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PRODUCTS LIABILITY—
THE MEANING OF DEFECT

DAVID A. FISCHER*

I. INTRODUCTION

The early English law held persons causing harm strictly accountable without a showing of fault.¹ This approach was continued when the civil action for compensatory damages developed.² With the advent of industrial machinery in the 17th century, the requirement of fault began creeping into the law.³ A fault system was necessary in order to encourage industrial development and travel.⁴ The fault system of liability became fully developed in the latter part of the 19th century.⁵ Even when fault was clearly present, courts tended to go to extremes to exculpate defendants by the use of various arbitrary immunities and elaborate defenses.⁶

In the products liability area the pendulum has now swung back to the imposition of strict liability. This transition, beginning with the elimination of the privity requirement in negligence actions, continuing with the imposition of strict liability under a warranty theory, and culminating in the development of a tort theory of recovery in strict liability, has been well-documented.⁷ The following policy considerations favoring the imposition of strict liability are said to have motivated the transition:

1. *Risk Spreading*. The manufacturer should spread losses resulting from the use of his products among all consumers by raising the price of the product enough to pay for resulting losses or purchasing insurance against those losses.⁸

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1. Ames, *Law and Morals*, 22 HARV. L. REV. 97 (1908); Isaacs, *Fault and Liability*, 31 HARV. L. REV. 954 (1918); Malone, *Ruminations on the Role of Fault in the History of the Common Law of Torts*, 31 LA. L. REV. 1 (1970); Wigmore, *Responsibility for Tortious Acts: Its History*, 7 HARV. L. REV. 315, 383, 441 (1894).

2. Malone, note 1 *supra*; Woodbine, *The Origins of the Action of Trespass*, 33 YALE L.J. 799 (1924).

3. Malone, note 1 *supra*; Prichard, *Trespass, Case and the rule in Williams v. Holland*, [1964] C.A.M.B. L. REV. 234.

4. Malone, note 1 *supra*.

5. Ames, note 1 *supra*; Malone, note 1 *supra*.

6. Malone, note 1 *supra*.

7. E.g., Krauskopf, *Products Liability*, 32 MO. L. REV. 459 (1967); Prosser, *The Assault Upon the Citadel (Strict Liability to the Consumer)*, 69 YALE L.J. 1099, 1103-14 (1960); Reitz and Seabolt, *Warranties and Product Liability: Who Can Sue and Where?*, 46 TEMP. L.Q. 527 (1973).

8. Holford, *The Limits of Strict Liability for Product Design and Manufacture*, 52 TEXAS L. REV. 81, 82-84, 87-88 (1973); Keeton, *Product Liability*

2. *Safety Incentive.* Risk spreading increases costs. Competition on the other hand, forces the manufacturer to keep costs down. This provides an incentive to develop safer products.⁹

3. *Frustration of Consumer Expectations.* Consumers should be protected from dangers of which they are not aware.¹⁰

4. *Proof Problems.* Defective products usually result from fault, but the complexities of the modern manufacturing process make this very difficult to prove. This problem is circumvented by simply imposing strict liability.¹¹

Strict liability does not make the manufacturer an insurer that no harm will arise from the use of his product.¹² For example, the manufacturer of a properly made axe should not be held liable to everyone who is cut by it. Liability must be limited in some way, but as yet these limits are uncertain.¹³ A primary method of limiting liability has been by requiring the product to be "defective."¹⁴ In defining the term "defect," a distinction is commonly made between harm produced by manufacturing defects (a miscarriage in the manufacturing process produces an unintended condition) and harm produced by a product that is unavoidably unsafe.¹⁵ The enormously influential Restatement (Second) of Torts Section 402A¹⁶ incorporates this distinction by virtue of the way it defines "defect."¹⁷ Under the Restatement, strict liability is imposed for harm caused by latent manufacturing defects.¹⁸ But for harm caused by unavoidably unsafe products, liability is imposed only upon a showing of fault, either in negligently adopting an unsafe design or in negligently failing to give a proper warning.¹⁹ While this distinction has been generally followed,²⁰ a number of recent

and the Meaning of Defect, 5 ST. MARY'S L.J. 30, 34-35 (1973); Wade, *On the Nature of Strict Liability for Products*, 44 MISS. L.J. 825, 826 (1973).

9. Holford, note 8 *supra*; Wade, note 8 *supra*.

10. Dickerson, *Products Liability: How Good does a Product Have to Be?*, 42 IND. L.J. 302, 305, 312 (1967); Keeton, *supra* note 8; Rheingold, *What Are the Consumer's "Reasonable Expectations"?*, 22 BUS. LAWYER 589, 597-98 (1967).

11. Keeton, note 8 *supra*; Wade, note 8 *supra*.

12. *E.g.*, Holford, note 8 *supra*; Calabresi and Hirschhoff, *Toward A Test for Strict Liability in Torts*, 81 YALE L.J. 1055 (1972); Note, *Products Liability—Under Greenman Formulation the Plaintiff need not prove that the Defective Product was unreasonably dangerous*, 23 DRAKE L. REV. 197 (1973); Note, *Products Liability—New Jersey Court Eliminates "Unreasonably Dangerous" Requirement in Strict Tort Liability Action*, 5 SETON HALL L. REV. 152 (1973).

13. Calabresi and Hirschhoff, note 12 *supra*; Holford, note 8 *supra*; Keeton, *Product Liability and the Automobile*, 9 FORUM 1 (1973); Keeton, note 8 *supra*.

14. *See, e.g.*, Note, 23 DRAKE L. REV., note 12 *supra*; Note, 5 SETON HALL L. REV., note 12 *supra*.

15. *See, e.g.*, Keeton, *supra* note 8 at 33; Note, 23 DRAKE L. REV., note 12 *supra*; Note, 5 SETON HALL L. REV., note 12 *supra*.

16. Hereinafter cited as RESTATEMENT.

17. *See* pt. II of this article.

18. *See* pt. II, § A of this article.

19. *See* pt. II, § B of this article.

20. *E.g.*, Balido v. Improved Mach. Co., 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1973); Oakes v. Geigy Agricultural Chems., 272 Cal. App. 2d 645, 77 Cal. Rptr. 709 (1969); Jones v. Hutchinson Mfg., Inc., 502 S.W.2d 66 (Ky. App. 1973).

cases have repudiated the Restatement definition of defect.²¹ Also, an increasing number of cases are imposing strict liability for harm caused by unavoidably unsafe products²² and patently dangerous products.²³ These cases present interesting theoretical problems. By rejecting traditional definitions of "defect" and substituting no new definition, no basis is left for determining when to impose absolute liability and when to exonerate the manufacturer. Some basis for distinction is necessary if the axe manufacturer mentioned above is to escape liability to everyone cut by an axe.

If the requirement of the "defect" is to be used as a method of restricting the scope of strict liability, the term should be defined in the manner most effectively advancing the policy considerations underlying the adoption of strict liability. These policy factors are not always consistent. In the various fact patterns that arise, some of the factors may point toward the imposition of strict liability while others do not. Therefore, the particular objectives that a court desires to achieve should influence its definition of "defect." No single narrow definition of defect will work well in all situations.²⁴ For example, comment c of the Restatement indicates that risk spreading is a primary justification for strict liability. This policy can point as strongly in the direction of strict liability in cases involving unavoidably unsafe products as in manufacturing defect cases. Yet the Restatement definition of defect does not advance this policy in unavoidably unsafe products cases unless there is a showing of fault.²⁵ In some, like the axe case mentioned above, imposition of strict liability is undesirable. This, however, is not true of all such cases.²⁶

This article will first discuss the traditional definition of defect. Cases rejecting that approach will then be analyzed. Finally, a different approach to determining "defectiveness" will be discussed.

II. THE MEANING OF "DEFECT" UNDER THE RESTATEMENT

The Restatement proposes the following rule of strict liability:

§ 402A. Special Liability of Seller of Product for Physical Harm to User or Consumer

21. *Cronin v. J.B.E. Olson Corp.*, 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972); *Glass v. Ford Motor Co.*, 123 N.J. Super. 599, 304 A.2d 562 (1973). See also *Anderson v. Fairchild Hiller Corp.*, 358 F. Supp. 976 (D. Alaska 1973) (dictum).

22. See pt. III, § C of this article.

23. Cases cited notes 103-05 *infra*.

24. Traynor, *The Ways and Meanings of Defective Products and Strict Liability*, 32 TENN. L. REV. 363, 367 (1965). See also Keeton, *Products Liability—Liability Without Fault and the Requirement of a Defect*, 41 TEXAS L. REV. 855, 859 (1963); Comment, *Strict Liability in Tort Based on Defective Design*, 1970 WASH. U.L.Q. 359, 364-65.

