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Toward a Synthesis of Product Liability Principles: Schwartz's Model and the Cost-Minimization Alternative

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Toward a Synthesis of Product Liability Principles: Schwartz's Model and the Cost-Minimization Alternative

KATHRYN DIX SOWLE*

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I. INTRODUCTION

The insurance crises of recent years have generated a prolonged and heated controversy over tort reform.¹ A major source of contention is the doctrine of strict liability in tort for product sellers, a doctrine that spread rapidly after its initial appearance in 1963.² The most controversial issue has been the standard of liability for design defects.³ Scholars have observed that "[o]ne of the reasons for the current unhappy state of tort law generally—and of products liability law especially—is that the courts have apparently had an unusual degree of difficulty in explaining the basis of liability."⁴

The debate over products liability law has led to numerous proposals for liability standards in design defect cases.⁵ Professor Alan Schwartz⁶ recently proposed a design defect system that includes a

1. See W. Kip Viscusi, *The Dimensions of the Products Liability Crisis*, 20 J. LEGAL STUD. 147 (1991). The U.S. Department of Justice, the American Law Institute, the American Bar Association, and other interested groups have conducted studies in an attempt to reform the tort system. *Id.* at 147.

2. Strict liability first appeared in *Greenman v. Yuba Power Products, Inc.*, 377 P.2d 897 (Cal. 1963). For a discussion of its rapid spread, see *Prentis v. Yale Mfg. Co.*, 365 N.W.2d 176, 180-81 (Mich. 1984) (citing John W. Wade, *On Product "Design Defects" and Their Actionability*, 33 VAND. L. REV. 551 (1980)).

3. See *Prentis*, 365 N.W.2d at 182 (citing numerous articles on the design defect issue).

4. Guido Calabresi & Alvin K. Klevorick, *Four Tests for Liability in Torts*, 14 J. LEGAL STUD. 585 (1985).

5. See *Prentis*, 365 N.W.2d at 182 n.14.

6. Professor Schwartz is the William K. Townsend Professor of Law at Yale Law School. Alan Schwartz, *Proposals for Products Liability Reform: A Theoretical Synthesis*, 97 YALE L.J. 353, 353 n. † (1988).

rule of "true" strict products liability, with defenses of contributory negligence and assumption of risk as total bars to recovery.⁷ This Article finds significant deficiencies in Professor Schwartz's proposals and presents an alternative system of liability for design defects. This Article proposes a liability system that employs negligence as the basic liability test, but places the burden of persuasion on the defendant to show reasonable care if the plaintiff establishes either that the product failed to meet consumer safety expectations, or that a safer, alternative design was feasible at the time the product was sold.

Part II introduces Professor Schwartz's concept of the "optimal contract." It then describes the *ex ante* and *ex post* liability tests of Calabresi and Klevorick, which are used as standards for evaluating Schwartz's proposals. Part III describes Schwartz's proposals and analyzes them under the consumer-sovereignty norm and the efficiency standard. Part III contends that Schwartz's proposed liability system is less efficient than current liability rules and provides inadequate consumer protection; an inefficient level of accident prevention would result from Schwartz's proposals to deny compensation for nonpecuniary losses and to exculpate firms whose products comply with regulatory standards. This Part also shows that Schwartz's illustrations of the operation of his system do not fit his description of the system as one of strict liability with the defenses of contributory negligence and assumption of risk. Part III concludes that Schwartz's justifications for his proposed liability system do not support the results he describes.

Part IV identifies optimal reduction of primary accident costs⁸ as the principal goal of tort law and proposes a liability system that approaches this goal more closely than does Schwartz's proposed li-

7. Professor Schwartz derived his article from a report he made as Associate Reporter to the American Law Institute's Project on Compensation and Liability for Product and Process Injuries. *Id.*

The American Law Institute ("A.L.I.") published its report on April 15, 1991. *See* A.L.I., REPORTERS' STUDY, ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY (Apr. 15, 1991). It issued the study for discussion by the A.L.I. membership at its May, 1991 meeting. *See id.* at xii-xiii. The A.L.I. Council is scheduled to consider what further action might be appropriate at its Fall 1991 meeting. *Id.* The study reflects some of the ideas advanced in Professor Schwartz's article. *See, e.g., id.* at 33-82 (addressing product defects and warnings).

8. Dean Calabresi states that the purpose behind accident law is "to reduce the sum of the costs of accidents and the costs of avoiding accidents." GUIDO CALABRESI, THE COSTS OF ACCIDENTS 26 (1970). He divides this cost reduction goal into three subgoals. *Id.* The first subgoal is the optimal reduction of primary accident costs—the "reduction of the number and severity of accidents." *Id.* at 27. The secondary subgoal is reduction of secondary accident costs, which are "essentially costs of rapid changes in income distribution." *Id.* at 33. The third subgoal is the reduction of tertiary accident costs—the reduction of "the costs of administering our treatment of accidents." *Id.* at 28. The aim of reducing tertiary accident costs "is to reduce the costs of achieving primary and secondary cost reduction." *Id.*

bility system. Part IV begins with a discussion of an article written by Professor David Owen in 1980, which examines the various policy goals courts and scholars have articulated to support strict products liability.⁹ In his article, Owen finds that he cannot defend some of the stated goals for strict liability on any sound basis, and that other goals, although socially significant, appear to conflict with one another.¹⁰ This conflict, Owen believes, stems from the failure of the various policy goals to strike an appropriate balance between individual liberty and social welfare.¹¹ Owen's article has been followed by others that have advanced the dialogue and helped to resolve the conflict among policy objectives. In particular, Professor John Attanasio's article on the theory of aggregate autonomy provides a principled basis for justifying autonomy infringements.¹² Attanasio recognizes Dean Calabresi's cost-minimization goal as the soundest policy objective for a products liability system.¹³ In addition, Attanasio provides a basis for striking a proper balance between individual liberty and social welfare.¹⁴ He factors social as well as pecuniary values into the cost-minimization calculus,¹⁵ an accommodation tort law always has made and needs in order to achieve public acceptance and respect.

Part IV continues with discussion of other factors that a products liability system must take into account. These factors include product image,¹⁶ "soft" representations made in product advertising,¹⁷ the polycentricity of product design issues,¹⁸ and the inherent limitations of the judicial function.¹⁹ The liability standard proposed in Part IV attempts to identify the rules that best serve the cost-minimization goal under various circumstances.

Professor Schwartz offers his proposals "in an exploratory spirit."²⁰ This Article proceeds in the same spirit, seeking to clarify the effects of current products liability standards and the various proposals for reform. Rich literature is available on current issues in

9. David G. Owen, *Rethinking the Policies of Strict Products Liability*, 33 VAND. L. REV. 681 (1980).

10. *Id.* at 703-15.

11. *Id.* at 684, 685, 714-15.

12. John B. Attanasio, *The Principle of Aggregate Autonomy and the Calabresian Approach to Products Liability*, 74 VA. L. REV. 677 (1988).

13. *See id.* at 705-15.

14. *See id.* at 723-34.

15. *See id.* at 692-93.

16. *See infra* notes 285-86 and accompanying text.

17. *See infra* notes 289-90 and accompanying text.

18. *See infra* notes 385-95 and accompanying text.

19. *See id.*; *infra* notes 290-307 and accompanying text.

20. Schwartz, *supra* note 6, at 356.

products liability law, yet as Professor Schwartz observes, "[t]he economic and psychological theories required to answer many of these questions are primitive, and the empirical record presupposed by the theories ranges from scanty to nonexistent."²¹ I set forth proposals in this Article more on the basis of intuition developed from long exposure to torts decisions, the doctrines these decisions develop and apply, and the ebb and flow of the intellectual forces that alter those doctrines, than on the basis of confidence that the underlying assumptions can be substantiated fully. I offer them, nonetheless, with the support that is available.

Any discussion of products liability standards also must acknowledge the tort system's limitations. A recent American Law Institute report aptly described those limitations, which include the unpredictability of litigation results and high administrative costs. These costs preclude claims for many injuries, preventing the tort system from producing an optimal level of primary accident cost reduction, even with ideal liability rules. Alternative systems for minimizing accident costs, however, are also imperfect.²²

Despite the tort system's shortcomings, it will continue to play a central role in the distribution of losses caused by defective products. As no replacement for the tort system is likely in the near future, the evolving doctrines of products liability law require continued scrutiny.²³

II. STANDARDS OF EVALUATION

Professor Schwartz bases his analysis upon the consumer sovereignty norm.²⁴ From that norm, he derives his theory of the "optimal contract"—the contract that well-informed, uncoerced consumers

21. *Id.*

22. See A.L.I., COMPENSATION AND LIABILITY FOR PRODUCT AND PROCESS INJURIES, SPRING 1988 PROGRESS REPORT 14-15:

As an incentive system, tort has potential shortcomings in its high administrative costs; unpredictability of liability standards and awards; and the institutional difficulty in a decentralized adjudicatory system of taking into account the social benefits as well as costs of technologies. . . . High administrative costs also effectively bar many claims for small amounts, even where the risks in question are large in the aggregate. As a result, environmental and safety risks may not be adequately controlled or redressed.

The drawbacks of the tort system must, however, be kept in perspective. The other institutional systems available for dealing with personal injuries are also highly imperfect. Even if they were regarded as the primary means of dealing with such injury, tort liability may often be a needed supplement.

23. See *id.* at 17.

24. Schwartz, *supra* note 6, at 355.

would choose for allocating product-related risks²⁵ when they have not actually consented to a contract.²⁶ Schwartz's optimal contract serves compensation goals.²⁷ This Article contends that the optimal contract should serve deterrence goals. My concept of the optimal contract draws upon the standards for evaluation of systems of accident law originated by Dean Guido Calabresi in his book, *The Costs of Accidents*,²⁸ and elaborated by him in later articles.²⁹

This Article accepts Dean Calabresi's conclusion that "the principal function of accident law is to reduce the sum of the costs of accidents and the costs of avoiding accidents."³⁰ Calabresi argues that tort liability rules that allocate accident costs to the "cheapest cost avoider" minimize accident costs.³¹ This Article further recognizes that the "Learned Hand," or cost-benefit test,³² commonly used by courts in design defect cases, reduces primary accident costs optimally only in "a perfect world with perfect foresight."³³ The cost-benefit test identifies the cheapest cost avoider in some situations, but in others it is unreliable. In these situations, a strict liability test is a more reliable means of identifying the cheapest cost avoider. This test places the loss on the party to the accident "in the best position to make the cost-benefit analysis between accident costs and accident avoidance costs and to act on that decision once it is made."³⁴

Finally, my analysis draws upon the four tests of liability defined by Calabresi and Klevorick.³⁵ To derive these four tests, Calabresi and Klevorick begin with the two basic tests, the Learned Hand (or cost-benefit) test and the strict liability test, and then divide each into an ex ante and an ex post version, as follows: (1) Under the ex ante Learned Hand test, the victim bears the loss unless the trier of fact finds that the injurer knew or should have known, when he or she acted, that his or her accident avoidance costs would be less than the

25. *Id.*

26. *Id.* at 361.

27. *Id.*

28. CALABRESI, *supra* note 8.

29. Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L.J. 1055 (1972); Calabresi & Klevorick, *supra* note 4.

30. CALABRESI, *supra* note 8, at 26.

31. Dean Calabresi states: "A pure market approach to primary accident cost avoidance would require allocation of accident costs to those acts or activities (or combinations of them) which could avoid the accident costs most cheaply." *Id.* at 135 (footnote omitted).

32. Dean Calabresi refers to Learned Hand's test as a cost-benefit test. Calabresi & Hirschoff, *supra* note 29, at 1057, 1060; Calabresi & Klevorick, *supra* note 4, at 586. A better term may be risk-benefit test. See *infra* notes 52-61 and accompanying text.

33. Calabresi & Hirschoff, *supra* note 29, at 1059.

34. *Id.* at 1060 (emphasis omitted).

35. Calabresi & Klevorick, *supra* note 4.

accident costs.³⁶ (2) Under the ex post Learned Hand test, the victim bears the loss unless the trier of fact finds, from the perspective of hindsight, that the injurer's accident costs would have been less than the accident costs.³⁷ (3) Under the ex ante strict liability test, the victim bears the loss unless the trier of fact finds that the injurer knew or should have known, when he or she acted, that he or she was in a better position to decide whether accident avoidance costs would be less than accident costs.³⁸ Under the ex post strict liability test, the victim bears the loss unless the trier of fact finds, from the perspective of hindsight, that the injurer was in a better position to decide whether accident avoidance costs were less than accident costs.³⁹

Calabresi and Klevorick further subdivide these four tests, recognizing that the burden of persuasion may be placed on either the plaintiff or the defendant in the use of each standard of liability.⁴⁰

Calabresi and Klevorick's four tests represent the basic alternatives available for imposing liability in tort law.⁴¹ The choice of a primary option—between the cost-benefit and strict liability tests—likely will depend on the difficulty of making the cost-benefit analysis. Calabresi and Klevorick point out that courts tend to use fault-based (cost-benefit) tests “when the relative size of accident and safety costs is reasonably clear.”⁴² They also observe that when the cost-benefit test is difficult to apply, “social decisions are likely to be more agnostic and to be based not on the result desired but on an assessment of which party is most likely to bring about the correct result if given the incentives to make that choice.”⁴³

The choice of a secondary option—between an ex ante test and an ex post test—involves a policy decision based upon fundamental tort objectives, rather than a practical decision based on availability of cost information. An ex ante test judges actions by what the actor knew or should have known at the time of his conduct, whereas an ex post test judges actions from the hindsight perspective of the knowledge available at the time of trial.⁴⁴ If society wants to burden only the best decisionmaker and to affect future actions, then it makes sense to determine the best decisionmaker using the best information

36. *Id.* at 587.

37. *Id.* at 590.

38. *Id.* at 588, 591.

39. *Id.* at 591, 592 table 1.

40. *Id.* at 592-94. Calabresi & Klevorick also subdivide the four tests in terms of their “mirror images.” *Id.* at 587-92.

41. *Id.* at 611.

42. *Id.*

43. *Id.*

44. *Id.*

available at the time of trial.⁴⁵ The ex post cost-benefit test admittedly would produce some undesirable effects resulting from uncertainty,⁴⁶ but nevertheless is a suitable choice if parties either systematically overestimate safety costs or underestimate accident risks, or if social decisionmakers systematically overestimate or underestimate these costs.⁴⁷ Moreover, the ex post tests provide producers with greater incentives to acquire new information.⁴⁸

Calabresi and Klevorick's four tests operate as a backdrop for this Article's analysis of Schwartz's proposals and for its development of a cost-minimization structure for products liability law. Scholars variously refer to the traditional negligence balancing test, used to determine when a risk is unreasonable, as a "cost-benefit" test, a "risk-benefit" test, and a "risk-utility" test. The *Restatement (Second) of Torts* uses the terms "risk" and "utility" to describe the factors weighed in determining whether a risk is unreasonable.⁴⁹ Professor Schwartz uses the terms "risk" and "benefit" to describe these factors.⁵⁰ Dean Calabresi refers to the traditional negligence balancing test as the Learned Hand cost-benefit test.⁵¹

Professor Schwartz draws a distinction between a cost-benefit and a risk-benefit analysis. He defines the former as a test that considers only whether the expected accident costs from the actor's conduct exceed the actor's avoidance costs;⁵² thus, he states that the test fails to take account of the utility of the actor's conduct. A sharp kitchen knife, for instance, would create an unreasonable risk if the cost of blunting the knife were less than the expected accident costs of sharp kitchen knives.⁵³ Under a risk-benefit test, however, the social value or utility of the actor's conduct is part of the calculus. Thus, sharp kitchen knives would create a reasonable risk because the social utility of sharp knives exceeds their expected risks.⁵⁴ Professor Schwartz concludes that the cost-benefit test is unworkable in design defect cases⁵⁵ because it would be unfair to hold manufacturers liable for

45. *Id.* at 615.

