "mismanufactured." Of course, the design may also be "bad" or "improper" or "defective." The court's misapprehension, on the other hand, must have dealt with the words "unreasonably dangerous." If a "product is designed with a lack of care and that lack of care resulted in injury," it must have been because the product was dangerous—unsafe—in some measure. Other courts and commentators have not required a higher measure of dangerousness for strict liability than for negligence. None was intended by the drafters of the *Restatement,* especially in design cases. Unnecessary confusion is created by trying to draw a distinction. The confusion, however, may not often produce a different result. In the *Fischer* case, for example, if there had been a single action based on strict liability and the jury had had a proper understanding of "defective condition unreasonably dangerous," it almost certainly would have found that the press was unreasonably dangerous.

A final major case goes in the opposite direction from that taken by most of those discussed. In *Owens v. Allis-Chalmers Corp.*,[63] the Michigan Court of Appeals affirmed a directed verdict for the defendant in a case in which a forklift overturned, crushing the driver's skull. Declaring that "triers of fact are not formulators of public policy and . . . trial courts are inappropriate for the task in the area of product design choices,"[64] the court took the position that adjudication must necessarily play a limited role in setting design standards and that these standards should be "extrajudicially established."[65] It therefore concluded that

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gerous but whether the defendant exercised ordinary care and whether that lack of ordinary care was the legal cause of the injuries." 70 Wis. 2d at 604, 235 N.W.2d at 686. That opinion was joined by three other justices and was declared in a later case to be the majority opinion. *See* Howes v. Deere & Co., 71 Wis. 2d 268, 238 N.W.2d 76 (1976). It can be argued that the position taken in both *Greiten* and *Howes* was not necessary to the final holding and was therefore dictum, but it was followed by the federal court in Schuldies v. Service Machine Co., 448 F. Supp. 1196 (E.D. Wis. 1978), a case almost identical factually with *Fischer*, the principal case, which therefore fully establishes the Wisconsin position unless it is given a complete reexamination by the court.

63. 83 Mich. App. 74, 286 N.W.2d 291 (1978).

64. *Id.* at 80, 286 N.W.2d at 294.

65. *Id.*

> to establish a question of fact as to a manufacturer's breach of duty in design defect products liability litigation, evidence of the following must be presented: (1) that the particular design was not in conformity with industry design standards, design gnidelines established by an authoritative voluntary association, *or* design criteria set by legislative or other governmental regnlations, *or* (2) that the design choice of the manufacturer carries with it a *latent* risk of injury *and* the manufacturer has *not* adequately communicated the nature of that risk to potential users of the product.[66]

This holding, then, is directed at the "inappropriateness not only of the jury but of the trial judge as well, at the litigation process as a whole."[67]

Brief reference should be made to a few decisions construing some of the major cases discussed above and therefore supplementing them. There are several California appeals cases construing *Barker v. Lull Engineering Co.*[68] Perhaps the most important is *Cavers v. Cushman Motor Sales, Inc.*,[69] holding that despite the elimination of the phrase "unreasonably dangerous" in a design case, it is appropriate in a warning case to instruct the jury that they must find that the "absence of an adequate warning renders the article *substantially* dangerous to the user." The appellate panel noted that "[b]y using the modifying adverb 'substantially,' the [trial] court appropriately indicated that a weighing of degrees of danger was necessarily involved in determining the existence of a defect."[70]

The cases of *Garcia v. Joseph Vince Co.*[71] and *Korli v. Ford Motor Co.*[72] treat the need of the plaintiffs to establish a prima facie case in order to reach the jury. There remains some uncertainty on this issue. The California Supreme Court directed that the court of appeals opinion in *Korli* was not to be published, but it refused to grant a hearing on the case or set aside the intermediate court's direction to the trial judge to enter judgment for the defendant.[73]

66. *Id.* at 81, 286 N.W.2d at 294-95.

67. The opinion is strongly influenced by articles of Professor James A. Henderson. *See generally* Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 (1973); Henderson, *Design Defect Litigation Revisited*, 61 CORNELL L. J. 541 (1976).

68. 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978). *See* text accompanying notes 29-30 *supra*.

69. 95 Cal. App. 3d 341, 157 Cal. Rptr. 142 (1979).

70. *Id.* at 349, 157 Cal. Rptr. at 149.

71. 84 Cal. App. 3d 868, 148 Cal. Rptr. 843 (1978).