25. Note, *Products Liability and Section 402A of the Restatement of Torts*, 55 GEO. L.J. 286, 322 (1966).

26. See pts. III, § C and V of this article.

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

(a) the seller is engaged in the business of selling such a product, and

(b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

(2) The rule stated in Subsection (1) applies although

(a) the seller has exercised all possible care in the preparation and sale of his product, and

(b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

This provision and the comments which follow establish a bifurcated test of defectiveness. A product is defective if, at the time it leaves the seller's hands, it is in a condition (1) not contemplated by the ultimate consumer, which will be (2) unreasonably dangerous to him.²⁷ The first aspect of the test prevents frustration of consumer expectations. Recovery is precluded, however, if the dangerous aspect of the product is generally known,²⁸ has been adequately warned against,²⁹ or is obvious.³⁰ Such dangers do not frustrate consumer expectations since the consumer knows of them. An objective test is used to determine whether a particular danger is unexpected.³¹ This test is evaluated in Part III, section B of this article.

The second aspect of the test imposes the additional requirement that the product be in a condition which is unreasonably dangerous. Clocks that do not keep time or paints that fade prematurely may be defective but pose no threat of physical harm to person or property. Since the Restatement limits liability to such harm,³² it makes sense to require that the defective condition be dangerous. Whether a condition is unreasonably dangerous, however, may depend on whether the case involves a manufacturing defect or an unavoidably unsafe product.

27. RESTATEMENT, *supra* note 16, comment g.

28. *Id.*, comment i.

29. *Id.*, comments h and j.

30. The Restatement does not address itself to this question, but it is commonly held that under the Restatement a warning is not required if the danger is obvious. *E.g.*, *Maas v. Dreher*, 10 Ariz. App. 520, 460 P.2d 191 (1970); *Denton v. Bachtold Brothers, Inc.*, 8 Ill. App. 3d 1038, 291 N.E.2d 229 (1972). See Noel, *Products Defective Because of Inadequate Directions or Warnings*, 23 Sw. L.J. 256, 274 (1969).

31. *Maas v. Dreher*, 10 Ariz. App. 520, 460 P.2d 191 (1970). The RESTATEMENT, note 16 *supra*, comment i at 352, provides that: "[t]he 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." The contributory fault defense described in comment n of the Restatement is distinguishable from this definition of defect because it requires subjective knowledge of the danger.

32. RESTATEMENT, *supra* note 16, subsection (1).

A. *Manufacturing Defects*

A manufacturing defect is a miscarriage in the manufacturing process which produces an unintended result. Although the Restatement requires that the defective condition be "unreasonably dangerous," negligence is not a prerequisite to liability. A manufacturer can be held liable even though he has "exercised all possible care in the preparation and sale of his product."³³ Excusable ignorance of the presence of a defect is no defense. Thus there is no requirement of a culpable mental state.³⁴ The requirement that the danger be "unreasonable" is said to prevent the imposition of liability where the utility of placing the defective product on the market outweighs the gravity of the harm threatened by the condition.³⁵

B. *Unavoidably Unsafe Products*

Since the Restatement imposes liability only for products "in a defective condition unreasonably dangerous"³⁶ it can be argued that, where manufacturing defects are concerned, the product must contain a physical imperfection and the imperfection must create an unreasonable danger.³⁷ Where the product is unavoidably unsafe, however, there usually³⁸ is no physical imperfection. The product is exactly as the manufacturer intended it. In this situation "defect" does not imply a physical imperfection; the only question is whether the product is unreasonably dangerous.³⁹

The term "unreasonably dangerous" has a different meaning here than it does for manufacturing defects. Comment k to the Restatement excepts from strict liability "unavoidably unsafe products," *i.e.* products that "in the present state of human knowledge" are incapable of being made safe for use.⁴⁰ Such products are not "defective" or "unreasonably dangerous" if marketing them is justified because their utility outweighs the risk their

33. RESTATEMENT, *supra* note 16, subsection (2) (a).

34. Wade, *Strict Tort Liability of Manufacturers*, 19 Sw. L.J. 5, 15-16 (1965).

35. Dickerson, *supra* note 10, at 320; Wade, *supra* note 34 at 14-17; Note, 55 GEO. L.J., *supra* note 25 at 297. See Caputzal v. The Lindsay Co., 48 N.J. 69, 222 A.2d 513 (1966), where a defective water softener caused discoloration of water. After consuming coffee made from this water, plaintiff suffered a heart attack when he later saw the color of the water. The Court declined to hold the defendant liable for such an unlikely result. This test is evaluated in text accompanying notes 62-68 *infra*.

36. Restatement, *supra* note 16, subsection (1).

37. Wade, *supra* note 34 at 14; Note, 55 GEO. L.J., *supra* note 25 at 297.

38. Some unavoidably unsafe products are imperfect in the sense that they contain an impurity which is scientifically impossible to eliminate. See note 107 *infra*.

39. Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076 (5th Cir. 1973); Keeton, *supra* note 13 at 5; Keeton, *supra* note 8 at 32; Wade, *supra* note 8 at 831; Wade, *supra* note 34 at 15; Note, 55 GEO. L.J. *supra* note 25 at 297.

40. RESTATEMENT, *supra* note 16, comment k.

use involves.⁴¹ Such products must be "properly prepared and marketed, and a proper warning given."⁴² Failure to give a proper warning makes the product unreasonably dangerous.⁴³ A proper warning is required if the seller "has knowledge, or by the application of reasonable, developed human skill and foresight should have knowledge, of the presence of the ingredient and the danger."⁴⁴ This, in effect, imposes strict liability for the consequences of a failure to warn only when the seller is negligent.⁴⁵ The propriety of a product's design is likewise a question of negligence.⁴⁶ By providing that an unavoidably unsafe product is neither defective nor unreasonably dangerous if it is as safe as the present state of human knowledge can make it,⁴⁷ the Restatement has re-introduced the requirement of a culpable mental state. This is the same mental state required by the law of negligence. Manufacturers are required to keep up with scientific advances by that law as well.⁴⁸

Comment i of the Restatement discusses the "unreasonably dangerous" requirement. To be unreasonably dangerous: "[t]he 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." This reiterates the consumer expectations aspect of the bifurcated test given in comment g. This sentence

41. *Id.*

42. *Id.*

43. RESTATEMENT, *supra* note 16, comment j.

44. *Id.*

45. *Borel v. Fibreboard Paper Products Corp.*, 493 F.2d 1076 (5th Cir. 1973); *Davis v. Wyeth Laboratories, Inc.*, 399 F.2d 121 (9th Cir. 1968); *Skaggs v. Clairol Inc.*, 6 Cal. App. 3d 1, 85 Cal. Rptr. 584 (1970); *Oakes v. Geigy Agricultural Chemicals*, 272 Cal. App. 2d 645; 77 Cal. Rptr. 709 (1969); W. PROSSER, HANDBOOK OF THE LAW OF TORTS, 644, 646, 659 (4th ed. 1971) (this author was the reporter to the Restatement when section 402A was adopted); *Kissel, Defenses to Strict Liability*, 60 ILL. B.J. 450, 462-64 (1972); Note, 55 GEO. L.J., *supra* note 25 at 317-18. See also Keeton, *Products Liability—Drugs and Cosmetics*, 25 VAND. L. REV. 131, 139 (1972); Rheingold, *Proof of Defect in Product Liability Cases*, 38 TENN. L. REV. 325 (1971); Wade, *supra* note 8 at 836; Comment, *Foreseeability in Product Design and Duty to Warn Cases—Distinctions and Misconceptions*, 1968 WIS. L. REV. 228.

46. *Balido v. Improved Mach., Inc.*, 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1973); *Jones v. Hutchinson Mfg., Inc.*, 502 S.W.2d 66 (Ky. App. 1973); PROSSER, *supra* note 45 at 644, 659; Katz, *The Function of Tort Liability in Technology Assessment*, 38 U. CIN. L. REV. 587 (1969); Kissel, note 45 *supra*; Traynor, note 24 *supra*; Note, 55 GEO. L.J., *supra* note 25 at 317-18; Note, *Torts—Strict Liability—Automobile Manufacturer Liable for Defective Design that Enhanced Injury After Initial Accident*, 24 VAND. L. REV. 862, 866 (1971). See also Boisfontaine, *Products Liability—An Overview*, 20 LA. B.J. 269 (1973); Rheingold, note 45 *supra*; Wade, *supra* note 8 at 836; Comment, 1968 WIS. L. REV., note 45 *supra*.