46. *Id.* at 619.

47. *Id.* at 617.

48. *Id.* at 621-25.

49. For a description of the factors bearing on utility and risk, see RESTATEMENT (SECOND) OF TORTS §§ 292-93 (1965).

50. Schwartz, *supra* note 6, at 386-88.

51. Calabresi & Hirschhoff, *supra* note 29, at 1060.

52. Schwartz, *supra* note 6, at 385-86.

53. *Id.* at 386.

54. *Id.*

55. *Id.* at 385.

making knives that cut.⁵⁶

Dean Calabresi uses the terms "cost" and "benefit," but nothing in his writings suggests that he would disregard a product's utility in applying a cost-benefit test. Calabresi's definition of the cost-benefit test is similar to Schwartz's definition,⁵⁷ but he warns that his definition is oversimplified.⁵⁸ Even under Schwartz's definition of the cost-benefit test—whether expected accident costs exceed accident avoidance costs—the benefits of a product to consumers cannot be ignored. Thus, a knife producer's accident avoidance costs would include not only the cost of blunting the knives, but also the cost of business losses resulting from the inability to sell blunt knives.

To avoid confusion, the term "risk-benefit test" refers to the traditional negligence balancing test throughout the remainder of this Article.

III. AN ANALYSIS OF THE SCHWARTZ PROPOSALS

A. *The Basic Proposals*

Schwartz proposes a rule of "true" strict liability in design defect cases, with contributory negligence and assumption of risk as affirmative defenses that bar recovery.⁵⁹ The proposed rule exculpates a defendant for compliance with regulatory standards under certain conditions,⁶⁰ and allows compensation for pecuniary losses, but not for nonpecuniary harms such as pain and suffering.⁶¹

56. *Id.* at 386.

57. See Calabresi & Hirschhoff, *supra* note 29, at 1057.

58. Calabresi and Hirschhoff state:

The goal, strictly speaking, is accident cost avoidance rather than accident avoidance. It may be, for example, that minimization of the sum of automobile accident costs and avoidance costs would come about by measures designed to make automobiles "crashproof" rather than by measures directed at the avoidance of automobile accidents altogether.

In determining whether an accident cost is worth avoiding, the test would look not to the entire cost of the safety measure which would avoid it, but to the cost of that safety measure discounted appropriately to take account of all of the other accident costs that same measure would avoid. Thus the cost of avoiding a given accident is ten dollars if a 100 dollar safety device would also avoid nine other accidents of equal severity.

There are numerous other assumptions implicit in the application of any test of this kind, but this is not the place to discuss them.

Id. n.11; see also CALABRESI, *supra* note 8 *passim*.

59. Schwartz, *supra* note *, at 356, 392. Professor Schwartz finds no fault with current rules on express warranty and manufacturing defects. *Id.* at 384. He believes, however, that "[j]udicial efforts to establish quality obligations that do not depend on a firm's prior decisions respecting quality . . . have been unsatisfactory." *Id.*

60. *Id.* at 412-13.

61. *Id.* at 411.

Schwartz's proposal attempts to "integrate and apply the insights of the contracts and torts theorists."⁶² He claims to analyze "current law and these solutions under the dominant norm in the contracts literature: consumer sovereignty."⁶³ Under this norm, according to Schwartz, "the law should reflect the preferences of competent, informed consumers regarding risk allocation."⁶⁴

Schwartz's analysis "supposes both that consumer sovereignty should be the governing norm and that market failure prevents firms and consumers from implementing this norm by contract."⁶⁵ His task, therefore, "is to identify the policy responses to market failure that the consumer sovereignty norm best implies."⁶⁶ He further explains that his analysis "applies only to products liability issues concerning contracting parties, and not to tort law in general. This is because consumer sovereignty is most plausible as a governing norm in market contexts, where consumer choice can directly influence firm behavior."⁶⁷

Schwartz limits his analysis to contracting, or purchasing, parties. Yet non-purchasers constitute a significant percentage of products liability plaintiffs, and they may collect a larger percentage of total damages than product purchasers.⁶⁸ Schwartz does not discuss a liability standard for nonpurchaser plaintiffs. At least one author who has endorsed Schwartz's proposal, however, appears to extend it to all products liability actions.⁶⁹

This Part contests the validity of Schwartz's conclusions on four bases. First, the consumer-sovereignty norm does not dictate the exclusion of damages for nonpecuniary harms. Second, Schwartz's criticisms of current liability standards for design defects reveal a misunderstanding of those standards, and he contradicts his criticisms by using those standards in his own proposal. Third, compliance with regulatory standards should not exonerate producers from liability automatically, as Schwartz proposes. Finally, Schwartz's illustrations

62. *Id.* at 355.

63. *Id.*

64. *Id.*

65. *Id.* at 356.

66. *Id.*

67. *Id.* at 357 n.4.

68. A 1977 report stated that products liability claimants with work-related injuries constituted 11% of total claimants and received 42% of total payments. INSURANCES SERVICES OFFICE, PRODUCTS LIABILITY CLOSED CLAIM SURVEY: A TECHNICAL ANALYSIS OF SURVEY RESULTS 60, 63 (1977), cited in Jeffrey O'Connell, *A Correct Diagnosis of the Ills of Liability Insurance—and a False Cure: a Comment on the Reports of the Federal Tort Policy Working Group*, 63 NOTRE DAME L. REV. 161, 172 n.54 (1988).

69. See Jules L. Coleman, *A Market Approach to Products Liability Reform*, 17 Prod. Safety & Liab. Rep. (BNA) No. 18, at 463, 472 (May 5, 1989).

of his proposed liability scheme depart markedly from his description of it as one of "true" strict liability with the defenses of contributory negligence and assumption of risk. In fact, Schwartz's proposal permits liability only under a consumer-expectations test for safety, or when a firm fails to inform the consumer of a safer, feasible alternative design and the firm knew or should have known of the alternative design through an optimal safety research program.

B. *The Optimal Contract Under the Consumer Sovereignty Norm—Nonpecuniary Losses*

Schwartz contends that an optimal contract premised on the consumer-sovereignty norm precludes recovery for nonpecuniary losses in design defect cases.⁷⁰ Schwartz states the following premises of the consumer sovereignty norm:

- (1) "[C]onsumer sovereignty holds that courts should enforce only contract clauses to which well-informed, uncoerced consumers would have assented: when actual assent is lacking, courts should enforce clauses to which hypothetical consent is given."⁷¹
- (2) "[G]iving hypothetical consent the force of real consent is justifiable on utilitarian grounds when the contract clauses that courts adopt as default rules or rules of law would maximize the utility of affected persons."⁷²
- (3) "[Consumers] want to minimize the amount of risk to which they are exposed, but not to spend excessively on risk reduction."⁷³

From these premises, Schwartz reasons that the optimal contract for a well-informed, uncoerced consumer would: "(1) compensate him for pecuniary harm, (2) probably not compensate him for nonpecuniary harm, and (3) induce the manufacturer to reduce the risk of harm when the steps the manufacturer could take to do so cost less than the reduction in risk these steps would avoid."⁷⁴

Schwartz justifies this optimal, hypothetical contract on the basis of three assumptions. The first is that the price of a product includes

70. Pecuniary losses include monetary injuries such as damage to property, lost earning capacity, and medical and related expenses. *See, e.g.*, RESTATEMENT (SECOND) OF TORTS § 906 (1979). Nonpecuniary losses include all losses other than monetary losses. In a typical personal injury action, compensatory damages for nonpecuniary losses include damages for emotional distress, bodily harm, and the loss of consortium suffered by a spouse. *See, e.g., id.* § 905 & cmts. a-f. Bodily harm is "any impairment of the physical condition of the body, including illness or physical pain." *Id.* cmt. b. Thus, such bodily impairments as disfigurement and pain and suffering are compensable, nonpecuniary losses.

71. Schwartz, *supra* note 6, at 357.

72. *Id.*

73. *Id.* at 358.

74. *Id.* at 361.

an insurance premium based upon the expected compensation cost of harms that the product causes to consumers.⁷⁵ The second is that this insurance premium reflects the amount of insurance coverage that consumers prefer.⁷⁶ The third is that the amount of insurance coverage that consumers prefer derives from three further assumptions:

First, a consumer will choose an insurance contract that maximizes his expected utility. Second, consumers' utility functions are "state dependent": They depend on the state of affairs arising after purchase of the product. The consumer's utility is lower in the state of the world in which the product is defective than in the state of the world in which it works perfectly. Third, firms offer insurance at actuarially fair prices; the amount of their premium equals the expected value of the risk against which the person insures.⁷⁷

On the basis of these assumptions, Schwartz contends that it is unlikely that the optimal contract "would require any insurance against what now are sizeable and common elements of the standard products liability judgment: pain and suffering and emotional distress."⁷⁸ This conclusion, familiar in the products liability literature,⁷⁹ is based on the principle that "[i]nsurance . . . shifts wealth from the state of the world in which the marginal utility for money is relatively low—the state in which no injury occurs—to the state in which it is relatively high—the state in which an injury happens."⁸⁰ Although pecuniary losses incident to an injury increase the marginal utility for money, nonpecuniary losses are unlikely to do so.⁸¹ Moreover, nonpecuniary losses are hard to verify and are less predictable than pecuniary ones, so that insurance for the former is more costly.⁸²

75. *Id.* at 362.

76. *Id.*

77. *Id.* (footnote omitted).

78. *Id.* at 367.

79. See, e.g., STEVEN SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* 228-31 (1987).

80. Schwartz, *supra* note 6, at 363.

81. See SHAVELL, *supra* note 79.

82. Schwartz states that there is no reason to believe that accident victims with nonpecuniary losses commonly desire to substitute activities that are more expensive than activities the accident precludes, or that accident victims commonly desire to compensate for physical pain or mental distress by the purchase of expensive goods or services. Schwartz, *supra* note 6, at 364-66. He further states:

Consumers would prefer less than full insurance against accidents that cause only mental pain, even when these accidents would increase the marginal utility of money, because of "income effects." Recall that such accidents increase the marginal utility of money only when victims will purchase expensive substitute activities to assuage the utility losses from suffering. Such substitutes are sought in the states of the world in which accidents happen. The demand for most goods and services has positive income elasticity; people increase their consumption as their incomes rise. Because accidents make people poorer in a utility sense, people will purchase lesser amounts of substitute activities in

Schwartz's justifications for excluding damages for nonpecuniary loss from the optimal contract focus exclusively upon the consumer's interest in insurance, disregarding the consumer's interest in product safety. His claim that most people would not insure against nonpecuniary losses is plausible. Yet, it does not follow that the consumer-sovereignty norm requires the optimal contract to exclude damages for such losses. The question remains whether consumers would pay to reduce the level of risk below the level dictated by a product price that insures against only pecuniary loss. Schwartz's justifications for his optimal contract fail to address this question.⁸³

"accident states" than they would have purchased if they had not been injured but instead had to give up goods that they then valued as much as they valued not suffering. Informed consumers will anticipate wanting lesser amounts of substitute activities in accident states than they would otherwise want, and so will make provision to buy less. In other words, consumers will not purchase full insurance. Therefore, the ideal legal rule regulating accidents causing mental losses that increase people's marginal utility for money would award victims partial damages. These damages would reflect the partial insurance consumers would want *ex ante*. The level of partial insurance consumers would want varies among people, however, so the law's manageable choices are full insurance—overcompensation—or no insurance—undercompensation. The issue is on which side to err. The remaining factors that should influence courts in deciding what consumers want imply erring on the side of undercompensation.

Intuition suggest that people would want to buy slight or no coverage against purely mental harms. . . . [T]here is no good reason to suppose that, apart from causing pecuniary harm, accidents commonly increase persons' marginal utility for money. In addition, to buy mental loss coverage is, in effect, to sacrifice considerable present wealth in the form of insurance premiums to consume expensive vacations that will assuage whatever emotional distress accidents may cause. In the absence of evidence that spending money is a typical, or even common, response to grief and suffering, this motive for insurance seems unlikely. Finally, pain and suffering losses are difficult for firms to anticipate and verify. The likely response of firms to these problems is to charge high prices for the coverage. These prices make pain and suffering insurance a bad buy for most people, whether it is sold by manufacturers or by insurance companies. These three factors together imply that the more purely mental the loss, the less likely a consumer will want to insure against it.

Id. at 365-66 (footnote omitted).

83. Schwartz does raise the question of the price consumers would pay to reduce risk below the level dictated by a product price that insures against only pecuniary loss, but he answers it in an elliptical fashion—in effect, "finessing" the issue. He asks how a contract that is optimal under the consumer sovereignty norm would specify the safety obligation of firms. He responds with two possibilities:

First, courts could devise a version of the generic risk-reduction rule, assessing a firm's safety performance against the criterion of consumers' willingness to pay for safety. This could be done by choosing rules for damages that would induce firms, when making products, to equate the marginal cost of investments in safety with the marginal willingness of consumers to pay for safety. Second, courts could specify the quality levels below which products cannot fall or the safety features products must contain. Courts in products liability cases often do the latter: Design defect litigation seeks to specify minimum quality levels and

Schwartz recognizes that a premise of the consumer sovereignty norm is that consumers want to minimize the amount of risk to which they are exposed, but do not want to spend excessively on risk reduction. He fails to recognize, however, that the second and third elements of his optimal contract are interdependent. The second element, which precludes compensation for nonpecuniary harm, affects the third element, which posits a cost-justified level of care. Schwartz makes an implicit and unwarranted assumption that the level of product safety preferred by consumers is the one established when producers are liable only for pecuniary losses.

Schwartz believes that "the contract-proscribing aspects of strict liability drive a wedge between the law's compensation and safety goals."⁸⁴ In Schwartz's view, the compensation goal dictates that manufacturers and distributors "should be held strictly liable only for pecuniary harm, because this is all the insurance consumers probably want, [while the] safety goal suggests that firms should be liable for more harm than this in order to create appropriate incentives for firms to invest in safety."⁸⁵ Economists agree, however, that both pecuniary and nonpecuniary harms constitute losses in social welfare; consequently, potential injurers will achieve an optimal level of care and activity only if they pay damages for both pecuniary and nonpecuniary harm.⁸⁶ Economists also maintain that a socially ideal

required safety features. Both this effort and the generic risk-reduction method seem undesirable policy responses, for they presuppose that courts and juries can assess consumer tradeoffs between safety and risks, and there is no reason to believe that courts possess this ability to any great degree.

Id. at 368. Having rejected these two possibilities, Schwartz sets the firm's safety obligation under his "true" strict liability standard, with contributory negligence and assumption of risk as bars to recovery. He theorizes that because of these defenses, informed consumers will adopt a cost-minimizing strategy of care, and firms will incur all accident costs their product designs cause. He states:

The cost-minimizing strategy for firms in this circumstance is to make optimal investments in safety—to invest in safety until the cost of further investments equals the gain in the reduction of expected accident costs. Because it induces both consumers and firms to reduce accident costs optimally, strict liability with contributory negligence is efficient.

Id. at 393.