72. PROD. LIAB. REP. (CCH) ¶ 8340 (Cal. App. 1978) (originally publisbed in advance sheets in 84 Cal. App. 3d 895, 149 Cal. Rptr. 98 (1978), but withdrawn by order of the California Supreme Court).

73. There was also language in the opinion deprecating the capability of "lay juries to simply make value judgments as to the relative desirability of one design over another," and

The court in *Titus v. Bethlehem Steel Corp.*[74] held that some instruction defining defective condition must be given to the jury.

The Alaska court's decision in *Caterpillar Tractor Co. v. Beck*,[75] adopting the *Barker* rule after a thorough discussion was followed by the case of *Heritage v. Pioneer Brokerage & Sales, Inc.*,[76] which held that in balancing the risk of harm against the utility of the product design, "scientific knowability" refers to knowledge as of the time that the product is marketed and that this does not "reintroduce elements of negligence concepts into the determination of defectiveness."[77]

It is interesting to note that while all of these decisions have the apparent effect of gently nudging *Barker* back toward a somewhat more central position, an intermediate court in Texas has gone further than the Texas Supreme Court did in *Turner v. General Motors Corp.*[78] In *Bailey v. Boatland of Houston*,[79] the court held that not only would the custom of the trade in not installing a "kill switch" on an outboard motor so that it would stop if the operator fell overboard not be controlling, but also that evidence could not be introduced in the trial that a switch of this nature was unavailable and could not be obtained for incorporation into the motor as a safety device. That holding seems more in accord with the concurring opinion in *Turner* than with the majority opinion.[80]

III. What Should the Standard Be?

A. *The Section 402A Standard and its Alternatives*

How should one evaluate these contemporary decisions and what developments do they portend for the future? Further, what should be the test, if one seeks objectively to find a fair balance between the conflicting interests of the manufacturer (or other supplier) and the consumer (or other injured party)? An initial conclusion is that many courts are now inclined to insist more rigidly that the test for an improper design be expressed solely in terms of the condition of the product. Putting the test in terms of the reasonable expectations of one group of people (buyers) or in terms of the

this may well have been the source of the Supreme Court's disapproval. 84 Cal. App. 3d at 906, 149 Cal. Rptr. at 105.

74. 91 Cal. App. 3d 372, 154 Cal. Rptr. 122 (1978).
75. 593 P.2d 871 (Alaska 1979).
76. Prod. Liab. Rep. (CCH) ¶ 8521 (Alaska 1979).
77. *Id.* at p. 18,524.
78. 584 S.W.2d 844 (Tex. 1979).
79. 585 S.W.2d 805 (Tex. Civ. App. 1979).
80. 584 S.W.2d 844, 854 (Tex. 1979) (Campbell, J., concurring).

reasonable conduct of another group of people (manufacturers or suppliers) is regarded by these courts in both instances as a diversion, which leads the decision-maker's thoughts away from the central issue. Moreover, the first test smacks too closely of breach of warranty and loss of the bargain, with all its contractual restrictions and nontortious approach. The second looks too much like negligence, and while this test sounds in tort it may give the impression that the defendant's conduct must be shown to be culpable or blameworthy.

Notwithstanding these reservations, the second approach may indeed have some utility. It should be stressed that this suggestion is not intended to change strict liability into negligence liability; this test expressly provides that the determination of whether a reasonable prudent manufacturer would put the product on the market must be made with the assumption that the manufacturer knew of the dangerous condition of the product. There is no need to prove negligence in letting the product become dangerous or in failing to discover or do something about the dangerous condition. It should be clear that this approach to products liability would be most useful in the mismanufacture case, rather than in the case in which the design was defective. The thought was that by seeing the issue in a familiar form—a form that would clearly show the difference between negligence and strict liability—the jury might better understand the task before it. Of course, since posing the issue in this form does not change the substantive law to be applied, any court that doubts the effect of this approach on the jury should feel free to adopt another.

We come then to the test to be used in determining whether the product itself is actionable. Some recent cases have gone to extremes in both directions on this matter. Several cases, for example, have taken the position that a product is actionable unless it meets a standard of safety that is much higher in strict liability cases than in a negligence action. Thus, while the Pennsylvania court in *Azzarello* denied that it was imposing an insurer's liability, the supplier has been cast "in the role of a guarantor of his product's safety."[81] Moreover, the Pennsylvania cases hold that the product is defective if it is "lacking any element necessary to make it safe for its intended use or possessing any feature that renders it unsafe for the intended use."[82] Justice Campbell's concurring opinion in

81. Azzarello v. Black Bros. Inc., 480 Pa. 547, 553, 391 A.2d 1020, 1024 (1979). What is the distinction between an insurer and a guarantor?