47. RESTATEMENT, *supra* note 16, comment k.

48. *Ross v. Philip Morris & Co.*, 328 F.2d 3 (8th Cir. 1964) (Missouri law); *Marsh Wood Products Co. v. Babcock & Wilcox Co.*, 207 Wis. 209, 240 N.W. 392 (1932).

is sometimes wrongly singled out as the only Restatement test of defect.⁴⁹ The Restatement and its comments must be read as a whole. The quoted statement was made while discussing certain unavoidably unsafe products whose dangers are commonly known. Although the statement is accurate with respect to such products,⁵⁰ it does not follow that the statement will be true in all instances where the danger is not generally known or obvious. Assume the risk of harm from a new, useful product is not scientifically known when the product is first marketed. Comment k implies that there is no liability because the danger was not known,⁵¹ and comment j precludes liability for failure to warn for the same reason. This is a situation where only one aspect of the bifurcated test of defectiveness is met, *i.e.*, consumer expectations are frustrated because of an unexpected hazard, but the hazard did not make the product unreasonably dangerous because its use was justified under the circumstances. Liability would not be imposed because both aspects of the bifurcated test must be satisfied.⁵²

C. Problems Posed by Restatement Definition of Defect

In the case of unavoidably unsafe products the Restatement requires negligence as a prerequisite for the imposition of strict liability. This inherent contradiction in terms creates a number of difficult problems. First, instructing the jury is very difficult,⁵³ especially in view of the common practice of bringing such cases on alternative theories of negligence, strict liability, and breach of warranty.⁵⁴ The essence of the action is negligence in such cases.⁵⁵

49. *E.g.*, *Lunt v. Brody Mfg. Corp.*, 13 Ariz. App. 305, 475 P.2d 964 (1970).

50. The statement is also literally true of an unavoidably unsafe product whose dangers are known or knowable by the manufacturer but are not generally known and are not obvious. Here, a negligent failure to warn makes the product defective. RESTATEMENT, *supra* note 16, comments h and j. If a proper warning is given, the product is rendered non-defective because knowledge is imputed to the consumer. RESTATEMENT, *supra* note 16 comment j.

51. A product qualifies under the comment k exception if it is incapable of being made safe in the present state of human knowledge, it is properly prepared, and its use is apparently justified. One cannot guard against an unknown risk. The inability to make the product safe is therefore excused. The comment expressly applies to "new or experimental drugs as to which, because of lack of time and opportunity for sufficient medical experience, *there can be no assurance of safety, or perhaps even of purity of ingredients*, but such experience as there is justifies the marketing and use of the drug notwithstanding a medically recognizable risk." (Emphasis Added). Saying that there can be no assurance of safety or even purity of ingredients is another way of saying that the hazards inherent in the product are unknown. *See*, Note, 55 GEO. L.J., *supra* note 25 at 317-18.

52. Another situation where the comment i test fails is where a patient is not informed of a risk for medical reasons. Presumably the manufacturer would escape liability if his product is unavoidably unsafe. *See Sills v. Massey-Ferguson, Inc.*, 296 F. Supp. 776, 783 (N.D. Ind. 1969); *Dickerson*, *supra* note 10 at 326; *James, The Untoward Effects of Cigarettes and Drugs: Some Reflections On Enterprise Liability*, 54 CAL. L. REV. 1550, 1554 (1966).

53. *Wade*, *supra* note 8 at 832.

54. *E.g.*, *Balido v. Improved Mach., Inc.*, 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1973).

55. *See* note 79 *infra*.

Instructing the jury under three different word formulations can only lead to confusion. It is far better to simply instruct on negligence.⁵⁶

Second, the Restatement⁵⁷ provides that the plaintiff's contributory negligence in failing to discover a defect or to guard against the possibility of its existence is not a defense because the liability imposed upon the seller is strict. However, negligence is required to impose strict liability for products that are alleged to be unavoidably unsafe. Thus, the Restatement eliminates a traditional negligence defense to what is essentially a negligence action.⁵⁸ No policy reason is advanced to justify this.

III. ALTERNATIVES TO THE RESTATEMENT DEFINITION OF DEFECT

A. Cases Eliminating The "Unreasonably Dangerous" Requirement

Courts in two of the most influential products liability jurisdictions have rejected the "unreasonably dangerous" criteria for defectiveness. In *Cronin v. J. B. E. Olson Corp.*,⁵⁹ the California Supreme Court did so in a case involving a manufacturing defect.⁶⁰ The court held that a manufacturer is subject to strict liability in tort if the plaintiff proves that: the manufacturer placed an article on the market knowing that it would be used without inspection for defects; the article was defective; and the defect caused injury to a human being.⁶¹

In manufacturing defect cases, the *Cronin* rule would impose liability even when a reasonable man with full knowledge of the existence of the flaw would place the product on the market because the gravity of the harm threatened is minor compared to the utility of the product.⁶² The unreasonably dangerous test, applied to the same circumstances, would preclude liability.⁶³ This test is said to be desirable because it prevents the imposition of liability for sand in a restaurant salad, the salad being defective but not unreasonably dangerous to health.⁶⁴ Even assuming this to be true,

56. *Skaggs v. Clairol Inc.*, 6 Cal. App. 3d 1, 85 Cal. Rptr. 584 (1970); *Oakes v. Geigy Agricultural Chemicals*, 272 Cal. App. 2d 645, 77 Cal. Rptr. 709 (1969); *Kissel*, *supra* note 45 at 464.

57. RESTATEMENT, *supra* note 16, comment n.

58. *Ellithorpe v. Ford Motor Co.*, 503 S.W.2d 516 (Tenn. 1973); *Keeton*, *supra* note 45 at 137.

59. 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972).

60. *Id.* Plaintiff was involved in an accident while driving his bread truck. A flawed aluminum safety hasp, designed to hold the bread trays in place, gave way and permitted the trays to move forward and hurl the plaintiff through the windshield.

61. 8 Cal. 3d at 130, 501 P.2d at 1159, 104 Cal. Rptr. at 439; *Luque v. McLean*, 8 Cal. 3d 136, 501 P.2d 1163, 104 Cal. Rptr. 443 (1972).

62. See discussion of Restatement test at notes 32-35 *supra*. The facts in *Cronin* clearly do not qualify for this exemption from strict liability.

63. See text accompanying note 35 *supra*.

64. *Dickerson, Products Liability: How Good Does a Product Have to Be?*, 42 IND. L.J. 301, 304 n.12 (1967).

why should the restaurant be exempt from strict liability? While it is unlikely that a few grains of sand⁶⁵ could harm the consumer,⁶⁶ in the event that such harm does occur there is a loss to be borne by either the customer or the restaurant. *Cronin* indicated that risk spreading is an important justification for strict liability.⁶⁷ Consideration should be given to advancing that policy.⁶⁸ The safety incentive rationale could be advanced here as strict liability would induce the restaurant to take future precautions against sand getting into food.

Cronin raises a number of difficult questions in cases where unavoidably unsafe products are involved. Under the Restatement formulation the term "defect" normally has no independent meaning in such cases.⁶⁹ The "unreasonably dangerous" requirement prevents the manufacturer from being an insurer by requiring negligence as a prerequisite to the imposition of liability. Thus, the manufacturer of a carefully made axe is not strictly liable to everyone who is cut by the axe since the state of the art prevents him from producing a safer product, and the marketing of axes is justified in view of their utility.⁷⁰ *Cronin* expressly extended its rule eliminating the "unreasonably dangerous" requirement to cases involving alleged design defects. Although not mentioned by the court, this was logically necessary in view of the California cases imposing strict liability on producers of unavoidably unsafe products.⁷¹ Thus, California had already eliminated the negligence requirement in a limited number of such cases. *Cronin* recognized the usefulness of the "unreasonably dangerous" requirement as a method of preventing the manufacturer from always being held as an insurer.⁷² However, it provided no substitute criteria for deciding when to exonerate the manufacturer. The court will have to formulate such criteria in the future.

In *Glass v. Ford Motor Co.*,⁷³ a New Jersey Superior Court also eliminated the requirement. It is not clear whether the case involved a manu-

65. I assume the example refers to a salad containing a small amount of sand. If there is enough sand in the salad that its presence is obvious, then the product is not defective under the Restatement formulation because it does not violate consumer expectations. See note 30 *supra*. Note that the salad case is an example of a manufacturing defect since it is technologically possible to produce a sand-free salad.

66. RESTATEMENT, *supra* note 16, subsection (1) permits recovery only for physical harm.

67. 8 Cal. 3d at 133, 501 P.2d at 1162, 104 Cal. Rptr. at 442.

68. More information is needed to determine whether risk spreading is justifiable. The seriousness of the loss is an important factor. Another factor to be considered is the effect on the restaurant. See pt. V of this article.

69. See text accompanying note 38-39 *supra*.

70. See pt. II, § B of this article.

71. See pt. III, § C of this article.

72. 8 Cal. 3d at 132, 501 P.2d at 1161-62; 104 Cal. Rptr. at 441-42.

73. 123 N.J. Super. 599, 304 A.2d 562 (1973). See also *Anderson v. Fairchild Hiller Corp.*, 358 F. Supp. 976, 978 (D. Alaska 1973) (dictum).

facturing defect or an unavoidably unsafe product. The court had also previously imposed strict liability for the marketing of unavoidably unsafe products under certain conditions.⁷⁴

The Restatement imposes a bifurcated test for determining defectiveness.⁷⁵ If the "unreasonably dangerous" test is eliminated, the "consumer expectations" test remains. This test is discussed in the next section.