The result of this system in terms of firms' safety obligation, then, is that they will "invest in safety until the cost of further investments equals the gain in the reduction of expected accident costs," and the expected accident costs include only pecuniary harms. *Id.* Schwartz does not address the question whether consumers would pay to reduce risk below the level serving compensation goals, except to maintain that courts and juries cannot assess consumer tradeoffs between safety and risks. This position leaves consumers with a safety goal set by the compensation goal, a choice I believe consumers would not make.

84. *Id.* at 370.

85. *Id.*

86. See, e.g., SHAVELL, *supra* note 79, at 133-34.

solution cannot be achieved in a liability system when compensation and deterrence goals diverge.⁸⁷ Yet, under the consumer sovereignty norm, the question is which goal consumers would select. Consumers probably would select the compensation goal if they merely were buying insurance against the risk of harm. Most consumers probably would select the deterrence goal, however, if it would maximize their expected utility by lowering the level of risk.

To the extent that a product's price reflects an insurance premium for expected losses,⁸⁸ that insurance premium differs from a "real" insurance premium. Commercial insurance premiums are not paid to the entity with control over the insured risk. "Product insurance" premiums, however, affect the level of risk to which the buyer is exposed. An increase in the product insurance premium to cover nonpecuniary loss decreases the buyer's risk of incurring any loss at all. The increased premium raises the buyer's level of protection against both pecuniary and nonpecuniary loss, because the manufacturer's exposure to an increased level of damages provides it with an incentive to increase the level of care. To a degree, consumers are willing to pay not only to insure against expected pecuniary harm, but also to lower the risk of incurring harm. Consumers, for example, not only buy health insurance, but also pay for preventive medical care; together, these expenditures probably maximize consumers' expected utility. Because "product insurance" premiums control the level of insurance coverage and also the level of risk, it is simplistic to assume that consumers would elect a contract serving the compensation goal rather than the deterrence goal. Thus, to determine consumers' expected utility, economists must consider not only what consumers would pay to *insure* against expected losses, but also what they would pay to *ensure* against expected losses—that is, to reduce the risk of both pecuniary and nonpecuniary losses. A premium that serves the

87. See, e.g., *id.* at 231.

88. Schwartz assumes that a product's price includes an insurance premium that reflects the expected compensation cost of harm caused by the product. This is a fair assumption for most but not all products. See, e.g., Guido Calabresi, *Some Thoughts on Risk Distribution and the Law of Torts*, 70 YALE L.J. 499, 503-14 (1961). Instead of affecting the product's price, expected liability costs may produce lower shareholder dividends or employee wages. Cf. *Wangen v. Ford Motor Co.*, 294 N.W.2d 437, 452 (Wis. 1980) (Abrahamson, J.) (observing that punitive damages may not cause higher product prices). Even commercial liability insurance carriers frequently set premiums at competitive prices that do not reflect expected claims. See, e.g., INSURANCE INFORMATION INSTITUTE, 1987-88 PROPERTY/CASUALTY FACT BOOK 6 (1987) ("The property/casualty insurance industry's earnings improved substantially in 1986. For the first time in three years, investment income offset the underwriting deficit, and the industry produced pre-tax income of \$6 billion after two consecutive years of losses. . . . The turnaround operating results reflected basically increased prices following five years of intense price competition that ended in mid-1984.").

deterrence goal probably achieves a higher expected utility than a premium that serves only the compensation goal. The former would reduce the risk of both pecuniary and nonpecuniary losses and allow compensation for both losses if they did occur. The high value that consumers place on risk avoidance indicates that they prefer the deterrence goal to the compensation goal.

Schwartz's exclusion of damages for nonpecuniary losses reflects a contract rather than a tort approach. More specifically, Schwartz's proposal ignores the reasons for the difference between contract and tort damages. In contract law, damages generally are limited to compensation for pecuniary losses.⁸⁹ A breach of contract is not a "wrong," and losses caused by a breach are fully compensable. In tort law, however, damages for personal injuries include compensation for both pecuniary and nonpecuniary losses. A tort is a "wrong"—even when it is based on a strict liability standard⁹⁰—and personal injuries caused by a tort are not fully compensable. Although the theoretical objective of tort damages is to restore the injured person to her pre-tort state,⁹¹ that objective rarely is achieved in the case of personal injuries.⁹² The actual function of tort damages, then, is the optimal avoidance of accident costs—a function that reflects the preference of rational persons to avoid severe personal injuries rather than to sustain them and receive damages for their

89. See, e.g., 5 ARTHUR L. CORBIN, CORBIN ON CONTRACTS 425 (1951) ("In most actions for breach of contract, the damages recoverable are restricted to compensation for pecuniary harm.").

90. See, e.g., BLACK'S LAW DICTIONARY 514 (rev. 4th ed. 1968) (defining "delictum" as a "delict, tort, wrong, injury, or offense."). From the earliest days of the English common law, tort law has included liability without fault. See, e.g., W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 4, at 21-22 (5th ed. 1984) [hereinafter PROSSER AND KEETON].

91. See 4 FOWLER V. HARPER ET AL., THE LAW OF TORTS 493 (2d ed. 1986) (asserting that the objective of tort damages is to make the plaintiff whole "as nearly as that may be done by an award of money"), see also *McDougald v. Garber*, 536 N.E.2d 372, 374 (N.Y. 1989) ("The goal is to restore the injured party, to the extent possible, to the position that would have been occupied had the wrong not occurred.") (citation omitted).

92. Courts recognize the limitations on restoring the plaintiff's pre-tort state:

Damages for nonpecuniary losses are, of course, among those that can be awarded as compensation to the victim. This aspect of damages, however, stands on less certain ground than does an award for pecuniary damages. An economic loss can be compensated in kind by an economic gain; but recovery for noneconomic losses such as pain and suffering and loss of enjoyment of life rests on "the legal fiction that money damages can compensate for a victim's injury." We accept this fiction, knowing that although money will neither ease the pain nor restore the victim's abilities, this device is as close as the law can come in its effort to right the wrong.

McDougald, 536 N.E.2d at 374-75 (citation omitted).

losses.⁹³ It is logical to conclude that rational consumers will pay significant amounts to avoid risks involving nonpecuniary losses, even though they would not pay significant amounts to insure against them.⁹⁴

93. Rational persons will risk severe personal injuries in some situations; however, these situations generally involve compensating utility factors that make the risk of injury worthwhile. Sports and recreational choices involving personal injury risks, for instance, offer compensating psychological rewards. Even those who refuse to use seatbelts may consider freedom from constraint an offsetting value to the risk of injury. (More often, perhaps, they underestimate the risk.) The risk of brain damage from the use of rubber cement, or the risk of burns from the explosion of an adhesive used to lay tile, however, are risks that the typical consumer would be willing to pay some amount to avoid.

94. Like Schwartz, Shavell overlooks this consumer preference when discussing the liability of firms to customers. He states:

To the extent that firms will be liable for—or would have to pay a supplemental fine for—nonpecuniary losses of customers caused by their products or services, and to the extent that customers do not wish to insure against these losses, customers will be undesirably discouraged from making purchases, other things equal. This is because prices will reflect firms' expected liability. Consider, for instance, the price of sending a child to camp, supposing that camps will be liable for large losses if children die in accidents. The price of camp will then have to include a component to cover its large liability insurance premiums. Thus in paying for camp, parents will in effect be purchasing substantial life insurance on children, a form or amount of insurance that they may well not wish to carry. It is possible that such forced purchase of life insurance will discourage parents from sending children to camp when it would be best that the children go to camp.

In theory, a two-part scheme can be employed to avoid this problem of socially undesirably discouraging purchases, while at the same time providing firms with proper incentives to reduce risks and supplying customers with optimal insurance coverage. First, let fines supplement liability . . . so that firms' incentives will be appropriate even though optimal compensation for customers may be low. Second, let the state pay a *rebate* to customers when they make purchases, where the rebate per unit equals the expected fine revenue collected per unit. This rebate will lower the effective price to customers, and they thus will not be undesirably discouraged from making purchases . . .

SHAVELL, *supra* note 79, at 234-35. Like Schwartz, Shavell overlooks the fact that although parents may not wish to carry life insurance on their children, they frequently pay the cost of reducing the risk of the harm to which their children are exposed. The parents' expected utility often is greater if their children's safety is increased. Why do parents pay for their children's vaccinations against disease? Is it only to prevent future medical expenses that could be incurred absent the vaccinations? Parents spend countless dollars to promote the health and safety of their children. Thus parents will pay a premium for safety. Surely, if a camp received publicity of a child's reasonably preventable death, its business would decline and perhaps even fail. Although it would be unwise to subject camps to strict liability, a camp is, and should be, liable to the parents for its negligence in causing the wrongful death of a child. Damages vary among jurisdictions, but in Florida, for example, wrongful death damages would include compensation for the emotional distress of the parents. FLA. STAT. § 768.21(4) (Supp. 1990).

Finally, a rule requiring that nonpecuniary damages be paid to the state would produce two undesirable effects. First, it would reduce the injured party's incentive to proceed against the injurer, or in the case of parents who have suffered only nonpecuniary harm from the death of a child, remove incentives. Furthermore, states probably could not maintain the necessary

In Schwartz's discussion of whether consumers underestimate risks, he states:

Recent survey data showed that *consumers have a substantial willingness to pay to reduce the injury rate* from common household products such as drain openers; this willingness implied that survey respondents valued a hand burn from a chemical drain opener at \$120,000, for example. This figure seems excessive, and thus suggests either that persons overestimate the costs of harm *or are very risk averse when the issue is personal injury*.⁹⁵

Recent survey data based upon labor market tradeoffs between fatality risks and wages have doubled the estimate of the value of life over previous estimates, further indicating consumers' high level of risk adversity.⁹⁶

staff to run such a system, nor would state bureaucracies have the incentive to monitor every tortious activity and bring the injurer to "justice." Shavell himself admits:

[T]he fine differs from liability in its public nature; private parties do not institute suits to collect fines nor benefit financially when they are paid. The principal implication of this difference is that the likelihood of imposition of a fine may be less than the likelihood of a private suit. Private parties should ordinarily be more likely to know when harm occurs than a public agency and, as just observed, will not profit from reporting harm but may from bringing suit. . . . A fine could be imposed where suits would not be brought due to difficulty in establishing causation or where harms are widely dispersed, as in many environmental and health cases.

Steven Shavell, *Liability for Harm Versus Regulation of Safety*, 13 J. LEGAL STUD. 357, 373 (1984).

Moreover, the administrative costs of such a system probably would exceed those of the present system, in which the injured party brings the injurer to "justice." Shavell has observed that, in the case of ordinary torts, the liability system is more socially desirable than administrative regulation, because

differential knowledge and the size of administrative costs [point] strongly in favor of use of liability to reduce the risk of the typical tort, while inability to pay for harm done [works] with only moderate force against it, and the possibility of escaping suit [does] not constitute an argument against it. Thus, the use in practice of liability to control the familiar category of risks known as torts seems to be the theoretically preferred solution to the problem.

Id. at 368.

Aside from the necessary incentives to hold injurers to the desired level of caution, principles of corrective justice indicate that damages should go to the injured parties, whether the parties would have insured against the losses or not.

95. Schwartz, *supra* note 6, at 379 (footnote omitted) (emphasis added). The survey citation is W. Kip Viscusi & W. Magat, Right To Know and Behavioral Responses to Hazard Warnings 11 (Duke University Center for the Study of Business Regulation 1986) (unpublished manuscript on file with author).

96. Michael J. Moore & W. Kip Viscusi, *Doubling the Estimated Value of Life: Results Using New Occupational Fatality Data*, 7 J. POL'Y ANALYSIS & MGMT. 476 (1988). The abstract for this article states:

Using a new series of data on occupational fatalities compiled by the National Institute for Occupational Safety and Health, the authors reassess value-of-life calculations based on labor market tradeoffs between fatality risks

Schwartz's proposal to deny damages for nonpecuniary losses is based upon the misconceived assumption that consumers prefer to pay a product insurance premium reflecting the compensation goal rather than the deterrence goal. Schwartz's proposal also is based upon the valid assumption that insurance for nonpecuniary losses is less predictable, and thus costlier than insurance for pecuniary losses. Although this assumption is sound, it does not justify the preclusion of damages for nonpecuniary losses. Devastating product-related injuries such as dismemberment and disfigurement may involve small pecuniary but enormous nonpecuniary losses.⁹⁷ Even with higher product insurance premiums for nonpecuniary losses, consumers probably prefer the deterrence goal over the compensation goal. To my knowledge, no consumer lobby advocates the abolition of damages for physical pain and emotional suffering. Thus, Schwartz's assertion that the consumer sovereignty norm dictates their abolition finds no support among consumer advocates. The lobby for caps on damages is a seller's, not a buyer's, lobby.

Informed consumers are also likely to prefer the deterrence goal because it at least approaches an optimal level of safety, though even this goal fails to achieve it. The tort system would reduce accident costs to an optimal level only if all tortfeasors paid damages for all of the losses they cause. Tortfeasors do not pay damages for all of these losses because the injured party must pay litigation costs. Many losses go totally uncompensated because they are too low in value to justify the expense of litigation.⁹⁸

and wages. The new data are less subject to the problems of measurement error that plague previously used measures of risk. They indicate higher risk levels than previously believed and a significantly different composition of risk levels within industries. The more comprehensive risk data yield value-of-life estimates of \$5 million or more—at least twice as large as estimates obtained using the Bureau of Labor Statistics risk data employed in previous studies.

Id. at 476.

97. See, e.g., *Hermes v. Pfizer*, 848 F.2d 66 (5th Cir. 1988) (declaring evidence sufficient to support drug manufacturer's liability to a post-hysterectomy patient who developed permanent extrapyramidal symptoms, or "hunting jaw," from the antidepressant drug Sinequan); *Larue v. Nat'l Union Elec. Corp.*, 571 F.2d 51 (1978) (holding evidence sufficient to support finding that canister-type vacuum cleaner posed an unreasonable risk to children; the jury in *Larue* awarded \$93,750 after reduction for comparative negligence to a child who, at age 11, suffered amputation of part of his penis while riding the vacuum cleaner.).

98. See Keith N. Hylton, *Litigation Costs and the Economic Theory of Tort Law*, 46 U. MIAMI L. REV. 111 (1991); Christopher D. Stone, *The Place of Enterprise Liability in the Control of Corporate Conduct*, 90 YALE L.J. 1, 15-16 (1980).

C. *Schwartz's Criticisms of Current Standards of Liability for Design Defects*

Professor Schwartz criticizes the three tests currently used in design defect cases: the consumer-expectations test, the risk-benefit test, and the regulatory-compliance test.⁹⁹ However, he misconstrues the functions of all three tests, and presents an unsound cost analysis of the third.

1. THE CONSUMER-EXPECTATIONS TEST

Schwartz states that "[a] product fails the [consumer-expectations] test when it is less safe than is reasonable for consumers to expect."¹⁰⁰ Having defined the test in terms of consumers' reasonable expectations, he states that it "is not really a defect test at all," but in practice either duplicates other tests or "protects interests distinct from consumer expectations."¹⁰¹ He concludes that the test merely functions as a proxy for the risk-benefit test¹⁰² and the contributory negligence defense,¹⁰³ or in the alternative, "as a means to allow juries

99. Professor Schwartz also discusses the "Learned Hand" negligence test, whereby "an actor is negligent if the expected accident costs of his actions exceed his accident avoidance costs." Schwartz, *supra* note 6, at 385. He notes that courts do not use this test to resolve design defect issues because it fails to take into account the benefits that consumers derive from a product. Schwartz states:

[K]nife blades sometimes injure people. The cost to firms of dulling the blades very probably is less than the costs of these injuries. The Learned Hand test thus would impose liability on knife makers. Courts, however, never reach this result because it is absurd to hold a manufacturer liable for failing to make a knife so dull it can no longer be used as a knife.