82. *Id.* at 559, 391 A.2d at 1027. *See* text accompanying notes 32-36 *supra.*

Turner v. General Motors Corp.[83] took a similar tack. Decrying the majority's use of the unreasonably dangerous standard, he asserted that strict liability must require "the maximum possible protection for the user of the product."[84]

How, one may ask, could any automobile today turn out not to be actionable under these tests? In a collision an automobile may possibly catch fire—no matter where the gas tank is located or how it is protected. Should we require every car to have an automatic sprinkling system, regardless of how that might affect its gasoline mileage? A governor limiting the speed to ten miles per hour would make it much safer—but probably not safe enough. Clearly, safety must be a relative matter, and a balancing process of some sort is necessary to determine whether a product is sufficiently safe—regardless of whether the suit is in negligence or in strict liability.

At the opposite extreme, some take the position that the courts are not expert in the complex technological aspects of sophisticated machines and therefore are not adequately qualified to pass judgment on the safety of the product. Instead, the determination should be left to the persons who are fully expert—the manufacturers themselves. So long as the design is in accordance with design standards of the industry, the manufacturer's determinations should be controlling. These design standards depend on customs in the trade, guidelines of voluntary associations, and regulations by legislatures and administrative agencies. This position has been strongly urged in law reviews[85] and has been adopted in at least one case.[86]

Whatever its theoretical merits, this position is unrealistic. Tort law presently permits only physicians to establish by their customs and practices standards for liability that will normally be treated as binding on court and jury.[87] There is little likelihood that

83. 584 S.W.2d 844 (Tex. 1979).

84. *Id.* at 853. Construed literally, this would apparently mean that all products of a particular kind would have to be made exactly alike. There is only one maximum possible protection. *Cf.* Robinson v. Reed-Prentice Div. of Package Mach., 48 U.S.L.W. 2578 (N.Y., Feb. 14, 1980) ("manufacturer's duty does not extend to designing a product that is impossible to abuse or whose safety features may not be circumvented").

85. *See* Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication,* 73 COLUM. L. REV. 1531 (1973); Henderson, *Renewed Judicial Controversy Over Defective Product Design: Toward the Preservation of an Emerging Consensus,* 63 MINN. L. REV. 773 (1979); *cf.* Epstein, *Product Liability: The Search for the Middle Ground,* 56 N.C. L. REV. 643 (1978).

86. Owens v. Allis-Chalmers Corp., 83 Mich. App. 74, 286 N.W.2d 291 (1978).

87. Even here, if the customary practice is sufficiently dubious, the courts may decide as a matter of law, or let the jury decide, that the practice is actionable. *See, e.g.,* Helling v. Carey, 84 Wash. 2d 514, 519 P.2d 981 (1974).

this approach will be extended from doctors to manufacturers. Theoretically, the medical profession determines its professional customs without regard to profit. Manufacturers, on the other hand, are frankly in the business of making and selling products for the profit involved, and their determination of the need for expensive safety features may be strongly influenced by their estimates of the effect these features will have on their incomes. This is especially likely if they understand that their decisions will not be subject to reevaluation by the courts in imposing liability. Of course, customs are admissible in evidence and they should carry substantial weight;[88] they should not, however, be controlling. As for administrative regulations, they are usually minimum standards. Thus, while a violation is and should be actionable, compliance should not insulate a manufacturer from liability. To make these regulations controlling as to reasonable safety would not even be in the interests of the manufacturers themselves. Administrative agencies, realizing that compliance with the regulations would mean that there could be no recovery, would inevitably set those standards higher than they are now and compliance would be much more difficult.

Of course, one might be able to devise a test for improper design in a strict liability action that would be more favorable either to the plaintiff or the defendant in a negligence action without going to the extremes described above.[89] The courts and the writers have not attempted to do this, however. The resulting distinction would have to be technical and confusing, and would not accomplish a very useful purpose. The real distinction is already clear enough. Although the actionable condition of the product may be the same for both actions, in negligence the plaintiff must also prove negligent conduct in creating that condition or failing to discover and correct it; in strict liability this is not required.[90]

88. *But cf.* Bailey v. Boatland of Houston, 585 S.W.2d 805 (Tex. Civ. App. 1979), holding that common practices and the unavailability of a particular safety device are not even admissible in evidence, under the new rule in Turner v. General Motors Corp., 584 S.W.2d 844 (Tex. 1979). There is some doubt that this is a correct interpretation of the *Turner* case. *See also* Hancock v. Peccar, Inc., PROD. LIAB. REP. (CCH) ¶ 8589 (Neb. 1979)(evidence of state of the art may be considered by the jury but is not controlling).