B. "Consumer Expectation" as the Sole Test of Defectiveness

Many courts have used consumer expectations as a criteria for defining defect.⁷⁶ If a consumer reasonably expects a product to be safe to use for a purpose, the product is defective if it does not meet those expectations. The consumer expectations test is natural since strict liability in tort developed from the law of warranty.⁷⁷ The law of implied warranty is vitally concerned with protecting justified expectations since this is a fundamental policy of the law of contracts.⁷⁸ The liability imposed under the Restatement for physical harm is the same as would be imposed under implied warranty except that contractual defenses such as disclaimer, lack of privity, and lack of notice are not recognized.⁷⁹ Therefore, cases involving products alleged

74. See pt. III, § C of this article.

75. See text accompanying note 27 *supra*.

76. *E.g.*, Lunt v. Brady Mfg. Corp., 13 Ariz. App. 305, 475 P.2d 964 (1970); Dunham v. Vaughan & Gussnell Mfg. Co., 42 Ill. 2d 399, 247 N.E.2d 401 (1969).

77. Articles cited note 7 *supra*; Keeton, *Product Liability and the Automobile*, 9 FORUM 1, 8 (1973).

78. See Wade, *On the Nature of Strict Liability for Products*, 44 Miss. L.J. 825, 833-34 (1973). This criterion is especially well suited for commercial losses. Seely v. White Motor Co., 63 Cal. 2d 9, 403 P.2d 145, 45 Cal. Rptr. 17 (1965); Keeton, *supra* note 77 at 7; Wade *supra* note 78 at 829; Wade, *Strict Tort Liability of Manufacturers*, 19 Sw. L.J. 5, 6 (1965). Under the law of warranty, recovery for physical harm is permitted only as consequential damages. Keeton, *supra* note 77 at 7; Keeton, *Product Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30, 37 (1973); Wade, *supra* note 78 at 829, 833; Wade, 19 Sw. L.J. at 6.

79. *E.g.*, Keener v. Dayton Elec. Mfg. Co., 445 S.W.2d 362, 364 (Mo. 1969); Krauskopf, *Products Liability*, 32 Mo. L. REV. 459, 469 (1967); Reitz and Seabolt, *Warranties and Product Liability: Who Can Sue and Where?*, 46 TEMP. L.Q. 527 (1973); Rheingold, *What Are the Consumer's "Reasonable Expectations?"*, 22 BUS. LAWYER 589, 589-91 (1967). The implied warranty of merchantability requires goods to be "fit for the ordinary purposes for which such goods are used." UNIFORM COMMERCIAL CODE § 2-314 (c). This has been interpreted to require "reasonable fitness" only. Keeton, *supra* note 77 at 7; Rheingold, *supra* note 10 at 590 n.4; Note, *The Automobile Manufacturer's Liability to Pedestrians for Exterior Design: New Dimensions in "Crash-worthiness,"* 71 MICH. L. REV. 1654, 1670-71 (1973). Thus, the implied warranty definition of defect is the converse of the Restatement definition. Note, *The Concept of Defective Condition: A Tale of Judicial Re-Tailoring*, 39 U.M.K.C. L. REV. 260, 263-64 (1970). The Restatement sets a standard of non-compliance (unreasonably dangerous) whereas implied warranty law sets a standard of compliance (reasonably fit). Dickerson, *supra* note 64 at 304. The result is that under the law of implied warranty there is no liability for marketing unavoidably unsafe products unless negligence can be shown. Hays v. Western Auto Supply Co., 405

to be unavoidably unsafe, and thus requiring proof of negligence in design, are also subject to the rule that consumer expectations must be frustrated, *i.e.*, the danger must be hidden.⁸⁰

The consumer expectations test of defectiveness works quite well in many situations. For example, suppose the user of a sharp knife cut himself. The test bars liability because the danger is generally known and obvious.⁸¹ The result is just. The test affords some protection to the plaintiff. Because he knows of the danger, he can use the product in such a way as to minimize the risk.⁸² The industry cannot eliminate the danger without destroying the utility of the product,⁸³ and the losses would be too great to bear.

The consumer expectation criteria can be the exclusive test used to resolve both manufacturing defect cases and cases involving unavoidably unsafe products.⁸⁴ Serious problems develop, however, if consumer expectations are used as the exclusive test of defectiveness.⁸⁵ Expectations as to safety will not always be in line with what the reasonable manufacturer can achieve because the average consumer will not have the same information as experts

S.W.2d 877 (Mo. 1966) (failure to equip lawnmower with guard did not breach implied warranty because the need for it was not reasonably foreseeable). This is even true where the risk posed by the unavoidably unsafe product was not scientifically known when it was placed on the market. *Ross v. Philip Morris & Co.*, 328 F.2d 3 (8th Cir. 1964) (applying Missouri law; no breach of implied warranty for sale of cigarettes causing cancer before the risk was scientifically known). Consumer expectations are very likely to be frustrated when the risk of harm is unknown. Since the test of defect is the same under the traditional application of either theory, departures from this approach by cases applying warranty law are as significant as strict liability cases departing from the traditional approach.

80. Keeton, *Product Liability and the Automobile*, 9 FORUM 1, 11 (1973); Keeton, *Manufacturer's Liability: The Meaning of "Defect" in the Manufacture and Design of Products*, 20 SYRACUSE L. REV. 559, 572 (1969). See pt. II of this article for a discussion of the bifurcated test of defectiveness used by the Restatement.

81. Authorities cited in note 30 *supra*.

82. *Dorsey v. Yoder Co.*, 331 F. Supp. 753 (E.D. Pa. 1971), *aff'd*, 474 F.2d 1339 (3d Cir. 1973); Keeton, *Products Liability—Inadequacy of Information*, 48 TEXAS L. REV. 398, 400 (1970); James, *The Untoward Effects of Cigarettes and Drugs: Some Reflections on Enterprise Liability*, 15 CAL. L. REV. 1550, 1555, 1557 (1966).

83. *Dorsey v. Yoder Co.*, 331 F. Supp. 753 (E.D. Pa. 1971), *aff'd*, 474 F.2d 1339 (3d Cir. 1973).

84. Manufacturing defects: *Maas v. Dreher*, 10 Ariz. App. 520, 460 P.2d 191 (1970).

Unavoidably unsafe products: *Lunt v. Brady Mfg. Corp.*, 13 Ariz. App. 305, 475 P.2d 964 (1970); *Morrow v. Trailmobile*, 12 Ariz. App. 578, 473 P.2d 780 (1970); *Wagner v. Coronet Hotel*, 10 Ariz. App. 296, 458 P.2d 390 (1969); *See Ginnis v. Mapes Hotel Corp.*, 470 P.2d 135 (Nev. 1970). Under this approach courts can avoid evaluating the reasonableness of conscious design choices. Henderson, *Judicial Review of Manufacturer's Conscious Design Choices: The Limits of Adjudication*, 73 COL. L. REV. 1531 (1973). Some writers have contended that courts are not equipped to do this. *Id.* at 1557-58; Pawlak, *Manufacturer's Design Liability: The Expanding Frontiers of the Law*, 19 DEFENSE L.J. 143, 171 (1970).

85. Cases using this approach are cited in note 84 *supra*.

in the field. Consumer expectations may be too high or too low. In addition, once expectations become settled in a manner consistent with present practice, manufacturers will have no incentive to improve the safety of products⁸⁶ even when this is feasible.⁸⁷ This frustrates a major policy underlying strict liability.⁸⁸

With new and unfamiliar products, expectations as to safety tend to be high.⁸⁹ Assume a new product is introduced which possesses a scientifically unknown danger. Since consumer expectations are frustrated, strict liability is imposed.⁹⁰ While imposition of liability advances the risk spreading justification for strict liability from the point of view of the consumer, it may also impose a hardship on the manufacturer because he cannot plan to spread a risk of which he is unaware.⁹¹ Development of new products might therefore be discouraged by the spectre of such liability.⁹²

Suppose in the example mentioned above the product is unavoidably unsafe, and one year after its introduction the danger becomes commonly known. Because the product is no longer defective after the risk becomes expected,⁹³ a consumer injured in the second year has no remedy. If the knowledge of the risk permits him to protect himself from the hazard, his case is distinguishable from that of a consumer who recovered in strict liability before the risk became known. But suppose he cannot protect himself. Assume there are no defensive measures which permit the use of the product without a risk of harm,⁹⁴ and the consumer is compelled to use the product to avert a serious and more eminent harm to himself.⁹⁵ Here, per-

86. Dickerson, *supra* note 64 at 314; Wade, *supra* note 78 at 834 n.3.

87. *Royal v. Black & Decker Mfg. Co.*, 205 So.2d 307 (Fla. App. 1968); *Denton v. Bachtold Bros., Inc.*, 8 Ill. App. 3d 1038, 291 N.E.2d 229 (1972); *Murphy v. Cory Pump & Supply Co.*, 47 Ill. App. 2d 382, 197 N.E.2d 849 (1964). A literal application of the consumer expectation test would also bar recovery for correctable latent defects when a warning has been given. The possibility of such a result has been condemned. Noel, *Products Defective Because of Inadequate Directions or Warnings*, 23 Sw. L.J. 256, 262 (1969); Traynor, *supra* note 24 at 372; Note, *Products Liability and Section 402A of the Restatement of Torts*, 55 GEO. L.J. 286, 306-07 (1966).