Id. at 386.

As noted, Dean Calabresi seems to interpret the Learned Hand cost-benefit test more broadly than does Professor Schwartz. See *supra* text accompanying notes 57-58. For these reasons, I have not included an analysis of this test in this Article.

100. Schwartz, *supra* note 6, at 384.

101. *Id.* at 384-85.

102. Describing the consumer expectations test as what a "reasonable consumer" would expect in the way of safety, Schwartz states:

[T]his raises the question of what safety expectations are reasonable. Apart from a few obvious cases—it is unreasonable to expect cars to float but reasonable to expect them not to shed wheels on normal city streets—the reasonableness of safety expectations cannot be assessed without using the other tests. For example, it is unreasonable of consumers to expect cars to be as crash resistant as tanks because they know that the cost of this protection is likely to exceed the safety gains.

Id. at 384-85.

103. Schwartz states:

The test sometimes functions as a substitute for a contributory negligence defense in states where that defense is not permitted. This occurs when the consumer can take a simple, obvious action to reduce risk, such as closing the cover before striking a match, or not using the television in the swimming pool, while the

to compensate plaintiffs when no basis for legal liability exists."¹⁰⁴

Schwartz's criticisms of the consumer-expectations test are deficient in three respects. First, Schwartz's definition of the test as the level of safety a *reasonable* consumer would expect—and his conclusion that the test merely serves as a proxy for a negligence and contributory negligence standard—are flawed. The *Restatement (Second) of Torts* defines the consumer-expectations test, not in terms of reasonable expectations, but in terms of the expectations of "the *ordinary consumer* who purchases [a product], with the *ordinary knowledge* common to the community as to its characteristics."¹⁰⁵ This definition's emphasis upon ordinary expectations reflects the test's origin as a strict liability test in warranty law, not in negligence law.¹⁰⁶

Courts and scholars use the terms "reasonable expectations" and "normal" or "ordinary expectations" interchangeably.¹⁰⁷ The

manufacturer would have to undertake a costly redesign to realize a similar degree of risk reduction. Courts find against injured consumers in these circumstances not on the ground that they were negligent, but because the products at issue were at least as safe as the reasonable consumer would expect.

Id. at 385.

104. *Id.*

105. RESTATEMENT (SECOND) OF TORTS § 402A cmt. i (1965) (emphasis added); see also *Gray v. Manitowoc Co.*, 771 F.2d 866, 871 (5th Cir. 1985) ("In light of the overwhelming evidence indicating that the existence of a blind spot in the 4100W was common knowledge in the construction trade, we must conclude that the testimony of Gray and his inexperienced co-worker did not create a jury question as to the knowledge or expectations of the *ordinary* observer or consumer.").

106. See, e.g., *Gray*, 771 F.2d at 869 ("[T]he consumer-expectation test of section 402A is rooted in the warranty remedies of contract law, and requires that harm and liability flow from a product characteristic that frustrates consumer expectations.") (citing Page Keeton, *Products Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30, 37 (1973)); *Gootee v. Colt Indus., Inc.*, 712 F.2d 1057, 1066 (6th Cir. 1983).

[T]he crux of the plaintiffs' warranty claim turned on the argument that the gun as designed did not comport with a reasonable consumer's expectations and, hence, was not reasonably fit for its intended purposes. Accordingly, the evidence of what consumers expected and were generally exposed to with regard to the operation of the [gun] was essential to the implied warranty theory

Dart v. Weibe Mfg., Inc., 709 P.2d 876, 878 (Ariz. 1985) ("[T]he 'consumer expectation' test arises from and expresses principles of implied warranty, the predecessor of strict liability in tort.") (citing John W. Wade, *On Product "Design Defects" and Their Actionability*, 33 VAND. L. REV. 551, 552-53 (1980)); *Campbell v. General Motors Corp.*, 649 P.2d 224, 227 (Cal. 1982) ("[The consumer expectations test] reflects a warranty analysis and is based on the theory that when a manufacturer places a product on the market, a representation is impliedly made that the product is safe for the tasks it was designed to accomplish.").

107. See, e.g., *Heaton v. Ford Motor Co.* 435 P.2d 806, 809 (Or. 1967); Reed Dickerson, *Products Liability: How Good Does a Product Have to Be?*, 42 IND. L.J. 301, 305-18 (1967). Compare WILLIAM Y. PROSSER, *HANDBOOK OF THE LAW OF TORTS* 659 (4th ed. 1971) ("The prevailing interpretation of 'defective' is that the product does not meet the *reasonable* expectations of the ordinary consumer as to its safety.") (emphasis added) with PROSSER AND KEETON, *supra* note 90, § 99, at 698 ("Under the consumer-contemplation test, as so stated in Section 402A of the Second Restatement of Torts, a product is defectively dangerous if it is

emphasis, however, should be upon the frustration of the safety expectations of, at least, intended users of the product, given the ordinary knowledge these users can be expected to possess.¹⁰⁸ Thus, if intended users are illiterate, unable to read the English language, or have other than average expectations, their expectations deserve protection.¹⁰⁹ Describing the consumer-expectations test in terms of reasonable expectations is not problematic, so long as the test's purpose is kept in mind: to protect ordinary users from surprising hazards.¹¹⁰ Some courts have made the same mistake as Schwartz, equating the consumer-expectations test with the risk-benefit test.¹¹¹ Yet to confuse the tests overlooks their important differences.

dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchased it with the *ordinary* knowledge common to the community as to the product's characteristics.") (emphasis added).

108. See, e.g., *Ryder v. Kelly-Springfield Tire Co.*, 587 P.2d 160, 164 (Wash. 1978).

109. See, e.g., *Long v. Penn Fruit Co.*, [1967-1970 Transfer Binder] Prod. Liab. Rep. (CCH) ¶ 6140 (E.D. Pa. 1969) In *Long*, the court denied the defendant's summary judgment motion because the plaintiffs, a German family, were unfamiliar with the existence of trichinae in pork. The court stated that the "plaintiffs should be permitted to produce evidence to contradict the assumed universality of knowledge of the dangerous characteristics of undercooked pork." *Id.* at 9099, cited in MARSHALL S. SHAPO, *THE LAW OF PRODUCTS LIABILITY* ¶ 8.05(6)(b) n.75 (1987).

110. Dickerson explains:

The reasonable expectations of consumers provide a helpful guide, but a slippery one. If defectiveness depends on the reasonable expectations of particular classes of consumers, how can we measure those expectations? How, for instance, can we measure the expectations of the normal housewife as to whether and how fully particular pork products need to be cooked? Consumer expectations are as subtle as perceived meanings; both depend on the particular environments in which they operate. Fortunately, problems of this kind are common grist for the courts, and a judgment as to the reasonable expectations for a particular product is no harder to make than the lexicographical judgment as to what a particular phrase normally means in a particular speech community. It is a familiar exercise in judicial empathy.

The most troublesome situations are those in which consumer attitudes have not sufficiently crystallized to define an expected standard of performance. What, for instance, should the law do about tractors that overturn, surgical implants that break, and rear-engined automobiles that tend to swerve at high speeds? These are products that tend to involve allegedly faulty design. If it is not feasible to improve the product's performance or to provide a safety device for situations in which the consumer appears to be undesirably vulnerable, the answer may lie in requiring appropriate warnings or instructions for use.

Although there is a tendency in such cases to refer to a "duty to warn" or "duty to provide a safety device" as if they were independent duties, it seems preferable to approach these "duties" as alternative means of discharging a single, broader *duty to provide, under prescribed conditions, a product that does not violate the consumer's normal expectations by exposing him to an unreasonable and concealed danger.*

Dickerson, *supra* note 107, at 306-07 (footnotes omitted) (emphasis added).

111. See, e.g., *Seattle-First Nat'l Bank v. Tabert*, 542 P.2d 774, 779 (Wash. 1975) ("In determining the reasonable expectations of the ordinary consumer . . . [t]he gravity of the

Courts have found shortcomings in the consumer-expectations test. It does not, for example, provide a remedy in some situations that justify redress.¹¹² The consumer-expectations test has proved useful, however, in some design defect cases,¹¹³ and many jurisdictions continue to use it as an alternative test of design defect.¹¹⁴ Commentators have both criticized and defended the test's appropriateness in design defect cases.¹¹⁵ Nevertheless, to object to the consumer-expectations test on the ground that it frequently operates merely as a surrogate for a negligence test overlooks its origin in warranty as a strict liability test. Furthermore, in some situations, it is easier for the plaintiff to establish a *prima facie* case under the consumer-expectations test than under the negligence test.¹¹⁶ Part IV of this Article defends a limited consumer-expectations test in strict products liability actions.¹¹⁷

potential harm from the claimed defect and the cost and feasibility of eliminating or minimizing the risk may be relevant . . .").

112. The consumer-expectations test does not provide a remedy for obvious defects and it may prevent liability for bystander injuries. For an excellent summary of objections to the consumer-expectations test, see DAVID A. FISCHER & WILLIAM POWERS, *PRODUCTS LIABILITY—CASES AND MATERIALS* 67-68 (1988).

113. See, e.g., *Sours v. General Motors Corp.*, 717 F.2d 1511, 1514 (6th Cir. 1983) (applying Ohio law) ("[A] consumer might well expect that the roof of his car would withstand a low-speed roll-over without significant collapse. As GM's own expert succinctly stated, the roof design was intended 'to provide structural strength and integrity—it does more than just keep the rain out.'"); *Brady v. Melody Homes Mfr.*, 589 P.2d 896 (Ariz. 1978) The trial court in *Brady* erred in granting summary judgment for the defendant, a mobile home manufacturer, in a wrongful death action that resulted from a fire in a mobile home. The court noted that "[t]here is no evidence, one way or the other, that the reasonable occupant of a mobile home would appreciate that windows in the mobile home would not provide egress. Nor, based upon the record presented, can we say as a matter of law such an appreciation should have been forthcoming." *Id.* at 903.

114. See, e.g., *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871, 882 (Alaska 1979) ("Consumer expectations are a factor to be considered in determining defectiveness, but the public policy supporting strict liability would be poorly served if consumer expectations were the sole boundary of liability."); *Dart v. Wiebe Mfg., Inc.*, 709 P.2d 876, 878 (Ariz. 1985) ("Thus, while the consumer expectations test may sometimes work well in design defect cases, it provides no resolution for those cases in which 'the consumer would not know what to expect, because he would have no idea how safe the product could be made.'") (citation omitted); *Knitz v. Minster Mach. Co.*, 432 N.E.2d 814, 818 (1982), *cert. denied*, 459 U.S. 857 (1982) ("[T]he policy underlying strict liability in tort, requires that 'a product may be found defective in design, even if it satisfies ordinary consumer expectations [if] . . . the jury finds that the risk of danger inherent in the challenged design outweighs the benefits of such design.'") (footnote omitted); see also JAMES A. HENDERSON, JR., & AARON D. TWERSKI, *PRODUCTS LIABILITY—PROBLEMS AND PROCESS* 528 (1987) (listing cases applying the consumer expectations test).

115. See, e.g., HENDERSON & TWERSKI, *supra* note 114, at 528-30. The authors have compiled a list of articles that either criticize or defend the consumer expectations test.

116. W. Page Keeton, *Products Liability—Design Hazards and the Meaning of Defect*, 10 CUMB. L. REV. 293, 310 (1979).

117. See *infra* text at notes 281-313.

The second deficiency in Schwartz's criticism of the consumer-expectations test is his statement that it "allow[s] juries to compensate plaintiffs when no basis for legal liability exists."¹¹⁸ He cites no cases to support his statement, and it is unclear what he means by it. He adds, also without authority, that the test "permits juries to hold manufacturers liable when other bases for liability are absent and the jury wants to compensate the plaintiff."¹¹⁹ If no legal basis for liability exists, the court should grant a motion for a directed verdict or a motion for a judgment n.o.v.

The third deficiency in Schwartz's criticism of the consumer-expectations test is its inconsistency with the workings of his own liability system. The results he describes in the illustrations of his proposal implicitly rely on the consumer-expectations test through a misconceived application of the assumption of risk defense.¹²⁰ Schwartz's own implicit use of the test may indicate that its use is difficult to avoid in any strict liability context.

2. THE RISK-BENEFIT TEST

Professor Schwartz notes that under the risk-benefit test, "a design is defective only if it generates risks exceeding its benefits."¹²¹ He asserts that the risk-benefit test is workable when applied to items such as kitchen knives, but is unworkable in harder cases.¹²² The jury's role in applying the risk-benefit test is "to ask whether the firm chose the design that maximized social welfare."¹²³ He states:

The risk/benefit test is too difficult to apply because the benefit . . . is impossible for either firms or juries to ascertain. The benefits that particular designs would yield are experienced, in considerable part, as subjective mental states. These benefits vary across persons: Some people feel happiest with fast, light, inexpensive cars; others feel happiest with slow, heavy, more expensive but safer cars. Such mental states cannot be measured directly and translated into the dollar values the risk/benefit test requires.¹²⁴

Schwartz presents a complicated method of performing risk-benefit analysis that does not require measuring mental states. His method involves constructing risk-adjusted supply and demand curves and the associated Marshallian consumer surplus for all tech-

118. Schwartz, *supra* note 6, at 385.

119. *Id.*

120. See *infra* notes 225-28 and accompanying text.

121. Schwartz, *supra* note 6, at 386.

122. *Id.*

123. *Id.*

124. *Id.* at 386-87.

nologically feasible alternative product designs.¹²⁵ Schwartz soundly concludes that this type of risk-benefit analysis is beyond the ability of either firms or juries to apply.¹²⁶

Few would quarrel with Schwartz's point that the risk-benefit test is difficult to apply in many products liability cases. Moreover, to function optimally as a deterrent, the risk-benefit test requires perfect foresight.¹²⁷ Schwartz's total rejection of the risk-benefit test, however, is unwarranted. Courts can use the risk-benefit test effectively when accident and safety costs are relatively clear.¹²⁸ In addition, the risk-benefit test may be the best available in many situations, despite its shortcomings.¹²⁹ Finally, just as Schwartz rejects the consumer-expectations test but implicitly uses it in his strict liability scheme, he rejects the risk-benefit test but uses it in his proposed liability system.¹³⁰

The greatest deficiency in Schwartz's approach to the risk-benefit test, however, is his dismissal of a jury's ability to assess benefits because they involve subjective mental states immeasurable in dollar values. It neither is, nor should be, the jury's role to translate risks and benefits into dollar values. Such a role for the jury is unnecessary to achieve efficiency goals under tort liability rules. As Schwartz recognizes in his discussion of contributory negligence (yet ignores in his discussion of the risk-benefit test), the factors a jury considers in weighing benefits do not involve a measure of happiness. Nor does a jury necessarily assign dollar values when calculating an unreasonable risk.¹³¹ The risks and benefits that products pose to consumers involve non-monetary, as well as monetary, values. Tort law appropriately labels the values considered in determining risks and benefits as *social* values.¹³² Social, not monetary, values enter the equation a jury uses to calculate an unreasonable risk.

Thus, a jury likely would place a low social value on the happiness a teenager may derive from driving at 80 m.p.h. along a public highway, while placing a high social value on the pleasure a racecar driver derives from the legitimate sport of racing. A jury probably

125. *Id.* at 387-88.