89. There may, however, be a difference in the burden of proof. *See* text accompanying notes 109-17 *infra*. A distinction might also be drawn on the issue of whether a warning is sufficient or the danger must be eliminated; or whether the open and obvious nature of the danger is sufficient; but the standard in the negligence action is likely to be as high as in the strict liability action.

90. In many of the design cases, of course, the mere fact that the product has an unreasonably dangerous design is enough to give rise to the reasonable inference that the manufacturer was negligent in putting it out in that condition.

How, then, should a test for determining when a design is so improper that liability should be imposed be articulated? The *Restatement* uses the expression "defective condition unreasonably dangerous." While "defective condition" may be meaningful when something goes wrong in the manufacturing process and the product is not in its intended condition, this phrase has no real significance in an improper design case and is likely to prove misleading.

The significant words when design is at issue are "unreasonably dangerous." The phrase has been widely adopted, and it has the effect of pointing out to the trier of fact, whether judge or jury, the nature of the decision that is required. This formulation has been criticized because it too closely resembles negligence in indicating a balancing process.[91] This criticism is not well taken, since as demonstrated above, a coherent analysis in design defect cases requires a balancing process. An absolute test for liability is not feasible unless one seeks to impose an insurer's liability. Few have seriously urged such a sweeping proposal, and even if it were adopted by a court it would be subject to prompt change by the legislature. Moreover, to apply a balancing test in determining the actionability of the defendant's product is not necessarily to apply such a test to his conduct, as in a negligence action.

Another criticism sometimes directed at the phrase is that "unreasonably dangerous" has no meaning for the jury but serves merely as an epithet to be applied to the product after the decision has been made.[92] This criticism could fairly be directed at the phrase "defective condition" in an improper design case, but it is completely unjustified when applied to "unreasonably dangerous." The latter phrase serves as a succinct description of the test the jury is to apply.[93] Still another criticism takes a different tack. It asserts that the two words may erroneously lead the jury to believe that the plaintiff must prove that the product was unusually, extremely, or abnormally dangerous, or even extrahazardous.[94] If the jury receives this impression, it is wrong and unfair to the plaintiff. If the instruction is properly phrased, however, it seems unlikely that this erroneous impression would be created. The possibility that this might happen, however, seems greater when one considers that the Supreme Court of Wisconsin has apparently made a simi-

91. *See, e.g.*, Turner v. General Motors Corp., 584 S.W.2d 844 (Tex. 1979).

92. Azzarello v. Black Bros., Inc., 480 Pa. 547, 559, 391 A.2d 1020, 1025 (1978).

93. This is not to say that a more detailed instruction is inappropriate.

94. *See, e.g.*, Barker v. Lull Eng'r Co., 20 Cal. 3d 413, 425, 572 P.2d 443, 451, 143 Cal. Rptr. 225, 233 (1978); Fischer v. Cleveland Punch & Shear Works, 91 Wis. 2d 85, 98, 280 N.W.2d 280, 286 (1979).

lar mistake as to the meaning of the expression.[95]

It was considerations such as these which prompted my proposal elsewhere that courts substitute the phrase "not reasonably safe."[96] This expression—and to a slightly lesser degree, its converse, "unreasonably unsafe"[97]—articulates the duty of the manufacturer to put out a reasonably safe product. The exact words used are not truly vital, however,[98] and a court should be free to choose among these and other expressions that aptly indicate the balancing process involved in applying the standard.[99]

B. Further Refinements

1. Additional Explanation in the Charge

Some courts are concerned that the phrase "unreasonably dangerous," without more, does not put the issue meaningfully before the jury, and that the balancing process should be spelled out in more detail. The two leading cases, *Turner v. General Motors Corp.*[100] and *Barker v. Lull Engineering Co.*,[101] attempt to do this by using the expression "defectively designed," but they appear to go in different directions. *Turner,* as originally issued, defined this phrase to mean "a design that is unreasonably dangerous;"[102] the revised opinion substituted for this explanation the following: "a product that is unreasonably dangerous as designed, taking into consideration the utility of the product and the risk involved in its use."[103] *Barker,* on the other hand, declines to use "unreasonably

95. *See* notes 61-62 *supra* and accompanying text.