88. In *Palmer v. Massey-Ferguson, Inc.*, 3 Wash. App. 508, 517, 476 P.2d 713, 719 (1970), the court said "[t]he manufacturer of the obviously defective product ought not to escape because the product was obviously a bad one. The law, we think, out to discourage misdesign rather than encouraging it in its obvious form."

89. Rheingold, *What Are the Consumer's "Reasonable Expectations"?*, 22 BUS. LAWYER 589, 595 (1967).

90. *Lunt v. Brady Mfg. Corp.*, 13 Ariz. App. 305, 475 P.2d 964 (1970); *Wagner v. Coronet Hotel*, 10 Ariz. App. 296, 458 P.2d 390 (1969).

91. Connolly, *The Liability of a Manufacturer for Unknowable Hazards Inherent in His Product*, 32 INS. C.J. 303, 307 (1965). *But see* discussion of this at notes 167-170 *infra*.

92. *But see* discussion of this at notes 177-180 *infra*.

93. Note, 55 GEO. L.J., *supra* note 87 at 318.

94. James, *supra* note 82 at 1555. This problem is discussed in pts. III, §C and V of this article.

95. An employee required to use an obviously dangerous piece of equipment may have no effective choice if he cannot afford to quit his job. *Brown v. Quick*

mitting the first user to recover and denying recovery to the second is arbitrary. The obviousness of the danger is irrelevant. The risk spreading policy underlying strict liability is defeated in the second case. It may be that this policy should be defeated because of countervailing considerations;⁹⁶ if so, recovery should also have been denied in the first case.

The consumer expectation criteria for determining defectiveness was designed to afford protection to consumers.⁹⁷ This was natural since only users or consumers could recover when the test was developed.⁹⁸ The modern trend, however, is to extend the cause of action to bystanders.⁹⁹ The rationale of the consumer expectation test does not apply there.¹⁰⁰ Bystanders are frequently not in a position to protect themselves.¹⁰¹ A user aware of a hazard to a third party may not be as strongly motivated to protect the third party as he would be to protect himself from similar danger. Also, the hazard may be an impairment of the user's ability to protect third parties.¹⁰²

While the consumer expectation test has the virtue of being easy to apply, its use as the sole test of "defect" involves the serious drawbacks discussed above. As a consequence, an increasing number of courts,¹⁰³ in-

Mix Co., Div. of Koehring Co., 75 Wash. 2d 833, 454 P.2d 205 (1969), recognizes this. Many of the cases rejecting the consumer expectation test involve injuries to employees. See cases cited notes 103-05 *infra*. Another instance where no true choice may exist is illustrated by the hepatitis-infected blood cases discussed at notes 120-21 *infra*. See also James, *supra* note 82 at 1552-55, discussing the situation where the product is habit forming and the user discovers the risk after he develops the habit.

96. See pt. V of this article.

97. See Dickerson, *supra* note 64 at 305; Noel, *supra* note 87 at 274; Rheingold, *supra* note 89 at 592-93; Wade, *supra* note 78 at 839.

98. Noel, *supra* note 87 at 274.

99. E.g., Giberson v. Ford Motor Co., 504 S.W.2d 8 (Mo. 1974).

100. Keeton, *supra* note 82 at 400; Wade, *supra* note 78 at 834.

101. Pike v. Frank G. Hough Co., 2 Cal. 3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970). The case is discussed in text at note 154 *infra*.

102. *Id.*

103. Rhoads v. Service Mach. Co., 329 F. Supp. 367 (E.D. Ark. 1971) (punch press operator injured by unguarded punch press); Dorsey v. Yoder Co., 331 F. Supp. 753 (E.D. Pa. 1971), *aff'd*, 474 F.2d 1339 (3rd Cir. 1973) (operator of metal slitter injured because of inadequate safety devices); Brown v. Quick Mix Co., Div. of Koehring Co., 75 Wash. 2d 833, 454 P.2d 205 (1969) (construction worker injured by unguarded auger of earthboring drill); Palmer v. Massey-Ferguson, Inc., 3 Wash. App. 508, 476 P.2d 713 (1970) (farmer injured by improperly designed hay baler). In Wright v. Massey-Harris, Inc., 68 Ill. App. 2d 70, 215 N.E.2d 465 (1966), a farm employee was injured by the unguarded shucking rollers of a corn picker. The court apparently rejected defendant's contention that there could be no liability because the danger was obvious. See also Gelsumino v. E.W. Bliss Co., 10 Ill. App. 3d 604, 295 N.E.2d 110 (1973), involving a punch press operator injured because the press was inadequately guarded. While the court does not discuss the issue, the case apparently involves an obvious danger. The cases discussed in this note and in notes 104-05 *infra* involve alleged design defects, *i.e.*, cases where the defendant would normally contend that the product is unavoidably unsafe. In such cases the plaintiff must prove negligence in design even if he sues on a strict liability or implied warranty theory. See pt. II,

cluding those in California¹⁰⁴ and probably New Jersey,¹⁰⁵ have rejected this test in a number of situations.

C. Cases Imposing Strict Liability for Harm Caused by Unavoidably Unsafe Products

Although strict liability should not be applied to all cases where harm results from an unavoidably unsafe product,¹⁰⁶ some courts have applied strict liability to special situations in which its application is highly desirable.

1. Blood Cases

In *Cunningham v. MacNeal Memorial Hospital*, the Illinois Supreme Court held a hospital strictly liable for the harm resulting from the sale of blood infected with hepatitis virus even though it was scientifically impossible to detect the existence of the virus with present day technology.¹⁰⁷ Such liability has also been imposed by the superior court of New Jersey in *Brody v. Overlook Hospital*¹⁰⁸ and a Washington appellate court in *Reilley v. King County Central Blood Bank, Inc.*¹⁰⁹ In addition, courts in Florida,¹¹⁰

§B of this article and notes 79 and 80 *supra*. However, this issue is not reached when the danger is obvious because of the consumer expectations test. See text accompanying notes 27-31 *supra*. The general rule limiting liability to hidden dangers applies as fully to negligent design cases as to all other products liability cases. Keeton, *Product Liability and the Automobile*, 9 FORUM 1, 11 (1973); Keeton, *Manufacturer's Liability: The Meaning of "Defect" in the Manufacture and Design of Products*, 20 SYRACUSE L. REV. 559, 572 (1969). Under this approach feasible safety improvements need not be made as long as the danger is obvious. See, e.g., cases cited in note 87 *supra*.

104. *Luque v. McLean*, 8 Cal. 3d 121, 501 P.2d 1163, 104 Cal. Rptr. 443 (1972) (operator of rotary mower with unguarded hole fell, injuring hand by coming into contact with the blade); *Pike v. Frank G. Hough Co.*, Cal. 3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970) (earthmoving machine backed over construction employee); *Thompson v. Package Mach. Co.*, 22 Cal. App. 3d 183, 99 Cal. Rptr. 281 (1971) (rim of unguarded plastic molding machine crushed worker's hand).

105. *Schipper v. Levitt & Sons, Inc.*, 44 N.J. 70, 207 A.2d 314 (1965) (child scalded by excessively hot water because "mixing valve" not installed by homebuilder). See *Bexiga v. Havir Mfg. Corp.*, 60 N.J. 402, 290 A.2d 281 (1972) (worker injured by unguarded punch press); Note, *Torts-Products Liability-The Manufacturer is Responsible for Installing "Feasible" Safety Devices on Unreasonably Dangerous Machinery*, 4 SETON HALL L. REV. 397, 407-08 (1972).

106. See, e.g., text accompanying note 82 *supra*.

107. 47 Ill. 2d 443, 266 N.E.2d 897 (1970). The court declared the Restatement exception for unavoidably unsafe products inapplicable to products which were impure. This is clearly wrong. Traynor, *The Ways and Meanings of Defective Products in Strict Liability*, 32 TENN. L. REV. 363, 368 (1965); Note, *Torts-Strict Liability-A Hospital is Strictly Liable For Transfusions of Hepatitis-Infected Blood*, 69 MICH. L. REV. 1172, 1181-82 (1971). Comment k to the Restatement expressly applies to "new or experimental drugs as to which . . . there can be no assurance of safety, or perhaps even of purity of ingredients."

108. 121 N.J. Super. 299, 296 A.2d 668 (1972).