126. *Id.* at 388.

127. Calabresi & Hirschhoff, *supra* note 29, at 1059.

128. See Calabresi & Klevorick, *supra* note 4.

129. See *infra* Part IV.

130. See *infra* text accompanying notes 213-14.

131. Schwartz, *supra* note 6, at 395.

132. The *Restatement (Second) of Torts* defines the risk-utility factors relevant in determining whether a risk is unreasonable:

Section 292. Factors Considered in Determining Utility of Actor's Conduct

In determining what the law regards as the utility of the actor's conduct for

also would recognize that convertibles, which pose a recognizable risk to their occupants, have socially acceptable utility to many people, just as light-weight, inexpensive cars have great utility in making low-cost transportation available. Likewise, in assessing risks, jurors probably would understand intuitively, at least, that creating a risk of severe bodily injury has a low social value in most cases. They would realize that the utility of a non-injured state is much greater than that of an injured state, because the non-injured state cannot be restored. Part of the social-value calculus rests upon consumer preference for deterring personal injuries, precisely because those injuries cannot be redressed in dollar amounts.¹³³ In many situations, juries are capable of assessing risks and benefits in a way that minimizes total accident costs.¹³⁴

the purpose of determining whether the actor is negligent, the following factors are important:

- (a) *the social value* which the law attaches to the interest which is to be advanced or protected by the conduct;
- (b) the extent of the chance that this interest will be advanced or protected by the particular course of conduct;
- (c) the extent of the chance that such interest can be adequately advanced or protected by another and less dangerous course of conduct.

Section 293. Factors Considered in Determining Magnitude of Risk

In determining the magnitude of the risk for the purpose of determining whether the actor is negligent, the following factors are important:

- (a) *the social value* which the law attaches to the interests which are imperiled;
- (b) the extent of the chance that the actor's conduct will cause an invasion of any interest of the other or of one of a class of which the other is a member;
- (c) the extent of the harm likely to be caused to the interests imperiled;
- (d) the number of persons whose interests are likely to be invaded if the risk takes effect in harm.

RESTATEMENT (SECOND) OF TORTS §§ 292-293 (1965) (emphasis added).

133. See *supra* text accompanying notes 91-94.

134. Deciding on the standard of due care [under the negligence concept of unreasonable risk] often requires some sort of weighing of the magnitude of risk against the disutility or cost of more careful conduct.

. . . [T]he level of due care that minimizes total accident costs implicitly involves just such a weighing of risk against the cost of care. This suggests that due care is in fact found by a process that operates *as if* it were designed to identify behavior that minimizes total accident costs.

I hasten to say that the words *as if* are stressed because the claim is hardly made that individuals or courts think in terms of the mathematical goal of minimizing a sum. They obviously do not do anything so unnatural. Rather, they appear to gauge the appropriateness of behavior by a rough consideration of risk and the costs of reducing it, ordinarily on the basis of felt notions of fairness. Likewise, the *as if* interpretation carries with it no specific implications about the degree to which individuals or courts concern themselves about goals of deterrence, although both sometimes appear to be concerned about deterrence.

With these caveats in mind, observe that the *as if* interpretation is borne out not only by the mere fact that there is a weighing involved in the negligence

Schwartz's contention that an assessment of benefits requires a measurement of mental states apparently assumes that risk-benefit analysis should serve the utilitarian goal of maximizing happiness.¹³⁵ The risk-benefit test, however, need not serve utilitarian goals to be useful in a tort system that strives to achieve optimal reduction of accident costs. As discussed in Part IV,¹³⁶ scholarly commentary has justified a cheapest-cost-avoider system as a means of promoting aggregate autonomy.¹³⁷ So justified, a risk-benefit analysis should assess benefits in terms of social utility. Accepted moral values are legitimate considerations in a system designed to promote aggregate autonomy.¹³⁸ Moreover, Schwartz's notion that an assessment of risks and benefits requires the measurement of mental states overlooks the role of tort law, and the judicial system as a whole, as part of a political system. As both courts and juries set policy, they do, and should, make judgments about social values.

3. THE REGULATORY-COMPLIANCE TEST

Schwartz rejects the current regulatory-compliance rules as a

determination, but also by a consideration of the character of the weighing. First, the elements that courts take into account in finding due care and the effect of the elements on the due care level are what we would expect were courts' aim to minimize total accident costs: the level of due care is generally higher the greater the likelihood of harm, the larger the probable size of harm, the greater the number of individuals at risk, and the easier it is for injurers to alleviate risk. Second, the choice of due care levels probably reflects the possibilities for both injurers and victims to reduce accident risks, as is consistent with the bilateral model of accidents. Consider, for instance, accidents in which bicyclists run into car doors as the doors are opened. My surmise is that most of us would say that bicyclists should not have to proceed so slowly that were a car door to open suddenly, they could virtually always stop in time, and that before persons open car doors to leave, they should look around to see if anyone is approaching. I suggest too that in coming to this view most of us would have at the back of our minds—if not in our conscious thoughts—such ideas as that it would be a burden for bicyclists to have to go so slowly that they could stop immediately before running into car doors, that it is relatively easy for persons leaving cars to look for danger, and that it is not necessary for bicyclists to go very slowly if persons are properly cautious when leaving their cars. In other words, when deciding on the care that parties of one type ought to exercise, we quite naturally factor into our thinking the ability of parties of the other type to take care and what their taking care would accomplish.

SHAVELL, *supra* note 79, at 19-20 (footnotes omitted).

135. See, e.g., Attanasio, *The Principle of Aggregate Autonomy and the Calabresian Approach to Products Liability*, 74 VA. L. REV. 677, 723 (1988) (stating that utilitarianism "strives to increase happiness in the society as a whole.").

136. See *infra* text accompanying notes 317-45.

137. See Attanasio, *supra* note 135.

138. *Id.* at 692-93.

standard of liability in design defect cases. He sets forth two features of the regulatory compliance test:

First . . . a firm whose product fails to satisfy a regulatory [or statutory] standard (a "regulation") is negligent per se. Second . . . a firm whose product complies with a regulation is not thereby exculpated; rather, compliance is just evidence relevant to the question whether the product is defective. A jury remains free to find the product defective on the ground that it failed another test.¹³⁹

Schwartz's description of the regulatory-compliance test oversimplifies it. A firm that violates a statute or regulation is not always negligent per se. In many jurisdictions, violation of a statute is only evidence of negligence,¹⁴⁰ and in most jurisdictions, violation of an administrative regulation is mere evidence of negligence, not negligence per se.¹⁴¹ In jurisdictions using a rule of negligence per se, the court adopts a statute or regulation as the standard of care only if it determines that the legislature intended for the statute to protect a class of persons that includes the plaintiff and to safeguard against the kind of harm that resulted and the hazard that produced the harm.¹⁴² Even if a statute or regulation meets these conditions, a defendant can excuse its violation of the statute or regulation by proving reasonable care to comply, unless the court construes the statute or regulation to preclude an excuse.¹⁴³

Schwartz argues that the regulatory-compliance test is deficient because it fails to exculpate a firm from tort liability when its product complies with a regulatory standard. His bases for this argument are: (1) "[a]gencies are better than courts and juries at devising regulations,"¹⁴⁴ and (2) "[l]etting juries review regulations creates considerable uncertainty for firms."¹⁴⁵ He maintains that allowing firms a defense against liability when their product designs meet regulatory standards is more efficient than the current regulatory-compliance rule.

139. Schwartz, *supra* note 6, at 388-89 (footnote omitted).

140. See PROSSER AND KEETON, *supra* note 90, § 36, at 229-31; George R. Heaton et al., *The Uses of Regulatory Evidence in Tort Actions: Automobiles, Consumer Products, and Occupational Safety and Health*, 4 J. PROD. LIAB. 231, 253 (1981).

141. Heaton, *supra* note 140, at 244. See, e.g., *MacDonald v. Ortho Pharmaceutical Corp.*, 475 N.E.2d 65, 70-71 (Mass. 1985) ("[C]ompliance with FDA requirements, though admissible to demonstrate lack of negligence, is not conclusive on this issue, just as violation of FDA requirements is evidence, but not conclusive evidence, of negligence.").

142. RESTATEMENT (SECOND) OF TORTS § 286 (1965).

143. *Id.* § 288A.

144. Schwartz, *supra* note 6, at 389.

145. *Id.*

Schwartz correctly asserts that firms face uncertainty in predicting whether juries will find a product design deficient, despite the design's compliance with regulations. Yet whether uncertainty about expected liability costs is a sufficient reason to exculpate firms that comply with applicable regulations remains doubtful. Part IV addresses that issue. This Part examines the expertise of agencies and litigants, comparing the efficiency of current regulatory-compliance rules with the efficiency of Schwartz's approach.

The traditional common law rule that makes compliance with regulatory standards only evidence of reasonable care evolved from a "distrust of the quality of government regulation."¹⁴⁶ Schwartz's assertion that agencies are better than courts and juries in devising safety standards is not supported by the justifications he offers to support his position. Schwartz would not relieve firms that comply with technologically outdated regulations from liability.¹⁴⁷ With this exception, he maintains that courts should defer to safety standards set by regulators "because agencies often have more expertise" and "because there are economies of scale to regulation."¹⁴⁸

To bolster his assertion that regulators have greater expertise than courts and juries, Schwartz correctly points out that the parties and their attorneys in design defects litigation must develop the needed expertise. But his assertion that agency expertise exceeds the expertise of the parties and their attorneys is not supported by citation to authority, logic, or factual reality. Schwartz's conclusion is deficient for two reasons: first, he overrates the expertise of regulators; and second, he underrates the expertise of litigants.

a. Agency Expertise

Schwartz argues that agencies are superior to courts and juries at devising regulations because agencies have greater expertise. Nothing intrinsic in the nature of government supports the conclusion that regulatory agencies have expertise superior to litigants on safety issues. In fact, those who appoint regulators often give greater weight to candidates' political qualifications than to their expertise in the agency's business.¹⁴⁹ A *Congressional Quarterly* report on the regula-

146. Aaron D. Twerski, *Rebuilding the Citadel—The Legislative Assault on the Common Law*, 15 TRIAL 55, 59 (Nov. 1979).

147. Schwartz, *supra* note 6, at 389 n.72.

148. *Id.* at 389.

149. Groton observed:

[F]ew people will be nominated who are not politically acceptable to the White House, and in some cases, politics and patronage may be the prime determinant in a person's selection. Powerful connections in the right high places often make

tory process observes that "[t]he quality of regulatory commissioners has been at issue for many decades."¹⁵⁰ The report also notes that "[t]he selection process has taken much of the blame for the lack of qualified regulators in government service. Critics say it is haphazard and too often governed by factors other than a candidate's professional qualifications."¹⁵¹ In his book on the Consumer Product Safety Commission, Professor Viscusi observes:

Political considerations may . . . influence the effectiveness of a commission. Because policies will be governed by the commission chairman and the majority on any decision, there is less incentive to exercise care in each appointment than if a single administrator were being selected. As a consequence, commissions tend to include some of the less able political appointees, particularly commissions, such as the CPSC, that do not play a dominant role in regulation.¹⁵²

Schwartz's presumption of regulator expertise also fails to recognize that setting regulatory standards is not a scientific process. An agency's factfinding process may be less exacting than the factfinding process produced by litigation.¹⁵³ The methods used and the

a difference in the selection process. The authors of a report released in 1976 that studied appointees to the FTC and the FCC wrote that "many selections can be explained in terms of powerful political connections and little else."

CONGRESSIONAL QUARTERLY INC., REGULATION: PROCESS AND POLITICS 36 (M. Gottron ed., 1982). Aside from acceptability to the White House, congressional sponsorship may be "an important, if not the predominant, factor in the selection process." *Id.* In an effort to avoid a confirmation fight, the President and his advisors often will seek the approval of affected industries, of senators from the same state as the nominee, and of key senators on the committee with jurisdiction over the nomination. *Id.* at 36-37.

150. *Id.* at 38. For a discussion of the quality of regulators, see *id.* at 38-41.

151. *Id.* at 40.

152. W. KIP VISCUSI, REGULATING CONSUMER PRODUCT SAFETY 39 (1984).

153. In a recent article, Joan Claybrook, the former administrator of the National Highway Traffic Safety Administration, urged attorneys to provide information about defective products to the public and to governmental agencies. She stated:

As a former regulator, I know that the facts trial lawyers collect on a product defect are usually far superior to those a government agency collects for an investigation. This is true for a number of reasons. Government agencies rarely use subpoenas—the type of official command that companies respond to with accuracy. At the urging of the recipient company and to expedite the response, many government requests for information are informal. Also, written government requests for information are usually prepared by scientists, engineers, or investigators, not lawyers, and thus contain unintended loopholes. Although it is a criminal violation to lie to the government, corporate lawyers are trained to obfuscate and to avoid supplying critical, incriminating information.

Further, because government agencies are authoritative decision makers, they can rely on their own data and analyses. By contrast, trial lawyers as advocates must persuade judges and juries with admissible facts. Thus, trial lawyers seek out every scrap of information to make the case, uncovering critical facts by lengthy discovery motions, detailed personal review of corporate

rulemaking standards followed vary from one agency to another, and from one administration to another.¹⁵⁴ Agencies must make difficult estimates to determine whether a product poses greater dangers than its alternatives might create.¹⁵⁵ As the recent controversy over the use of cost-benefit analysis in the regulatory process demonstrates, no consensus exists on what considerations agencies should take into account in setting standards.¹⁵⁶ The varying positions taken by the Department of Transportation on the passive restraint issue, under three administrations, exemplify the difficulties agencies encounter in setting safety standards.¹⁵⁷

If expertise denotes the attainment of a generally accepted level of competence in the process, it is fair to say that no such thing as "expertise" exists in devising regulatory safety standards. The process of devising regulatory standards involves setting policy. It thus is a political, not a scientific, process.¹⁵⁸ As such, the regulatory process

documents, depositions (rarely used in government investigations), and eventually cross-examination at trial.

Often, the facts gleaned by trial lawyers are unknown to the regulatory agency. But, if known, these facts could result in a recall, a labeling requirement, or a safety standard. For all these reasons, trial lawyers are obliged to share their work product with the relevant state or federal government agency. The information will have a far greater impact if a lawyer informs the media as well.

Joan Claybrook, *Products Liability—Going Public About Defective Products*, 25 TRIAL 34, 34-35 (Nov. 1989).

154. Samuel P. Hays, *Political Choice in Regulatory Administration*, in REGULATION IN PERSPECTIVE—HISTORICAL ESSAYS 1, 2-5 (Thomas K. McCraw ed., 1981).

155. The increased use of less flammable fabrics in sofas reduces the risk of death for smokers by decreasing the chance of a fire but may increase the risk to nonsmokers since any fire that does occur will produce more highly toxic gases. Safety caps may raise the risk of poisonings if parents leave the caps off the bottles because they are too difficult to remove or if the caps lead parents to be lax about their children's exposure to hazardous products.

VISCUSI, *supra* note 152, at 111.

156. See Hays, *supra* note 154, at 25-27; see also VISCUSI, *supra* note 152, at 43-47 (criticizing the Consumer Product Safety Commission's explicit disavowal of the accuracy of cost-benefit analysis.). Viscusi states, in part:

[T]ypically there is no explicit benefit-cost or cost-effectiveness calculation but simply a partial description of some relevant effects. These shortcomings reflect not inadequacies in the analyses by the CPSC economics staff but rather a failure of the CPSC commissioners to give economic analysis more prominence. The economic analysis is only a small component of the briefing package used by the commissioners in making their decisions. In contrast, the regulatory analyses now undertaken by executive branch agencies are much more comprehensive, in large part because those agencies are subject to formal scrutiny by the OMB.