96. *See* Wade, *supra* note 20, at 15. Adopting this phrase are Morrow v. Caloric Appliance Co., 372 S.W.2d 41, 55 (Mo. 1963), Seattle-First Nat'l Bank v. Tabert, 86 Wash. 2d 145, 154, 542 P.2d 774, 779 (1975), and Morningstar v. Black & Decker Mfg. Co., 253 S.E.2d 66 (W. Va. 1979). In a later article I suggested that a better phrase might be "not duly safe." Wade, *supra* note 16, at 833. The thought behind this was that the adjective "duly" more adequately carried the connotation of a deliberate balancing process. Further thought has brought me back to the initial suggestion. I am now inclined to doubt whether the lay jury would derive that connotation from the word "duly."

97. This is the expression used in the Department of Commerce's UNIFORM PRODUCT LIABILITY ACT, *reprinted in* 44 Fed. Reg. 62,714 (1979). See particularly § 104 and Comment, 44 Fed. Reg. 62,621-26.

98. Thus, the Washington Court of Appeals very appropriately held in Kimble v. Waste Sys. Int'l, Inc., 23 Wash. App. 331, 595 P.2d 569 (1979) that, although the state supreme court had previously approved the expression "not reasonably safe," it was not reversible error for a trial court to use instead "unreasonably dangerous."

99. Some other expressions used or suggested—unduly dangerous, defectively dangerous, improperly dangerous, dangerously defective.

100. 584 S.W.2d 844 (Tex. 1979). *See* notes 32-36 *supra* and accompanying text.

101. 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978). *See* note 29 *supra* and accompanying text.

102. PROD. LIAB. REP. (CCH) ¶ 8400, at 17,982 n. 1.

103. 584 S.W.2d at 847, n.1.

dangerous" or any other similar expression and spells out a " 'risk-benefit' standard": liability depends on whether, "in light of the relevant factors . . . on balance the benefits of the challenged design outweigh the risk of danger inherent in such design."[104]

The *Turner* court is right to use a phrase such as "unreasonably dangerous" or "not reasonably safe." It poses the nature of the issue for the jury in a succinct and understandable fashion and puts the rest of the instruction in proper context. The explanation of the balancing process is similar in the two cases. Both refer to the risk created by the design, while there is little difference between a design's "benefit" and its "utility." Neither gives an illusion of certainty by purporting to apply the standard mechanically—by filling in figures and using a calculator. Of the two, however, the California court's language is more likely to make clear to the jury that it is to look primarily to the utility or benefit of that aspect of the design which is claimed to be improper or "defective" rather than to the utility or benefit of the product in general.

2. Use of Factors

Courts and commentators frequently have prepared and compiled lists of factors to be taken into consideration in determining whether a particular product is actionable. These factors are sometimes set forth in instructions to the jury. In the *Turner* case, the intermediate court had prepared a list of four comprehensive factors that it held should be enumerated for the jury.[105] The Texas Supreme Court, however, held that while evidence regarding them was admissible, the jury should not be instructed to balance specifically enumerated factors.[106] In *Barker*, on the other hand, the California court declared that a jury may consider "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."[107] There is merit in both positions. Courts rightly have hesitated to provide juries with a list of policy factors to be balanced in reaching a value judgment. In a design case, on the other hand, it seems appropriate to instruct the

104. 20 Cal. 3d at 427, 573 P.2d at 458, 143 Cal. Rptr. at 234.

105. 584 S.W.2d at 846 (quoting Turner v. General Motors Corp., 567 S.W.2d 812, 818 (Tex. Civ. App. 1978)).

106. 584 S.W.2d at 847.

107. 20 Cal. 3d at 431, 573 P.2d at 455, 143 Cal. Rptr. at 237.

jury to consider the extent of the danger involved in the present design and the possibility of adopting an alternative, safer design. The instruction, of course, should state that the alternative design should not jeopardize other safety aspects of the product, and must be feasible from the standpoints of technology, cost, and usability. The precise wording of the instruction is important and any list of abstract factors of different types is likely to confuse the jury. At the same time, an explanation of the need for considering whether the design could feasibly be made safer is quite helpful.[108]

3. Burden of Proof and Judge-Jury Relations

The *Barker* case innovatively held that in a design case the burden of proof is on the defendant to establish that the benefits of the challenged design outweigh its inherent risk of danger.[109] This, the court felt, was a significant way to differentiate a negligence action from a strict liability action. This distinction is an artificial one, however, and is not inherent in the concept of strict liability. It is no more necessary to shift the burden of proof in a design case than in a case of mismanufacture, since in neither situation is there any need to show that defendant's conduct was negligent.[110] Shifting the burden of proof has also been defended by the claim that certain information and expertise is available to the defendant but not to the plaintiff. Of course, discovery procedures reduce the significance of this argnment. By itself, then, shifting the burden of proof (in the sense of the risk of nonpersuasion) may not play an extremely important role in products liability litigation.