109. 6 Wash. App. 172, 492 P.2d 246 (1972).

110. *Community Blood Bank v. Russell*, 196 So. 2d 115 (Fla. 1967).

Pennsylvania,¹¹¹ and New York¹¹² have left open for future consideration the question of whether such liability should be imposed.

The New York court¹¹³ stated that in deciding the question upon remand:

[a]ll factors in regard to public policy must be considered and there must be a weighing of interest between the unfortunate patients who contract the disease and the general public who are in constant need of blood from these commercial blood banks.

The Pennsylvania case¹¹⁴ gave similar instructions to its lower court. The New Jersey court in *Brody* based its decision to impose strict liability upon an analysis of the relevant policy factors underlying the imposition of strict liability. It found that the safety incentive rationale underlying strict liability could be advanced because: hospitals would be induced to deal with blood banks with good safety records;¹¹⁵ blood banks would be induced to use more care in selection of donors;¹¹⁶ medical research for an effective way to detect the virus or immunize the blood recipient against it would be encouraged;¹¹⁷ and more careful use of blood would be encouraged.¹¹⁸ The court also recognized that the risk spreading rationale could be advanced.¹¹⁹

Strict liability is highly desirable from the point of view of the donee in such cases. He is not in a good position to bear the loss since the consequences of receiving contaminated blood can be disastrous.¹²⁰ The self-protective measures open to him are also quite limited. He may not be aware of the risk if the information has been withheld for medical reasons.¹²¹ Even if he does know, he cannot minimize the risk by careful use of the product since he cannot identify which pint of blood is contaminated. The only protective measure open to him is to forego use of the product. If he needs medical treatment which involves blood transfusions, he has no effective choice.

The safety incentive policy would surely be advanced by the imposition of strict liability. Because of price competition, the medical profession would be encouraged to find a way to either detect the virus or to immunize the donee. Even if this is not possible the policy would be advanced in other

111. *Hoffman v. Misericordia Hosp.*, 439 Pa. 501, 267 A.2d 867 (1970).

112. *Carter v. Inter-Faith Hosp.*, 60 Misc. 2d 733, 304 N.Y.S.2d 97 (Sup. Ct. 1969).

113. *Id.* at 737, 304 N.Y.S.2d at 101.

114. *Hoffman v. Misericordia Hosp.*, 439 Pa. 501, 507-10, 267 A.2d 867, 870-71 (1970).

115. *Brody v. Overlook Hosp.*, 121 N.J. Super. 299, 307, 296 A.2d 668, 672 (1972).

116. *Id.* at 310, 296 A.2d at 674.

117. *Id.* at 308, 296 A.2d at 673.

118. *Id.*

119. *Id.*

120. Franklin, *Tort Liability for Hepatitis: An Analysis and a Proposal*, 24 STAN. L. REV. 439, 443 (1972).

121. Authorities cited note 52 *supra*.

ways. The risk is directly related to the precautions that are taken in screening donors and handling the blood.¹²² Under negligence law the blood bank is required only to use those precautions deemed appropriate by a reasonable man. Strict liability induces blood banks to employ even more precautions if the cost of reducing the risk by the use of those precautions is less than the cost of potential injuries avoided by the precautions.¹²³

Feasibility of risk spreading, however, must also be considered from the point of view of the industry. Blood is a product with a very high social utility. Shifting unavoidable losses to the industry will result in higher prices. If prices become so high that a substantial number of persons needing blood cannot obtain it, the risk spreading might ultimately do more harm than good.¹²⁴

2. Polio Vaccine Cases

In *Davis v. Wyeth Laboratories, Inc.*,¹²⁵ the adult plaintiff contracted polio after taking the defendant's live virus polio vaccine. The product was unavoidably unsafe. An adult taking the vaccine had a one in one million chance of contracting the disease. The court stated that in such a case, if proper warnings are given, strict liability would not be imposed. In view of the policy considerations underlying strict liability, this may be incorrect. Strict liability is highly desirable from the consumer's point of view because of the disastrous consequences of the disease. The only self-protective measure available to the consumer is abstention.¹²⁶ Risk spreading works no undue hardship on the drug manufacturer. The number of polio cases caused by the vaccine is predictable and quite small. By raising the price of the vaccine sold to adults by 10 cents, the manufacturer could afford to pay up to \$100,000 in damages to each adult contracting the disease from his vaccine. The general price increase necessary to support such an award

122. Franklin, *supra* note 120 at 444; Comment, *Hospital's Liability for Transfusing Serum Hepatitis Contaminated Blood*, 44 TEMP. L.Q. 575-76, 577 n.19 (1971); Note, *Products Liability—Transfusions—New Jersey Applied Theory of Strict Tort Liability to Hospitals and Blood Banks for Transfusion-Related Hepatitis*, 4 SETON HALL L. REV. 730, 742-45 (1971).

123. Holford, *The Limits of Strict Liability for Product Design and Manufacture*, 52 TEXAS L. REV. 81, 83-84 (1973).

124. The effects of risk spreading on this particular industry will probably not be known since a vast majority of state legislatures have prohibited the imposition of strict liability in this situation by statute. Franklin, *supra* note 120 at 474. These cases, however, are useful to illustrate the problems involved in the imposition of strict liability for unavoidably unsafe products.

125. 399 F.2d 121 (9th Cir. 1968).

126. He cannot know in advance whether the disease will strike. See Dickerson, *Products Liability: How Good Does a Product Have To Be?*, 42 IND. L.J. 301, 315 (1967). This is undesirable. A well-informed adult would not take the vaccine unless he were in an area where the risk of contracting the disease by not taking the vaccine is higher than the risk posed by the vaccine. See *Davis v. Wyeth Laboratories, Inc.*, 399 F.2d 121 (9th Cir. 1968).

would presumably be much smaller since most of the vaccine is sold to children.¹²⁷ The safety incentive rationale would also be advanced because price competition provides a motive to develop a safer vaccine.

The California appellate courts have imposed strict liability for vaccine induced polio in *Grinnell v. Charles Pfizer & Co.*¹²⁸ and *Gottsdanker v. Cutter Laboratories*.¹²⁹ In *Gottsdanker* the jury found for the defendant on the negligence issue. In *Grinnell* the negligence issue was not submitted to the jury. The cases involved live viruses in a vaccine that was supposed to be dead. The courts did not discuss whether it was scientifically possible to detect the virus at the time the vaccines were marketed. If this is the case, then the vaccine is unavoidably unsafe.¹³⁰ If the virus was detectable the cases involved manufacturing defects. Perhaps the courts did not discuss the issue because they thought it was unimportant to the decisions. In these cases, imposing strict liability advanced underlying social policies without creating problems serious enough to offset its advantages. This was true whether the vaccine was unavoidably unsafe or not.

3. Other Cases

In *Ver Steegh v. Flaugh*,¹³¹ the Iowa court held the seller of a breeding hog infected with Bang's disease strictly liable for the infection resulting to the buyer's herd. The defendant argued that he could not be held liable since it was scientifically impossible to detect the disease at the time of sale. The court believed that the defect was discoverable but opined that the defendant would be liable even if it was not. Assume the disease was undiscoverable at the time of sale. The safety incentive would be advanced by strict liability. Sellers would be willing to pay for a feasible test. Medical research would be stimulated because of the potential profit from selling the test. Also, there may be additional precautions that sellers can take, such as a waiting period. The safety incentive is especially important because of the public interest in stemming such contagious diseases. Although the seller may be too small to spread the risk or to bear it himself in a given case, he is no worse off than the buyer. As between two innocent parties it is not unfair to shift the loss to the one causing it.¹³²

In *Hutchinson v. Revlon Corporation of California*,¹³³ a consumer suffered serious skin problems resulting from the use of defendant's deodorant under her breasts. The product had this effect because moisture from perspiration in that area had softened the skin and destroyed one of its

127. *Davis v. Wyeth Laboratories, Inc.*, 399 F.2d 121 (9th Cir. 1968).

128. 274 Cal. App. 2d 424, 79 Cal. Rptr. 369 (1969).

129. 182 Cal. App. 2d 602, 6 Cal. Rptr. 320 (1960).

130. See text accompanying notes 40-45 *supra*.

131. 251 Iowa 1011, 103 N.W.2d 718 (1960).