Id. at 44.

157. For a description of the varying orders issued by the United States Department of Transportation through the Ford, Carter, and Reagan administrations on passive restraint systems in automobiles, see Hays *supra* note 154, at 131-32.

158. In an essay on politics and regulatory administration, Hays explains:

is subject to the further criticism that a large percentage of agency activity is unaccountable to elected political leadership.¹⁵⁹ Therefore, it is difficult to attribute rationality to the regulatory process, under either a scientific or political label. Moreover, many students of the regulatory process perceive the issue of acceptable risks as cultural, rather than economic or scientific.¹⁶⁰

Schwartz correctly discovers no basis for assuming that all regu-

[A]dministrative choices are themselves fundamental political choices and must be recognized as a major realm of political give and take.

It is often difficult to accept regulation as a central realm of political option and choice. We are still heavily influenced by the inherited formalism of the past concerning the separation of powers: the legislature makes the laws, the administrative branch executes them, and the courts interpret them. Each has a distinct function; together they constitute an interacting and complementary system of government. Looked at in a different way, the separation of powers involves three arenas of political choice, and hence of political combat. Once the choice is made, the political forces at play in legislation transfer their action to the next stage—the administrative agency—and seek to recoup, defend, or extend what they lost or gained in the legislature. Action does not end there, and soon the same constellation of forces forms around litigation and court decision. The legislature, the administrative agency, the courts are merely different settings in which political controversy and choice are ordered. Much of the drama of our political system arises from the way in which each of these institutions remains open to making its own distinctive contribution to resolving political controversies.

Hays, *supra* note 154, at 125; see also David Vogel, *The "New" Social Regulation in Historical and Comparative Perspective*, REGULATION IN PERSPECTIVE—HISTORICAL ESSAYS 155-85 (Thomas K. McCraw ed., 1981) (examining the political influences upon regulation and business-government relations in three major 20th century eras). Another author states:

The real purpose of government regulation is not to correct the deficiencies of markets but to transcend markets altogether—which is to say, government regulation is not economic policy but social policy. It is an effort to advance a conception of the public interest apart from, and often opposed to, the outcomes of the marketplace and, indeed, the entire idea of a market economy.

Paul H. Weaver, *Regulation, Social Policy, and Class Conflict*, 50 PUB. INTEREST 45, 56 (1978).

159. Howard Ball, *Introduction*, FEDERAL ADMINISTRATIVE AGENCIES—ESSAYS ON POWER AND POLITICS 1, 2 (Howard Ball ed., 1984); see also VISCUSI, *supra* note 152, at 39 (commenting on the Consumer Product Safety Commission's lack of accountability.).

160. Maxey describes the cultural issues of the regulatory process:

We cannot understand our situation if we cling to the view that real knowledge of an external world should be allocated to experts in the physical sciences, while illusions or mistaken perceptions pertain to the realm of personal psychology. Given this faulty division, dangers are assumed to be inherent in a physical situation, and the risks they pose are objectively ascertainable by experts. When perceptions or attitudes toward risk among non-experts appear to be out of conformity with "actual risks," it is assumed that the gap ought to be closed in only one direction—toward the opinion of experts. . . . According to this view, subjective personality traits presumably account for a bias toward risk as a whole: An individual is either a risk-taker or a risk-avoider. Unfortunately, a subjectivist account cannot explain two critical problems: Why is it that

latory agencies are "captured" by the firms they regulate.¹⁶¹ Noting

experts disagree? Why does one and the same individual fear environmental dangers to the exclusion of others which are more immediately life-threatening?

A subjectivist and individualistic account of risk perception will not answer these questions. We need a cultural approach as proposed by Douglas and Wildavsky in *Risk and Culture*. A cultural approach begins with a simple question: On what basis do people decide that certain risks are worth taking, while others should be relegated to secondary consideration? In view of statistics dramatizing the premature loss of life from fire, why are alleged cancer-causing agents such as asbestos or tris (sic) judged more fearsome than fire which both substances were developed to prevent? If indeed the prevention of cancer in all its forms is of paramount concern, why is public concern not mobilized to prevent leisure-time sunbathing which induces skin cancer? Is our primary moral concern to prevent the most people from suffering a premature mortality or debilitating morbidity? Then should not public concern about starvation in third world countries take moral precedence over the fate of the snail darter or the Furbish lousewort or the El Segundo Blue butterfly? Neither a subjectivist approach nor a moral calculus can do justice to these questions.

Douglas and Wildavsky maintain that only a cultural theory of risk selection as a product of cultural bias and social criticism can account for the anomalies we encounter in Western industrialized economies. Only a cultural approach can integrate moral judgments about how to live with empirical judgments about what the world is like. A cultural theory of risk selection is wholistic [sic]: the social environment, the perceiving subject, and risk selection principles are integrated in one system. The risks we choose to control or mitigate, individually and collectively, are integral to the choices we make with respect to the best way to organize social relations, to protect shared values, and to devise institutional mechanisms for formulating public policy.

In the current risk versus safety debate, each side accuses the other of serving the vested interests of preferred social institutions. Whether the arguments originate from the "industrial establishment" or the "danger establishment," each side accuses the other of irrational bias, of misperceptions of real risks, of subversion of the public interest. Given this impasse, Douglas and Wildavsky observe that it would be a serious error to treat questions about "acceptable risk" as if they could be answered by calculation [sic] the actual versus perceived probability of danger (risk) "out there" resulting from man's interaction with nature, in contrast to determining what level of uncertainty is acceptable "in here" within the rational person's mind. From the perspective of cultural analysis, the primary task is not one of devising a philosophy of risk based on technical estimations of how nature and technology may (or may not) interact to produce latent risks of contamination to ecosystems or endangered species, including man. The problem for cultural analysis is, first and foremost, to learn how to recognize cultural bias toward preferred forms of social organization as a precondition for recognizing risk selection as the instrument for inducing wanted and rejecting unwanted forms of social organization. There can be no reconciliation of disagreements about levels of "acceptable risk" until there is clear recognition that differing political agendas for changing present social institutions and policies underlie the selection of physical risks for public concern and governmental control.

Margaret N. Maxey, *Introduction*, REGULATORY REFORM—NEW VISION OR OLD CURSE? 1, 2-4 (Margaret N. Maxey & Robert L. Kuhn eds., 1985) (footnotes omitted).

161. Schwartz, *supra* note 6, at 391 n.75.

political economists' analyses of the demand and supply side of the "market for regulation," Schwartz states:

On the demand side, groups with low coalition costs and a comparative advantage at solving free rider problems have an above average ability to secure laws that benefit themselves at the expense of other groups. Producer groups sometimes have these characteristics, but other groups do also. For example, consumer, labor, and environmental groups have had considerable success in influencing health and safety regulation. The success suggests that some regulations will be influenced by capture by producer groups, but other regulations will not. It is questionable whether courts or juries could identify "captured" regulations accurately on a case-by-case basis.

When supply side considerations are added, the possibility of identifying regulations tainted by capture becomes even more remote. The supply side literature asks when legal institutions will "supply" laws that are in the interest of particular groups. This turns out to be a complex question. Agencies are recognized to have "competing principals," such as oversight committees in legislative bodies, legislatures themselves, and various parts of the executive branch. Agency outputs are the result of a complex "game" between agencies, these principals, and the nongovernmental interests demanding or opposing regulation. Political theorists do not claim to be able to predict the outcomes of such games with great accuracy. Courts are unlikely to do better. Thus, the effective choice for courts is to presume that capture always happens or that it never does. To make the latter choice is to hold that the possibility of capture is irrelevant to the choice of common law rules. This is the better result because courts should have a presumption in favor of the legitimacy of the actions of coordinate branches of government. Hence, it appears best to adopt the rule that noncompliance with regulations is per se negligence and compliance per se exculpatory.¹⁶²

Schwartz's conclusion that courts should defer to regulatory agencies does not follow from his point that capture does not occur in all, or even most, instances.¹⁶³ Instead, his recognition that many political forces influence agency actions should lead to the conclusion that the regulatory process is not well designed to set safety standards at a level adequate for resolving tort cases.¹⁶⁴ The numerous forces that

162. *Id.* at 391 n.75 (citation omitted).

163. See, e.g., James Q. Wilson, *The Origins of Regulation*, in *FEDERAL ADMINISTRATIVE AGENCIES—ESSAYS ON POWER AND POLITICS* 124 (Howard Ball ed., 1984).

164. See, e.g., *Gryc v. Dayton-Hudson Corp.*, 297 N.W.2d 727, 734 (Minn. 1980), (stating that industry influence led to development of the flammability test adopted in the Flammable Fabrics Act of 1953), *cert. denied*, 449 U.S. 921 (1980). Plaintiffs' attorneys frequently

influence agency action¹⁶⁵ may cause agency standards to be set

established the invalidity of the flammability test by demonstrating in court that pajamas constructed of newsprint burned only slightly faster than the fabric that burned and injured the plaintiff. *See id.* at 730; *Howard v. McCrory Corp.*, 601 F.2d 133 (4th Cir. 1979).

165. The forces that influence regulatory policies are not all political. Wilson identifies other important forces such as the motives of agency personnel, changes in the technology and economics of industry, and generational changes in ideas. Wilson, *supra* note 163. Wilson discusses the generational changes in ideas:

A student in college or law school in the 1930s and 1940s would probably have been taught that government regulation of entry into and the prices charged by an industry was desirable and that the commission form of regulation was optimal. James Landis's book on regulation was a root-and-branch defense of the desirability and feasibility of applying neutral administrative expertise to the management of economic enterprise.

By contrast, in the 1960s, college and law school students were exposed to books and articles written by people disillusioned with the regulatory commission, though not with the idea of regulation. Scarcely any student majoring in political science could have avoided hearing that regulatory agencies were "captured" by industry and that commissions went through a "life cycle" that led inevitably to senility or dependence. A bright student would also have heard economists say that regulation of entry and rates, as practiced by the ICC and the CAB, imposed costs on the consumer by keeping prices at above-market levels. At the same time, they would learn from each other, if not from their professors, that the environment was being degraded and the consumer "ripped off." These students would later enter government service carrying with them the political residue of these intellectual arguments: agencies should be reorganized to prevent their capture, regulation of entry and rates is of questionable value, and regulating the nature and quality of the product and the conditions of the work place will produce substantial benefits.

....
In short, the political environment of the regulatory agencies changed significantly in a short time. These changes had many sources, but one common characteristic: they reveal the extent to which intellectual descriptions (and criticisms) of institutional arrangements come to have practical consequences. Any generalization about how government works is vulnerable to the behavior of persons who have learned that generalization and wish to repeal it.

Id. at 138-39. For a discussion of other forces that affect administrative decisions, including "the internal setting of administrative choice, the institutional web of that choice, and the larger ideological context," see Hays, *supra* note 154, at 127-132.

too low or too high,¹⁶⁶ and frequently make the process very slow.¹⁶⁷ Thus the problem with requiring courts to defer to regulatory agencies is not that regulated firms "capture" agencies, but rather that politics encumber the regulatory process. The political nature of regulation logically supports the current general rule that both violation of and compliance with regulations constitute only evidence of negligence.

Schwartz also argues that courts should presume "the legitimacy of the actions of coordinate branches of government."¹⁶⁸ In defending his position that courts should defer to the expertise of administrative agencies, he states:

[A]n appellate court would review an agency's regulation under the substantial evidence test, on the ground of agency superiority over courts in devising regulations, while lay juries in design defect cases review agency output de novo. This contradicts the received wisdom respecting the appropriate roles of courts and agencies in regulation.¹⁶⁹

Received wisdom recognizes that appellate courts should play a limited role in reviewing agency actions because agencies are better suited to develop substantive policy.¹⁷⁰ The question is whether courts or juries breach this accepted principle of administrative law

166. See W. Kip Viscusi, *Toward a Diminished Role for Tort Liability: Social Insurance, Government Regulation, and Contemporary Risks to Health and Safety*, 6 YALE J. REG. 65, 88-91 (1989) (reporting studies of agencies' cost effectiveness). Viscusi stated that "if efficient control of risks is the sole objective of a risk-management system, then regulations are far too stringent in many cases." *Id.* at 89. Viscusi suggests that society can resolve the problems in regulation more easily than the problems in tort law. *Id.* at 93. He considers tort law problematic because "tort damages underestimate the true cost of risky activity, which causes inefficient risk-reduction incentives." *Id.* at 85.

Viscusi comments on the use of regulations to establish the standard of tort liability:

At least when regulations are highly pertinent to the hazard in question, compliance alone should suffice to remove liability.

Although regulatory compliance can make a significant contribution, it is not the fundamental issue. It serves as an imperfect proxy for whether risk levels are efficient. Before adopting regulatory compliance as a defense, society should be certain that regulations are set at efficient levels. Fortunately, regulation as an institution is flexible enough to allow the necessary adjustments.

Id. at 103. Viscusi's optimism about improving the regulatory process is questionable because improving regulation requires surmounting its political character and the many forces that influence it. See *supra* notes 158, 165.

167. For a criticism of standards set by the Consumer Product Safety Commission, see VISCUSI, *supra* note 166, at 88-104. For a discussion of the delay associated with administrative action, see Richard P. Barke, *Regulatory Delay as Political Strategy*, in *FEDERAL ADMINISTRATIVE AGENCIES—ESSAYS ON POWER AND POLITICS* 144 (Howard Ball ed., 1984).

168. Schwartz, *supra* note 6, at 392 n.75.

169. *Id.* at 389-90.

170. See, e.g., Donald L. Horowitz, *The Courts as Guardians of the Public Interest*, in

when they impose tort liability on firms whose product designs comply with administrative regulations. They do not. Courts should not usurp authority delegated by Congress to an administrative agency. Courts do not usurp agency authority, however, when they place tort liability upon a firm whose product complies with regulatory standards, because absent statutory preemption, the agency has no authority over tort liability. Legislation sometimes preempts tort liability for design defect, but in many instances there is no express preemption, or the legislation expressly provides that compliance with regulatory standards does not exempt a firm from tort liability.¹⁷¹ In effect, Congress has determined that the regulatory process is not as well suited as the judicial process to set adequate levels of safety for purposes of tort actions. Congress is in a good position to decide whether the administrative process is structured and financed adequately to set reliable safety standards to govern loss allocation in cases of injury. Moreover, it is reasonable for Congress to allow the litigation process to allocate tort losses, even though it does not allow the appellate process to interfere with the substantive policymaking of agencies. The litigation process is designed to resolve factual disputes; the appellate process is not.

b. Litigant Expertise

Schwartz's second justification for his assertion that agencies are better than courts and juries at devising regulations is that parties in products liability litigation lack expertise. Under Schwartz's argument, litigants cannot develop the expertise that agencies can because litigants do not enjoy the economies of scale present in agency regulation. He contends that the larger budgets of administrative agencies allow them to develop fuller records for evaluating product designs than litigants can produce. Schwartz believes that litigants determine the resource level they will devote to design evaluation "by comparing the expected gain . . . from discovering more information—the increased likelihood of winning the suit—with the expected investiga-

FEDERAL ADMINISTRATIVE AGENCIES—ESSAYS ON POWER AND POLITICS 250 (Howard Ball ed., 1984).