The true significance of the *Barker* rule on the burden of proof is its effect on determining when a design case goes to the jury. *Barker* declares that the requirement for a "prima facie showing [is] that the injury was proximately caused by the product's design."[111] If this is enough to take the case to the jury, the role of the judge will be substantially lessened and cases not going to the jury will be few indeed. Trial judges direct a verdict far more frequently on the basis of the inadequacy of the plaintiff's evidence than on the strength of the defendant's case.

The *Barker* approach should be compared with *Wilson v. Piper*

108. In Turner v. General Motors Corp., 584 S.W.2d 844, 849 (Tex. 1979), Justice Steakley offers a list of law review articles that have identified and compiled factors to be taken into consideration in balancing the risks against the benefits of design.

109. This position has also been adopted in Alaska. *See* Caterpillar Tractor Co. v. Beall, 593 P.2d 821 (Alaska 1979).

110. The *Barker* case did not involve failure to warn, but could that court justify a distinction between warning cases and other product liahility actions?

111. 20 Cal. 3d at 431, 573 P.2d at 455, 143 Cal. Rptr. at 237.

Aircraft Corp.[112] Plaintiffs contended there that the aircraft would not have been subject to stalling from carburetor icing if it had had a fuel-injected engine instead of a carburetor system. The court was offered no evidence on how that change would have affected the plane's cost, economy of operation, maintenance requirements, overall performance, or safety in respects other than susceptibility to icing. Nor was there any explanation of why eighty to ninety percent of small planes used a carburetor system. The court held, therefore, that the design issue should not be submitted to the jury, "unless the court is satisfied that there is evidence from which the jury could find [that] the suggested alternatives are not only technically feasible but also practicable in terms of cost and the over-all design and operation of the product."[113] Traditionally, the court controls the issues going to the jury by requiring that the evidence must, at a minimum, be adequate to allow the jury, acting reasonably, to find for the party having the burden of proof. *Wilson* simply applies that position to a design defect case.

It is possible that the New Jersey and Pennsylvania cases[114] will be interpreted along similar lines. Perhaps the same can be said even about California. There are two possible arguments to this effect. First, *Barker* "did not alter the need for demonstrating the availability of reasonable alternate design, but simply shifted to defendant the burden of proving the unreasonableness of requiring an alternative in terms of such items as cost of producing the alternative product."[115] Second, showing that "the injury was proximately caused by the product's design" means that "some feature of the product other than its simple generic quality caused the injury at a time that the product was being put to its intended or reasonably foreseeable use."[116]

Two additional thoughts may be worth brief mention here. First, on the subject of the burden of proof, if courts should decide to follow *Barker* and place the burden of proof on the defendant, might they not reach a better reconciliation of that concept with the principles of *Wilson*? Suppose the plaintiff were required to go further than showing an injury caused by the particular aspect of

112. 282 Or. 61, 577 P.2d 1322, *rehearing denied*, 282 Or. 411, 579 P.2d 1287 (1978); *see* text accompanying notes 40-43, *supra*.

113. *Id.* at 69, 577 P.2d at 1327.

114. Suter v. San Angelo Foundry & Mach. Co., 81 N.J. 150, 406 A.2d 140 (1979); Azzarello v. Black Bros. Co., 480 Pa. 547, 391 A.2d 1020 (1978). *See* notes 44-60 *supra*.

115. Garcia v. Joseph Vince Co., 84 Cal. App. 3d 868, 879 n.3, 148 Cal. Rptr. 843, 849 n.3, (1978).

116. Korli v. Ford Motor Co., PROD. LIAB. REP. (CCH) ¶ 8340, at 17,716 (Cal. App. 1978).

the design of the product and to show that a safer alternative is technologically feasible. Then the burden of nonpersuasion might be placed on the defendant to show that the alternative is not "practicable in terms of cost and the over-all design and operation of the product." Would this be a fairer allocation of the burden, or would the complexities of switching the burden mar its usefulness?