132. See PROSSER, *HANDBOOK OF THE LAW OF TORTS*, 492-94 (4th Ed. 1971).

133. 256 Cal. App. 2d 517, 65 Cal. Rptr. 81 (1967).

protective elements. The product was apparently in the condition intended by the manufacturer. The California Appellate Court held that the plaintiff did not have to prove negligence as a basis for recovery.¹³⁴ The consequences were serious to the buyer, and she had no method of protecting herself against this harm since she did not know of the risk. On the other hand, this liability is not likely to impose an undue burden on the manufacturer.¹³⁵ Assuming that the risk cannot be eliminated, he can still insulate himself from strict liability in future cases by providing an appropriate warning with the product. Such a warning gives users the ability to protect themselves from the risk and strongly militates against the imposition of strict liability.¹³⁶ Imposition of strict liability for an unknowable risk might tend to discourage the development of new products,¹³⁷ but this may be of minor importance with respect to products such as the ones involved in *Hutchinson*.¹³⁸ Regarding vital drugs, however, this consideration can be important.¹³⁹

In *Green v. American Tobacco Company*,¹⁴⁰ a jury found that the defendant's cigarettes caused the plaintiff's lung cancer before the risk of cancer from smoking was scientifically known. In answering a question certified by the federal court handling the case¹⁴¹ the Florida court held that the scientific impossibility of discovering the risk was not a defense.¹⁴² Such a decision provides an incentive to develop safe cigarettes. Risk spreading is desirable here. The injury to the afflicted plaintiff is devastating. The

134. The court indicated that the result might be different if the plaintiff had suffered an allergic reaction. It is submitted that this is incorrect. The policy issues are the same here as in all other cases where a product causes harm. Keeton, *Products Liability-Drugs and Cosmetics*, 25 VAND. L. REV. 131, 137 (1972); Wade, *Strict Tort Liability of Manufacturers*, 19 SW. L.J. 5, 18 (1965). In fact, there is better reason to impose strict liability when only a few people are injured. Note, 55 GEO. L.J. *supra* note 87 at 320. See pt. IV of this article.

135. See text accompanying notes 167-70 *infra*.

136. *Pike v. Frank G. Hough Co.*, 2 Cal. 3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970); *Zambrana v. Standard Oil Co. of California*, 26 Cal. App. 3d 209, 102 Cal. Rptr. 699 (1972).

137. Keeton, *Products Liability-Liability Without Fault and the Requirement of a Defect*, 41 TEXAS L. REV. 855, 867-68, 871-72 (1963). See text accompanying notes 167-70 *infra*.

138. *Id.*

139. *Id.*

140. 154 So. 2d 169 (Fla. 1963).

141. *Green v. American Tobacco Co.*, 304 F.2d 70 (5th Cir. 1962). The court ultimately upheld a jury verdict for the defendant on the theory that cigarettes were not unreasonably dangerous, *i.e.*, marketing them is justified notwithstanding the risk to a few smokers. *Green v. American Tobacco Co.*, 409 F.2d 1166 (5th Cir. 1969). This is similar to the Restatement position regarding manufacturing defects. See pt. II, §A of this article. See text accompanying notes 62-67 *supra* for an evaluation of this approach. The dissenting judges argued that Florida would impose absolute liability for any harm caused by consumption of a product meant for human use. *Id.* at 1166-68.

142. See *Community Blood Bank, Inc. v. Russell*, 196 So.2d 115 (Fla. 1967) (special concurring opinion).

consumer's ability to protect himself is limited even if he knows of the risk. The only self-protective measure available to him is abstinence. The defendant's advertising and the habit-forming nature of the product makes this doubly difficult.¹⁴³ Shifting the loss to the manufacturer will force him to raise his prices to cover the cost of the harm done by his product,¹⁴⁴ thus informing consumers of the true cost of the product.¹⁴⁵ If consumption is reduced as a consequence, it is because some smokers will have decided that the cost of cigarettes, including the social cost, is not worth the pleasure. This will free resources for allocation to more desirable products.¹⁴⁶

IV. THE NEED FOR A DIFFERENT APPROACH TO DETERMINING DEFECTIVENESS

Some courts have rejected one or both of the traditional tests of defectiveness in some situations. Yet absolute liability in all cases is clearly impractical.¹⁴⁷ Cases in California,¹⁴⁸ New Jersey,¹⁴⁹ Illinois,¹⁵⁰ Florida,¹⁵¹ New York,¹⁵² and Washington¹⁵³ recognize situations where the manufacturer should not be held liable for design improvements which were not feasible when the product was made.

In *Pike v. Frank G. Hough Co.*,¹⁵⁴ the manufacturer was held liable for negligence. A construction worker was killed when an earthmoving machine backed over him. The operator's view to the rear was obstructed. The evidence supported a finding of an unreasonable failure to equip the machine with two rear view mirrors (which would have substantially reduced the blind spot) and a blinking light or tooting horn to alert bystanders. Although several California cases, discussed in the preceding section, rejected the negligence requirement, it is desirable in this case. Motor vehicles cause

143. This is especially true if the victim develops the habit before learning of the risk. James, *The Untoward Effects of Cigarettes and Drugs: Some Reflections on Enterprise Liability*, 54 CAL. L. REV. 1550, 1552, 1555 n.19 (1966).

144. Franklin, *supra* note 120 at 463; Katz, *The Function of Tort Liability in Technology Assessment*, 38 U. CIN. L. REV. 587, 636, 662 (1969).

145. Franklin, *supra* note 120 at 463.

146. *Id.*

147. Cases cited in note 84 *supra* would impose liability for unavoidably unsafe products, but limit liability with the consumer expectations test. Its disadvantages are discussed in pt. III, §B of this article. Cases rejecting the consumer expectations test are cited in notes 103-05 *supra*.

148. *Pike v. Frank G. Hough Co.*, 2 Cal.3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970); *Balido v. Improved Machinery, Inc.*, 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1973).

149. *Bexiga v. Havir Mfg. Corp.*, 60 N.J. 402, 290 A.2d 281 (1972).

150. *Sutkowski v. Universal Marion Corp.*, 5 Ill. App. 3d 313, 281 N.E.2d 749 (1972).

151. *Keller v. Eagle Army-Navy Dept. Stores, Inc.*, 291 So. 2d 58 (Fla. App. 1974).

152. *Bolm v. Triumph Corp.*, 33 N.Y.2d 151, 305 N.E.2d 769 (1973).

153. *Brown v. Quick Mix Co., Div. of Koehring Co.*, 75 Wash. 833, 454 P.2d 205 (1969).

154. 2 Cal. 3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970).

enormous damage.¹⁵⁵ Shifting all such losses would undoubtedly be detrimental to the industry and the economy as a whole. People using such equipment, and to some extent bystanders, can protect themselves from properly designed vehicles by the use of due care. While strict liability might induce some safety improvements, the possibility of improved technology rendering motor vehicles absolutely safe is simply too far off in the future to be a consideration.

A need for some criteria to limit liability is apparent. In *Gelsumino v. E. W. Bliss Co.*,¹⁵⁶ defendant manufactured an unguarded punch press that could be operated with a foot pedal. The plaintiff slipped while operating the machine, put his hand in the dye, and accidentally triggered the foot switch. Serious injuries resulted. Defendant contended that the design was not unreasonably dangerous because it conformed to the state of the art existing at the time of manufacture. The Illinois Appellate Court cited *Cunningham v. MacNeal*¹⁵⁷ for the proposition that the state of the art defense did not apply to strict liability cases. Suppose the punch press had fallen on the plaintiff in the course of being carefully unloaded. Would the manufacturer be liable for this harm? Would the manufacturer of a knife be held strictly liable to everyone who is cut by the knife? True, the risk is obvious to the user, but so was the risk in *Gelsumino*. Surely the plaintiff did not need to be told to keep his hand out of the dye area while stepping on the foot pedal.

V. DETERMINING THE STRICT LIABILITY ISSUE IN LIGHT OF RELEVANT POLICY CONSIDERATIONS

Strict tort liability was developed in the area of products liability in order to further certain policy objectives, chiefly to spread the risk of loss and to encourage the manufacture of safe products. These policy objectives cannot be achieved in all cases. Countervailing considerations sometimes make the imposition of strict liability impractical. The Restatement approach is a compromise reached by devising one test of defectiveness to be applied uniformly to all products. The use of this single definition makes strict liability a very crude instrument of social policy. Under this definition, the policies underlying strict liability can be frustrated in cases where countervailing considerations do not warrant its rejection. Likewise, strict liability can be imposed in unwarranted situations despite strong countervailing policies.¹⁵⁸ Courts, as a result, have shown an increased willingness to depart from the Restatement approach where appropriate.

155. Notes, *Torts-Strict Liability-Automobile Manufacturer Liable for Defective Design that Enhanced Injury After Initial Accident*, 24 VAND. L. REV. 862, 867 (1971).

156. 10 Ill. App. 3d 604, 295 N.E. 2d 110 (1973).

157. 47 Ill. 2d 443, 266 N.E.2d 897 (1970). See pt. III, §C(1) of this article.