171. See, e.g., *Sours v. Gen. Motors Corp.*, 717 F.2d 1511, 1517 (6th Cir. 1983) ("[T]he very federal safety statute upon which GM relies makes it abundantly clear that compliance with the regulations promulgated thereunder does not immunize a manufacturer from common law liability.") (citing 15 U.S.C. § 1397(c) (1976)); see also 15 U.S.C. § 2072(c) (1988) ("The remedies provided for in [the Consumer Product Safety Act] shall be in addition to and not in lieu of any other remedies provided by common law or under Federal or State law."). On preemption generally, see MARSHALL SHAPO, *THE LAW OF PRODUCTS LIABILITY* 11.03[6] (1987).

tion cost."¹⁷² He further states:

If the technical and economic questions at issue are complex, private litigants will provide relatively little information unless the amount at stake is quite high. In contrast, for an agency, in theory anyway, the expected gain from discovering further information is a function of the benefits that better regulation will confer on all potentially affected persons. As this gain commonly exceeds the gain to any private litigant, an agency rationally would spend more than the litigant in investigating a particular design, were both to face the same budget constraint.¹⁷³

The problem with Schwartz's view of litigants' expertise is his assumption that litigants start with zero knowledge about a product's design and that the cost of developing information is high. These assumptions do not apply, however, to defendants, who generally have great expertise on the design of their own products. Moreover, in some cases, non-party manufacturers with an interest in protecting the products involved provide the defendant with expert assistance.¹⁷⁴ Nor do Schwartz's assumptions apply to plaintiffs. Schwartz overlooks individual firms' and attorneys' high level of expertise on particular products or product lines.¹⁷⁵ Schwartz also disregards the numerous ways in which members of the plaintiffs' bar cooperate to

172. Schwartz, *supra* note 6, at 389.

173. *Id.*

174. See, e.g., Carol Haas, *Is this Office a Law Firm—Or Is It a Drug Store?*, NAT'L L.J., July 10, 1989, at 8 (noting that in an action against a pharmaceutical or chemical company, "[n]ot only is the plaintiff fighting the defendant drug company, but other manufacturers interested in protecting that product"). The defense bar also receives assistance from the Defense Research Institute, which regularly publishes materials on products liability defense and has formed specialized litigation groups concerned with particular products. See *Product Liability Meeting to Feature Industry Litigation Groups*, FOR THE DEFENSE, Nov. 1991, at cq3. The Institute also offers litigation support services such as an expert witness index and a brief bank. See *id.* at 19.

175. Robins, Kaplan, Miller & Ciresi, of Minneapolis, for example, has represented more than 150 women in actions involving the Copper-7 intrauterine device against G.D. Searle & Co.. *G.D. Searle Settles IUD Case One Day Before Closing Arguments*, 17 Prod. Safety & Liab. Rep. (BNA) No. 15, at 334 (Apr. 14, 1989). In June 1989, the parties announced a tentative settlement in all these cases. *Manufacturer, Plaintiffs' Law Firm Reach Tentative Settlement of 133 Cases*, 17 Prod. Safety & Liab. Rep. (BNA) No. 25, at 613 (June 23, 1989). The report of the tentative settlement stated:

Outside of the settlement, Ciresi said, the Robins firm is providing all of the information it obtained through the discovery process in [its] cases to all Copper-7 plaintiffs throughout the country. The only cost to interested parties, Ciresi said, is the cost of copying the materials. He said Robins was providing the materials from its research free of charge because smaller law firms may sometimes have difficulty in obtaining such information because of the expense.

Id. at 614; see also Haas, *supra* note 174. Haas notes that each attorney is a licensed pharmacist in the Atlanta firm of Simmons & Toliver, a firm specializing in pharmaceutical malpractice and products liability cases. The article states:

reduce information costs. The Association of Trial Lawyers of America ("ATLA"), for example, provides a research and information service, the ATLA Exchange, a repository of data on thousands of cases tried by ATLA members.¹⁷⁶ In addition, ATLA offers an

One problem with suing the large pharmaceutical companies is that Mr. Simmons' firm can't crow when they work out a large settlement. In 25 percent to 30 percent of all cases he says his firm settles before trial, a gag order is entered and the name of the physician or pharmaceutical company may not be divulged.

Nevertheless, Mr. Simmons says that the firm's reputation as specialists in pharmaceutical malpractice and products liability cases is growing fast and brings referrals from other firms.

Not only does a pharmaceutical background bring in the clients, but the firm's expertise brings cases to trial more efficiently and cheaply, he claims: "The people with the resources are the defense firms because they have a \$100 million dollars to play with. We make up for lack of resources by providing our own expertise."

Id.

The 42-lawyer firm of Ness, Motley, Loadholt, Richardson & Pool, of Barnwell, South Carolina, has 12,000 active asbestos cases. Karen Dillon, *Only \$1.5 Million a Year*, AM. LAW., Oct. 1989, at 38, 38-40. Partner Ronald Motley developed "an unusual split-the-work, split-the-fee arrangement" with local counsel, in order to handle all the asbestos cases Motley was bringing to the firm. *Id.* at 41. Dillon's article explains:

Beyond the fee split, Motley was able to market his firm by offering local counsel[s] hard-researched national discovery. "Our co-counsel recognize that we are on the cutting edge of discovery," Motley says.

....

Motley's firm . . . handles national discovery and manufacturers' liability issues, while the local firms deal with product exposure and medical problems and take care of day-to-day administration of a case.

Id.

176. An excerpt from an ATLA publication describes ATLA's services:

The Exchange provides an ATLA member preparing a case with the particulars of similar cases handled by other ATLA members. (The service has information on more than 4,000 products, medical procedures, and case topics in the areas of products liability, medical negligence, premises liability, discovery abuse, civil rights, and professional negligence. . . .

Lawyers who know what they need from the library—whether that would be specific documents from the Consumer Product Safety Commission or the statute of limitations for a negligence case in the Bahamas Code of Civil Procedure—can expect an immediate response.

The library can expeditiously track down hard-to-find material such as articles published years back in state trial lawyer association journals or law school reviews. If the requested material is not at hand, it can be readily obtained from other area sources or through interlibrary loan.

For more complex projects, the library offers a comprehensive research packet. An ATLA lawyer handling a case that involves the negligent entrustment of a vehicle to an incompetent driver, for example, can obtain a 90-page file on this subject, including annotations, cases, and discovery materials.

Library Research Services Popular with Members, ATLA ADVOC., Mar. 1989, at 2.

expert witness database,¹⁷⁷ a planned deposition bank,¹⁷⁸ and a brief and memorandum writing service.¹⁷⁹ ATLA has facilitated formation of thirty-three litigation groups for exchanging information. Many of these litigation groups specialize in individual products or product areas.¹⁸⁰ ATLA offers educational programs involving both skills training and substantive law training. These programs have included presentations on proof of damages, trial advocacy, products liability, and toxic torts.¹⁸¹ The *ATLA Advocate* includes a "Networking" section for ATLA members seeking information on specific types of cases.¹⁸² Also, the *ATLA Products Liability Law Reporter* lists available briefs and settlements verdicts of surveys.¹⁸³ Currently ATLA is working to minimize use of judicial secrecy orders prohibiting public disclosure of safety information following settlement or dismissal of products liability and other tort actions.¹⁸⁴ This project could result in the general availability of large amounts of information. ATLA also has formed consortia to pool and generate information in specific

177. *ATLA Exchange Adds Experts Database*, ATLA ADVOC., Oct. 1989, at 10.

178. *Member Services Bulletin Board—Depositions Needed*, ATLA ADVOC., Feb. 1991, at 16.

179. *ATLA Offers Writing Service*, ATLA ADVOC., Oct. 1989, at 7.

180. "Association of Trial Lawyers of America litigation groups, composed of members handling similar cases, are formed to foster the exchange of information, ideas and experiences. Their aim is to improve the quality of representation, promote judicial efficiency and reduce costs." *ATLA Litigation Groups, Chairs*, NAT'L L.J., July 24, 1989, at 19. ATLA organizes litigation groups for individual products such as Bic Lighters, the Dalkon shield, DES, and Yugos. The litigation groups for product areas include defective firearms, formaldehyde, kerosene heaters, motorcycle crashworthiness, and tire/rim mismatches. *Id.*

The ATLA Winter Conference in January 1990 held first annual litigation group seminars, including programs on protective orders, boat and jet ski litigation, lead paint litigation, and electrical accidents. *ATLA Winter Convention in Orlando Features Litigation Groups, Family Fun*, ATLA ADVOC., Oct. 1989, at 5.

Because of the number of research and support services now available, ATLA has established the Litigation Services Hot Line to assist attorneys in finding out what services might be of help on particular problems. *Member Services Bulletin Board—Hot Line Established for Litigation Help*, ATLA ADVOC., Mar. 1991, at 16.

181. *ATLA Sponsors Spring Seminars*, ATLA ADVOC., Mar. 1989, at 5; *ATLA Offers New Seminar Tapes*, ATLA ADVOC., Mar. 1989, at 6.

182. See, e.g., *Networking*, ATLA ADVOC., Mar. 1989, at 7-11.

183. See, e.g., *Offerings*, 8 ATLA PROD. LIAB. LAW REP. 159 (1989).

184. Russ Herman, *No More Dirty Little Secrets in the Courts*, ATLA ADVOC., Oct. 1989, at 4.

On the pros and cons of protective orders and recent legislation and judicial rule-making restricting the use of such orders, see *Protective Orders*, 19 Prod. Safety & Liab. Rep. (BNA) No. 8, Pt. II, at 227 (Feb. 22, 1991); *Plaintiff, Defense Bars Remain Divided over Sealed Documents; Some Attorneys See Public Threat, Others See Vital Role of Others*, 19 Prod. Safety & Liab. Rep. (BNA) No. 8, Pt. II, at 230-31 (Feb. 22, 1991); Note, *Sealed Out-of-Court Settlements: When Does the Public Have a Right to Know?*, 66 NOTRE DAME L. REV. 117 (1990).

product areas.¹⁸⁵ It is unrealistic to believe that litigants must develop their own expertise in each design defect case. Further, it is unrealistic to assume that in each action the litigants and their attorneys would develop liability theories anew. Schwartz is correct in stating that a litigant will determine the resource level to devote to design evaluation by comparing the expected gain from discovering more information with the expected investigation cost. In some cases, however, the expected gain from discovering more information may extend beyond the individual case. In others, expected investigation costs may be minimal because of previous information expenditures or cost sharing by a large number of persons.¹⁸⁶ Thus, despite Schwartz's assertion to the contrary, significant economies of scale exist for litigants, as well as for administrative agencies.

c. The Efficiency of Schwartz's Proposal

Schwartz argues that his proposal to exculpate firms from liability when they comply with regulations is more efficient than the current system. Professor Shavell, however, defends the current compliance rules:

[I]f compliance with regulation were to protect parties from liability, then none would do more than to meet the regulatory requirements. Yet since these requirements will be based on less than perfect knowledge of parties' situations, there will clearly be some parties who ought to do more than meet the requirements—because they present an above-average risk of doing harm, can take extra precautions more easily than most, or can take precautions not covered by regulation. As liability will induce many of these parties to take beneficial precautions beyond the required ones, its use as a supplement to regulation will be advantageous.¹⁸⁷

Schwartz rejects Shavell's position:

[F]irms probably will suppose they can escape liability if they pro-

185. See *Public Citizen v. Liggett Group, Inc.*, 858 F.2d 775 (1st Cir. 1988), *cert. denied*, 488 U.S. 1030 (1989). The Public Citizen Litigation Group successfully petitioned for the modification of a protective order that prohibited the plaintiff from disseminating discovery materials generated in a wrongful death action against the Liggett Group, Inc. and Liggett & Meyers Tobacco Co.

186. For a report on the large expenses plaintiff's attorneys incurred in *Cipollone v. Liggett Group, Inc.*, 683 F. Supp. 1487 (D.N.J. 1988), the landmark tobacco case in which the plaintiff obtained a verdict of \$400,000, see Andrew Blum, *Anti-Smoking Cause Gets Infusion of New Blood*, NAT'L L.J., Oct. 30, 1989, at 1. Attorneys active in the Tobacco Products Liability Project and in ATLA's tobacco litigation group reported that the plaintiffs' attorneys in *Cipollone* spent between \$500,000 and \$1 million. Now, others can use the work and discovery produced tobacco actions, which should cost only \$25,000 to \$40,000 each. *Id.*

187. Steven Shavell, *Liability for Harm Versus Regulation of Safety*, 13 J. LEGAL STUD. 357, 365 (1984).

duce an amount of safety Q according to the rule $Q=Q^*+e$, [where Q^* represents the regulatory safety obligation and] where e is an error term. This term will be positive because juries are instructed always to hold firms liable that produce $Q < Q^*$ and will sometimes hold firms liable that produce $Q > Q^*$. Because the error term is a function of what juries are predicted to do, there is no reason to believe that Q s chosen according to this rule will equate any firm's marginal costs with the benefits of producing safety.

Current law respecting compliance with regulations, in sum, induces firms with high costs for producing safety to produce an excessive amount of it while not ensuring that low-cost firms produce the correct amount. Changing the law to make compliance with regulations exculpatory will permit high-cost firms more closely to equate the marginal costs and benefits from safety but reduce the incentive of low-cost firms to make their products safer. The choice thus is between two rules neither of which can ensure that firms will produce the optimal amount of safety.¹⁸⁸

Schwartz criticizes current regulatory compliance rules on the grounds that no firm produces an optimal amount of safety, and that firms err on the side of overproduction of safety. He maintains that his approach is more efficient because agency expertise and access to information probably ensure that fewer distortions exist when firms comply with regulatory standards than when they comply with a standard based on predictions of what juries will do.¹⁸⁹ Schwartz's efficiency argument fails, however, on its assumption that agencies have greater expertise and access to information than parties to litigation do. As a result, he fails to establish that current rules are less efficient than his proposed liability system. Rather, it seems that the current rules are more efficient. If the current system results in an overproduction of safety, it is probably not as far from optimal as Schwartz's system, which requires bare compliance with safety regulations. Under the current system, firms whose optimal safety levels exceed the regulatory minimum have incentive to exceed the standards. And it is doubtful that many firms' optimal levels of safety fall below regulatory standards. Shavell observes that current tort rules would exculpate such firms, if they exist, because the rules allow defenses for the violation of statutes and regulations.¹⁹⁰ A defendant may have difficulty justifying violation of a statute specifically designed to promote safety.¹⁹¹ However, courts have flexibility in

188. Schwartz, *supra* note 6, at 391.

189. *Id.* at 391.

190. Shavell, *supra* note 187, at 371.

191. One writer explains this position:

applying statutes and may refuse to employ a statute that sets an inappropriate standard.¹⁹² Furthermore, courts generally treat the violation of an administrative regulation as mere evidence of negligence, thereby affording litigants individualized treatment in most products liability cases.¹⁹³

Another flaw in Schwartz's efficiency argument is that if numerous firms have found that regulatory standards caused them to over-produce safety, defendants would attempt to excuse their violations in products liability cases. I have found no such products liability cases. This absence of authority suggests that the overproduction of safety is an insignificant problem. Finally, given that many losses go totally

As a statute becomes more clearly a mandate to deliberate, plan or prepare for the safety of others, an excuse for its violation becomes inherently more difficult to prove. It would be very difficult, for example, to establish an excuse for failure to have a required fire escape upon a theatre. Likewise it is improbable that excuses for operating a motor vehicle with dangerously worn tires could be produced. Inevitably as more safety preparation is mandated excuse will become more difficult and even impossible.