A second point concerns the allocation of functions between judge and jury. Would it be better to treat strict liability for products (especially for "design defects") like strict liability for ultrahazardous or abnormally dangerous activities and let the determination of whether the product was unreasonably unsafe be treated as a matter of law to be handled by the judge? Would he be better qualified to appreciate the complicated technological issues and to balance confiicting policy issues? This has been strongly urged by Professor David Fischer,[117] but no case law presently supports it.

IV. Conclusion

Since the holding in *Greenman v. Yuba Products Co.*[118] and the promulgation of section 402A of the *Second Restatement,* the courts have worked out a fairly definite consensus on the handling of products cases involving "mismanufacture"—a flaw that developed during the manufacturing process. Through the early and mid-1970's, they had been working toward a similar consensus in product design cases. As the decade drew to a close, however, several courts undertook a careful reanalysis of the concept of strict products liability as it applies to the design cases. This is all to the good. Strict liability is a judicial product, manufactured by the judges with the assistance of the *Restatement* and other law commentators. It is properly the responsibility of the judges to study and refine their product, to promote the unfolding of the central idea underlying the concept of strict liability, and to see that the adjustment of the conflicting interests of the several types of persons affected is fair and responsible. Unlike lawyers, however, judges should not become primarily advocates for a particular interest or point of view. When tort law develops to a point that one group of persons conceives it to be too favorable to another group, however, the first group is likely to seek legislative "redress." The resort to the legislature is most likely to take place (and is most likely to succeed) when the first group has the insurance companies

117. Fischer, *Products Liability—Functionally Imposed Strict Liability,* 32 Okla. L. Rev. 93 (1979).

118. 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963).

supporting it. Combined lobbying can be quite effective. The danger is that the statutes that are born in the lobbying effort are quite likely to be greatly overreactive and set aside important gains acquired over a period of many years.[119] Not only does the common law of products liability need to be fair and evenhanded to all classes of persons, it also needs to be as nearly uniform as possible. Products are marketed nationwide, and uniform treatment is highly desirable. Much of the commercial law in this country has been reduced to a uniform commercial code, adopted throughout the United States. The Uniform Law Commissioners have not undertaken to prepare a uniform products liability act, but the United States Department of Commerce has labored long and carefully to prepare a Model Uniform Product Liability Act,[120] which it recommends for adoption by the states. It may be that some time in the future this Act will attain widespread adoption. In the meantime, its provisions may well prove very helpful to the state courts as they proceed with their responsibility of molding and adapting the common law of products liability.

In addition to the general development of products liability law, during the last few years a number of important new developments have taken place in the law of strict liability for improper design of a product. This Article has tried to explain and discuss these developments, to evaluate them, to show their relationship to the general state of the law, and to make suggestions on how far they should affect its future development. At present, the question of "design defects" and the determination of when a product is actionable because of the nature of its design appears to be the most agitated and controversial question before the courts in the field of products liability. I hope that this Article can be of some help to the courts in seeking to develop the most suitable answer to this question and that it may prove to be an incentive toward producing a consensus on the subject.[121]

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119. There is a sad irony in this phenomenon. State A in one section of the country renders a decision putting a substantially broader liability on manufacturers (or suppliers). The insurance companies raise their rates throughout the country and when the manufacturers in State B in another region complain, they get the explanation that it is caused by the substantive law of tort liability. So they go to the legislature in righteous indignation with a statute and convince the legislators that they must have the relief in order to survive. The ready-prepared statute is passed. It has two effects—(1) it substantially lowers consumer rights in State B, and (2) it does not affect insurance rates because they are usually not set on a state-by-state basis and, even if they were, the manufacturer's products are distributed throughout the country and the substantive law of his home state is not especially relevant.

120. *Reprinted in* 44 Fed. Reg. 62,714 (1979).

121. There are many other law review discussions of this matter, and most of them are quite valuable. I list some of those published during the latter part of the 1970s that have been most helpful to me: WEINSTEIN, TWERSKI, PIEHLER & DONAHER, PRODUCTS LIABILITY AND

While this is the most pressing problem before the courts, there are two other "reforms" in the law of products liability that require almost equally urgent attention. The first is to combine negligence, breach of warranty, and strict liability into a single cause of action for products liability. When the plaintiff sues on more than one of these bases, issues and instructions become so complex and complicated that even the judge and the attorneys become confused—much less the poor jury. Several courts have held that separate causes of action cannot be brought for breach of warranty and strict liability. Negligence can also be joined in the single cause by permitting—but not requiring—evidence of negligent conduct. The Department of Commerce's Model Uniform Product Liability Act provides for a single cause of action, and a federal court in Michigan has construed that state's act to imply the establishment of a single cause of action.[122] A statute does not appear to be necessary, however. A strong opinion by a state supreme court might well start a bandwagon parade.