158. See text accompanying note 175 *infra*.

In deciding when to impose strict liability courts should consider, in light of the facts of the particular case, the merits of the policies underlying strict liability and balance these considerations against countervailing factors. Some of the factors that should be considered are as follows:

I. Risk Spreading

- A. From the point of view of consumer.
 1. Ability of consumer to bear loss.
 2. Feasibility and effectiveness of self-protective measures.
 - a. Knowledge of risk.
 - b. Ability to control danger.
 - c. Feasibility of deciding against use of product.
- B. From point of view of manufacturer.
 1. Knowledge of risk.
 2. Accuracy of prediction of losses.
 3. Size of losses.
 4. Availability of insurance.
 5. Ability of manufacturer to self-insure.
 6. Effect of increased prices on industry.
 7. Public necessity for the product.
 8. Deterrent effect on the development of new products.

II. Safety Incentive

- A. Likelihood of future product improvement.
- B. Existence of additional precautions that can presently be taken.
- C. Availability of safer substitutes.

The desirability of risk spreading varies with the facts of the case. If the consumer is able to bear the loss, risk spreading may be unnecessary. This may be true where the product poses a risk of relatively slight harm. But if the risk is a very serious one, like polio, most private consumers will not be able to bear the cost.¹⁵⁹ Commercial users, on the other hand, may be better able to withstand serious losses than the private consumers.¹⁶⁰

The argument for spreading losses resulting from unavoidably unsafe products is less compelling where the consumer can minimize the risk through careful use of the product. Before this is possible the risk must be known.¹⁶¹ The user of a habit-forming product may discover the risk only after he has developed the habit.¹⁶² Even with knowledge of the risk, ability to control the danger will vary with the circumstances. A user, for

159. Franklin, *supra* note 120 at 464. James, *supra* note 143 at 1556.

160. Keeton, *Product Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30, 35, 39 (1973).

161. Dorsey v. Yoder Co., 331 F.Supp. 753 (E.D.Pa. 1971), *aff'd*, 474 F.2d 1339 (3rd Cir. 1973); Keeton, *Products Liability-Inadequacy of Information*, 48 TEXAS L. REV. 398, 400 (1970).

162. James, *supra* note 143.

example, would generally have more ability than a bystander.¹⁶³ For an inherently dangerous article like a gun, the user knows that it is dangerous and can take specific action to minimize the risk.¹⁶⁴ In the case of blood, however, an informed consumer can only know that blood is sometimes infected with hepatitis virus, and he may be compelled to take his chances.¹⁶⁵ To keep their jobs, employees frequently have no real choice but to use an obviously dangerous piece of equipment.¹⁶⁶

The desirability of risk spreading must also be considered from the manufacturer's point of view. It has been suggested that a risk scientifically unknown at the time of sale cannot be spread by the manufacturer since he cannot provide for it.¹⁶⁷ While knowledge of the risk is important, it is not always controlling. Using the cigarette cancer cases as an example, even though the risk of cancer was unknown, it was known that excessive use of cigarettes was a significant health hazard.¹⁶⁸ The risk could have been provided for since it fell within the broad category of foreseeable hazards to health.¹⁶⁹ But even where the risk is unforeseeable, an inability to guard against it has not been controlling in manufacturing defect cases.¹⁷⁰ Unknown hazards might be spread by subsequent price rises. This should be possible, even in competitive industries, since the burden resulting from strict liability is likely to be evenly distributed if all manufacturers use due care.

Risk spreading as to known risks is easier if an accurate prediction of losses is feasible. The sizes of the losses to be spread is another important factor. Losses requiring substantial price increases could have an adverse effect upon the industry if the price increases are likely to result in a reduced demand for the product.

The ability of the industry to insure against the loss is also important. The 1966 revision of the Standard Comprehensive General Liability Policy excludes liability for mistakes or deficiency in design.¹⁷¹ If insurance becomes unavailable, risk spreading will force industry to self-insure through

163. See text accompanying notes 97-102 *supra*.

164. Dickerson, *supra* note 126 at 315-16.

165. *Id.*, see text accompanying notes 120-21 *supra*.

166. See note 95 *supra*.

167. Connolly, *The Liability of a Manufacturer for Unknowable Hazards Inherent in His Product*, 32 *INS. C.J.* 303, 307 (1965).

168. James, *supra* note 143 at 1557.

169. *Id.*

170. See pt. II, §A of this article. Design defects frequently have the potential for causing more harm than manufacturing defects since all products made pursuant to the design are defective. This is why risk spreading is not feasible for all unavoidably unsafe products. But some unavoidably unsafe products cause harm only rarely. *E.g.*, Hutchinson v. Revlon Corp., 256 Cal. App. 2d 517, 65 Cal. Rptr. 81 (1968), discussed at notes 133-39 *supra*. Likewise, some manufacturing defects can cause great harm, *e.g.*, a bursting dam or a nuclear accident.

171. Henderson, *Insurance Protection for Products Liability and Completed Operations-What Every Lawyer Should Know*, 50 *NEB. L. REV.* 415, 438-39. (1971).

price rises. This is less feasible for small businesses than large ones. Even if insurance is available for design defects, it may be of limited value. In *Silver Eagle Co. v. National Union Fire Insurance Co.*,¹⁷² the policy applied only to accidents occurring within the policy period and the policy could be cancelled at any time on ten days notice. In design defect cases the entire line is defective. When the insurance company learns the details of the first accident and that serious future accidents are likely to occur, it will cancel the policy. The manufacturer then pays the cost of subsequent accidents.

The social value of the product is an important factor in risk spreading.¹⁷³ Risk spreading will tend to reduce the availability of the product because increased cost will lead to increased prices. For non-essential or undesirable products this is not especially important. But for essential products such as blood and drugs this factor merits careful consideration.¹⁷⁴ In *Newmark v. Gimbel's, Inc.*,¹⁷⁵ the New Jersey Supreme Court recognized this. The plaintiff was harmed by a permanent wave solution applied by the defendant's beauty parlor. The court rejected the service/sale distinction and imposed strict liability. The court distinguished an earlier case refusing to hold a dentist strictly liable for harm caused by a defective hypodermic needle because such professionals are "so important to the general welfare as to outweigh in the policy scale any need for the imposition on dentists and doctors of the rules of strict liability in tort."¹⁷⁶ Likewise the *Restatement (Second) of Torts* § 520 (*Tent. Draft No. 10, 1964*) provides that "the value of the activity to the community" should be considered in determining whether an activity is abnormally dangerous and thus subject to strict liability. Such factors are equally relevant in the products liability area.

A closely related consideration is the tendency of strict liability to discourage the development of new products.¹⁷⁷ The law of negligence was designed to encourage development of emerging industries.¹⁷⁸ This rationale still applies to new products and new industries being developed today. For example, the development of nuclear energy sources appears to be a feasible alternative to the world's impending energy shortage. Present technology is such that this activity presents great risk.¹⁷⁹ A company contemplating development and sale of nuclear reactors might well be deterred

172. 246 Ore. 398, 423 P.2d 944 (1967).

173. Wade, *On the Nature of Strict Liability for Products*, 44 MISS. L.J. 825, 844 (1973).

174. Keeton, note 137 *supra*; Traynor, *The Ways and Meanings of Defective Products and Strict Liability*, 32 TENN. L. REV. 363, 369 (1965).

175. 54 N.J. 585, 258 A.2d 697 (1969).

176. *Id.* at 597, 258 A.2d at 703.

177. Connolly, *supra* note 167 at 306; Dickerson, *supra* note 126 at 324; Keeton, *Manufacturing Liability: The Meaning of "Defect" in the Manufacture and Design of Products*, 20 SYRACUSE L. REV. 559, 571 (1969).

178. Malone, note 1 *supra*.

179. Dooley, *Nuclear Energy-An Evaluation from the Viewpoint of the Public Weal*, ABA SECTION INS., NEG., AND COMP. LAW, 1971 PROCEEDINGS 272.

from entering this business by the prospect of strict liability. The potential harm caused by such a device is so great as to threaten bankruptcy to virtually any company.¹⁸⁰ Therefore, in the absence of governmental insurance, strict liability in such cases is undesirable. A rule that takes such factors into account will not impede the development of new products. A drug manufacturer contemplating the introduction of an apparently desirable drug will know that the value of his industry will be taken into account in making the strict liability decision. Only losses that turn out in retrospect to be practical for him to pass on to the public through price rises will be shifted.

Whether the safety incentive rationale underlying strict liability can be advanced also varies depending on the case. Where the prospects of product improvement are sufficiently favorable to warrant additional research, strict liability is indicated.¹⁸¹ The blood cases discussed previously¹⁸² are a possible example. Even if there is no such prospect, the safety rationale can be advanced if additional desirable safety precautions not required by the law of negligence are available. Here again, the blood cases serve as an example.¹⁸³

This approach to strict liability will yield superior results. It is no more difficult to apply than many other rules. Results will be less predictable than when a single test of "defect" is applied to all cases. However, this is outweighed by its advantages. In fact, its use would enhance predictability in those jurisdictions abandoning the traditional approach in selected cases without establishing new criteria.

180. *Id.* at 275.

181. Katz, *supra* note 144 at 636.

182. *See pt. III*, §C of this article.

183. *See pt. III*, §C of this article.