The second "reform" is to treat the effect of plaintiff's fault on a consistent and uniform basis. The technicalities of contributory negligence, assumption of risk, and misuse and their ensuing complications bedevil the trial of product cases and often induce unjust results. Whenever plaintiff's fault contributes to his injury, the fault should not bar his recovery but should diminish the amount on a proportionate basis.[123] More than two thirds of the states have

THE REASONABLY SAFE PRODUCT (1978) (amalgamation of several articles by the authors); Fischer, *Products Liability—Functionally Imposed Strict Liability*, 32 OKLA L. REV. 93 (1979); Green, *Strict Liability under Sections 402A and 402B: A Decade of Litigation*, 54 TEX. L. REV. 1185 (1976); Henderson, *Renewed Judicial Controversy Over Defective Product Design: Toward the Preservation of an Emerging Consensus*, 63 MINN. L. REV. 773 (1979); Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 (1973); Hoenig, *Product Designs and Strict Tort Liability: Is There a Better Approach?*, 8 SW. U.L. REV. 109 (1976); Keeton, *Product Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30 (1973); Montgomery & Owen, *Reflections on the Theory and Administration of Strict Tort Liability for Defective Products*, 27 S.C. L. REV. 803 (1976); Phillips, *The Standard for Determining Defectiveness in Products Liability*, 96 U. CIN. L. REV. 101 (1977); Phillips, *A Synopsis of the Developing Law of Products Liability*, 28 DRAKE L. REV. 317 (1979); Sachs, *Negligence or Strict Products Liability: Is There Really a Difference in Law or Economics?*, 8 GA. J. INT. & COMP. L. 259 (1978); G. Schwartz, *Foreword: Understanding Products Liability*, 67 CALIF. L. REV. 435 (1979); V. Schwartz, *Comments to Model Uniform Product Liability Law*, 44 Fed. Reg. 62,714 (1979); Vetri, *Products Liability: Developing a Framework for Analysis*, 54 OR. L. REV. 293 (1975); Walkowiak, *Product Liability Litigation and the Concept of Defective Goods: "Reasonableness" Revisited?*, 44 J. AIR L. & COM. 705 (1979). *See also* Annot., 96 A.L.R.3d 22 (1979).

122. Jorae v. Clinton Crop Serv., 465 F. Supp. 952 (E.D. Mich. 1979).

123. Some "assumption of risk" is an actual, valid, and binding consent to the risk and may bar recovery for that reason and not because the plaintiff was at fault. Some "misuse" is accurately a holding that the product was not really actionable, and plaintiff's fault,

now adopted the principle of proportionate responsibility in one form or another.[124] Many have applied it to strict liability for products: some because comparative fault was judicially adopted, some by construing their statutes to this effect, and some by adopting a judicial principle of comparative causation, regardless of whether the state has an applicable comparative fault statute or not.[125]

The courts are fully capable of refining and perfecting the common law of products liability. I believe they will do it.

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whether present or not, is not relevant. *See* UNIFORM COMPARATIVE FAULT ACT § 1, and Comments.

124. For an exposition of its status, see Wade, *Comparative Negligence—Its Development in the United States and Present Status in Louisiana,* 40 LA. L. REV. 299 (1980).

125. Two important recent cases, Murray v. Fairbanks Morse, Beloit Power Systems, Inc., 610 F.2d 149 (3d Cir. 1979) and General Motors Corp. v. Hopkins, 548 S.W.2d 344 (Tex. 1977), are worthy of serious study in connection with the judicial application of comparative causation principles to products claims. *See generally* Fischer, *Products Liability—Applicability of Comparative Negligence,* 43 MO. L. REV. 431 (1978); Fischer, *Products Liability—Applicability of Comparative Negligence to Misuse and Assumption of Risk, id.* at 644; Twerski, *The Use and Abuse of Comparative Negligence in Products Liability,* 10 IND. L. REV. 797 (1977); Wade, *Products Liability and Plaintiff's Fault—The Uniform Comparative Fault Act,* 29 MERCER L. REV. 373 (1978).