Cleon H. Foust, *The Use of Criminal Law as a Standard of Civil Responsibility in Indiana*, 35 IND. L.J. 45, 58-59 (1959).

192. Courts should refrain from an inflexible application of the negligence per se rule because of the impact that may have upon the traditional policy of premising liability on fault. The approach of the Restatement 2d is consistent with such restraint. Following the Restatement 2d approach we find: (1) the standard defined by legislation or administrative rule should only be adopted when the four criteria of § 286, Restatement 2d, are met; (2) the excused violation of the legislative enactment or administrative rule is not negligence . . . ; and (3) even if the court finds that the criteria of § 286 are met, it is not required to adopt the legislative enactment as the standard of conduct because of the permissive language of the Restatement 2d.

Short v. Spring Creek Ranch, Inc., 731 P.2d 1195, 1198-99 (Wyo. 1987) (citation omitted).

193. Courts would accord individualized treatment to litigants on the negligence issue because the factors relevant to the question of unreasonable risk take into account the ability of the particular defendant to avoid the risk that led to the plaintiff's harm. A New York court stated:

What constitutes "reasonable care" will, of course, vary with the surrounding circumstances and will involve "a balancing of the likelihood of harm, and the gravity of harm if it happens, against the burden of the precaution which would be effective to avoid the harm." Under this approach, the plaintiff endeavors to show the jury such facts as that competitors used the safety device which was missing here, or that a 'cotter pin costing a penny' could have prevented the accident. The defendant points to such matters as cost, function, and competition as narrowing the design choices. He stresses 'trade-offs'. If the product would be unworkable when the alleged missing feature was added, or would be so expensive as to be priced out of the market, that would be relevant defensive matter.

Micallef v. Miehle Co., 348 N.E.2d 571, 577-78 (N.Y. 1976) (citation omitted) (emphasis added). Although *Micallef* did not involve violation of a regulatory standard, if the standard were mere evidence on the issue of negligence, the factors enunciated in *Micallef* should still be the relevant factors.

uncompensated because they are too negligible to justify the cost of litigation,¹⁹⁴ it is unlikely that overproduction of safety is a serious issue.

*D. The Liability Standard and Defenses Allowed Under the
Schwartz Proposal*

1. SCHWARTZ'S DESCRIPTION OF THE PROPOSED STANDARD
AND DEFENSES

Professor Schwartz describes his proposal as a true strict liability system with contributory negligence and assumption of risk as complete defenses.¹⁹⁵ This Part analyzes Schwartz's proposal for a true strict liability system, concluding that it would be highly inefficient. Part IV.A.5. argues that no system of pure enterprise liability would achieve an optimal reduction in accident costs.

Schwartz's proposal would hold firms liable "whenever their designs cause injury," unless they can establish an affirmative defense.¹⁹⁶ Schwartz claims that this approach yields efficient results and that it employs neither a risk-benefit test nor a consumer-expectations test—both of which he considers unworkable.¹⁹⁷ He presents the following justifications for his approach:

Assume that consumers know what safe use entails and that total accident costs would be optimally reduced if both consumers and firms exercised care. A consumer who takes care incurs no accident costs; the proposed legal rule holds firms liable unless consumers are careless. On the other hand, a consumer who fails to take care bears all accident costs; contributory negligence is a complete defense. Since a consumer's failure to take care will constitute contributory negligence only if the consumer's expected costs of care are lower than the expected costs of the accidents that care would avoid, these informed consumers will by and large adopt the cost-minimizing strategy of taking care. Therefore, firms will incur all accident costs their designs cause. The cost-minimizing strategy for firms in this circumstance is to make optimal investments in safety—to invest in safety until the cost of further investments equals the gain in the reduction of expected accident costs. Because it induces both consumers and firms to reduce accident costs optimally, strict liability with contributory negligence is efficient.¹⁹⁸

194. See *supra* note 98.

195. Schwartz, *supra* note 6, at 392.

196. *Id.* at 392.

197. *Id.*

198. *Id.* at 392-93 (footnote omitted).

Schwartz rejects comparative negligence and its use of a risk-benefit assessment of the defendant's product. Although he maintains that comparative negligence induces optimal behavior when both parties are negligent,¹⁹⁹ he asserts that the risk-benefit test is unworkable for product designs.²⁰⁰ In applying the contributory negligence defense, Schwartz takes account of consumers' imperfect information. He states that "one should realize that what constitutes due care for a consumer is often a function of the firm's safety efforts."²⁰¹ He further states:

The assumption that consumers have perfect information is illegitimate, however; if consumers know how safe products are, there is no need for any form of strict liability, yet we suppose that some form of strict liability is justified because information is imperfect.

An appropriate definition of contributory negligence will cure this difficulty: Contributory negligence should be defined as a consumer's failure to take due care when using a product that is optimally safe.²⁰²

Schwartz's description of his proposed liability standard and defenses raises three initial questions. First, beyond the affirmative defenses, what are the limits of liability under his basic standard? Absent a defense, Schwartz's standard imposes liability on firms whenever their designs cause injury. When does a design cause injury, and what causation rules apply? Schwartz does not address these questions. Second, although Schwartz finds the risk-benefit test unworkable for product designs, he employs it by defining contributory negligence as "a consumer's failure to use due care when using a product that is optimally safe."²⁰³ A factfinder would need to use a risk-benefit analysis to determine the optimal safety of a product.²⁰⁴

199. *Id.* at 394.

200. *See supra* notes 131-35 and accompanying text.

201. Schwartz, *supra* note 6, at 393.

202. *Id.*

203. *Id.* (emphasis added).

204. Shavell states:

[T]o ascertain the optimal level of due care for one party, a court must generally determine (if only implicitly) the optimal level of care for the other, since the optimal level of care for one party will in principle depend on the other's costs of and possibilities for reducing risk. This latter point makes the comparison of liability rules with respect to their ease of application different from what it might at first seem to be.

Consider, for instance, the rule of strict liability with the defense of contributory negligence and the negligence rule with the same defense. It may seem initially that strict liability with the defense of contributory negligence is the easier to apply, because courts are not directly concerned with injurers' behavior under the rule. But to apply the defense of contributory negligence, courts must determine optimal due care for victims, and, as just remarked, this

Schwartz does not explain why a risk-benefit test for the optimal safety of a product is acceptable on the issue of contributory negligence, but is unacceptable as a standard of liability. He rejects comparative negligence as unworkable when applied to product design, yet his use of the risk-benefit test on the issue of contributory negligence contradicts this position.

The third question is why Schwartz allows defenses of both assumption of risk and contributory negligence. The law and economics literature consistently points to the theoretical optimality of strict liability with a contributory negligence defense²⁰⁵ for the same reasons Schwartz states in justifying his approach.²⁰⁶ Unreasonable assumption of risk, a form of contributory negligence, logically would be a defense under this approach. By contrast, reasonable assumption of risk is, by definition, non-negligent conduct. In this century the law has not favored the defense of reasonable assumption of risk, and in recent years many courts have abolished it.²⁰⁷ Schwartz, however, incorporates reasonable assumption of risk as a defense into his liability scheme. This defense destroys the theoretical optimality of the strict liability system. Schwartz's scheme protects firms from liability even when consumers use reasonable care. Consequently, the level of care exercised by firms will be less than optimal. In justifying the efficiency of his system, Schwartz explains his reasons for recognizing the contributory negligence defense,²⁰⁸ but he does not explain why he allows assumption of risk as a bar to recovery. His use of the assumption of risk defense cannot be justified on an efficiency basis.

Schwartz's illustrations of how his proposed liability scheme would operate raise additional questions. Analysis of these illustra-

ordinarily effectively requires courts to determine the optimal level of care for injurers. Therefore, the main difference affecting the ease of application of the two rules is only that under the strict liability rule courts do not need to determine the actual (as opposed to the optimal) level of care of injurers.

SHAVELL, *supra* note 84, at 16-17 (footnotes omitted).

205. See, e.g., *id.* at 5-46.

206. See *supra* text accompanying note 198.

207. See, e.g., *Murray v. Ramada Inns, Inc.*, 521 So.2d 1123 (La. 1988). In abolishing assumption of risk as a bar to recovery and holding that comparative fault rules apply when a plaintiff is aware of a risk, the court noted:

All told, it appears that sixteen states have totally abolished the defense, and seventeen more have eliminated the use of assumption of risk terminology in all cases except those involving express or contractual consent by the plaintiff. . . . After long ago arriving in the torts arena as a refugee from contract law, assumption of the risk now appears to be passing from the scene in most common law jurisdictions.

Id. at 1130 (citation omitted).

208. See *supra* text accompanying note 198.

tions reveals that his system uses liability standards and defenses quite different from those he claims to employ. Schwartz's system denies liability in some situations in which a product's design causes injury and the manufacturer cannot establish contributory negligence or assumption of risk. For example, according to Schwartz's illustrations, a consumer could not recover for a product-caused injury if the consumer should have known of the product's danger, even if the consumer had acted reasonably in purchasing and using the product in light of its actual risks.²⁰⁹ In addition, under Schwartz's illustrations, a non-negligent consumer could not recover for a product-caused injury if a safer design was feasible, and the manufacturer informed the consumer of the feasible alternative, even though a product with the alternative design was not on the market. If no manufacturer produced a product with the safer design, Schwartz's system would conclusively presume that the alternative design was less than optimal.²¹⁰ Schwartz's scheme of liability stems from his definition of assumption of risk—a definition far broader than any employed in tort law. Unfortunately, Schwartz's description of his system in the illustrations fails to meet his claim that firms would have incentive under his system to make optimal investments in safety.

2. SCHWARTZ'S ILLUSTRATIONS OF THE APPLICATIONS OF HIS PROPOSED PRODUCTS LIABILITY SYSTEM

Schwartz presents four illustrations of how his proposed system would function.²¹¹ This Article analyzes only his first three illustrations, which involve the question of a manufacturer's liability to consumers for product-related injuries.²¹²

a. Case (a)

Case (a) is Schwartz's first example of the application of his liability system to specific facts:

In case (a), a consumer purchases a Volkswagen Golf and is injured when, with no negligence on her part, the Golf crashes into a tree. She sues, claiming that had the car been composed of much heavier metal, she would not have been injured. Under the proposed rule—and under current law—the consumer loses; she knew or should have known that Volkswagens are less crashworthy than

209. See *infra* text accompanying notes 222-27.

210. See *infra* text accompanying notes 239-42.

211. Schwartz, *supra* note 6, at 398-404..

212. The fourth, involving the issue of contribution between joint tortfeasors, is beyond the concern of this Article and will not be examined.

Rolls Royces, and therefore assumed the risk.²¹³

Prevailing strict products liability rules easily explain the result on these facts. The consumer loses because she cannot show that the Golf had an unreasonably dangerous defect under either the consumer-expectations test or the risk-benefit test. Under the consumer-expectations test, the Golf did not have an unreasonably dangerous defect because the dangers did not exceed the expectations of the ordinary consumer with the ordinary knowledge common to the community.²¹⁴ The Golf also is not defective under a risk-benefit test because the utility of light-weight, inexpensive cars outweighs their risk to occupants in a crash.²¹⁵ Additionally, the result is consistent with both the *ex ante* and *ex post* strict liability tests of Calabresi, because the consumer was in a better position than the producer to weigh the risk of the Golf against its expected benefits to her and to act upon her analysis.

Schwartz's proposed system, however, cannot explain the result in case (a) without a significant alteration in the definitions of the tort concepts employed. The Golf's light-weight body design caused the consumer's injuries. Consequently, under Schwartz's system, the Golf's manufacturer should be liable unless the defense of contribu-

213. *Id.* at 398-99.

214. *See* *Arbet v. Gussarson*, 225 N.W.2d 431, 435 (Wis. 1975) ("[S]ince the ordinary consumer would expect a Volkswagen to be less safe in an accident than, say, a Cadillac, the smallness of the car with the attendant danger would not per se render it inherently dangerous. Rather it must contain a dangerous defect whose presence an ordinary consumer would not reasonably expect.") (dicta); RESTATEMENT (SECOND) OF TORTS § 402A, cmts. g, i (1965).

215. *Cf.* *Dreisonstok v. Volkswagenwerk, A.G.*, 489 F.2d 1066 (4th Cir. 1974) (manufacturer of a microbus not liable as a matter of law for an occupant's injuries on the basis of negligent design). The court in *Dreisonstok* observed that "a Cadillac may be expected to include more in the way of both conveniences and 'crashworthiness' than the economy car."). *Id.* at 1073. In holding that the risk of the microbus design did not outweigh its utility, the court stated:

This design was uniquely developed in order to provide the owner with the maximum amount of either cargo or passenger space in a vehicle inexpensively priced and of such dimensions as to make possible easy maneuverability. To achieve this, it advanced the driver's seat forward, bringing such seat in close proximity to the front of the vehicle, thereby adding to the cargo or passenger space. This, of course, reduced considerably the space between the exact front of the vehicle and the driver's compartment. All of this was readily discernible to any one using the vehicle; in fact, it was, as we have said, the unique feature of the vehicle. The usefulness of the design is vouchsafed by the popularity of the type. It was of special utility as a van for the transportation of light cargo, as a family camper, as a station wagon and for use by passenger groups too large for the average passenger car. . . . There was no evidence in the record that there was any practical way of improving the "crashability" of the vehicle that would have been consistent with the peculiar purposes of its design.

Id. at 1073-74 (footnotes omitted).

tory negligence or assumption of risk applies. But on the facts of case (a), neither defense applies. A consumer is not contributorily negligent under Schwartz's definition unless she fails to act with due care while using an optimally safe product. Schwartz specifies that the consumer in case (a) was not negligent in causing the crash. Further, the consumer was not negligent in purchasing the car, because its utility to her outweighed its risks. Schwartz explains, however, that the consumer loses in case (a) because "she knew or *should have known* that Volkswagens are less crashworthy than Rolls Royces, and therefore *assumed the risk*."²¹⁶ Yet, if she *knew* the car would not withstand the crash, she *reasonably* assumed the risk. As explained above, strict liability with a defense of reasonable assumption of risk would not be optimal under Schwartz's own justifications for his system's efficiency.²¹⁷ Moreover, if the consumer did not know, but *should have known* that the Golf would not withstand the crash, she *did not assume the risk*. She would not assume the risk unless she actually knew that the Golf would not withstand the crash.²¹⁸ Schwartz's proposed system thus is at odds with his result in case (a).

The shortcoming in Schwartz's explanation of case (a) is his failure to distinguish properly between the consumer-expectations test and the assumption of risk defense. In stating that the consumer loses in case (a) because she knew or should have known of the risk, Schwartz is applying the consumer-expectations test—a test he purports to reject—not the assumption of risk defense. Schwartz might

216. Schwartz, *supra* note 6, at 398-99 (emphasis added).

217. See *supra* notes 205-08 and accompanying text.

218. See RESTATEMENT (SECOND) OF TORTS §§ 496C, 496D (1965). The commentary to section 496D explains assumption of risk:

b. The basis of assumption of risk is the plaintiff's consent to accept the risk and look out for himself. Therefore he will not be found, in the absence of an express agreement which is clearly so to be construed, to assume any risk unless he has knowledge of its existence. This means that he must not only be aware of the facts which create the danger, but must also appreciate the danger itself and the nature, character, and extent which make it unreasonable. . . . His failure to exercise due care either to discover or to understand the danger is not properly a matter of assumption of risk, but of the defense of contributory negligence.

c. The standard to be applied is a subjective one, of what the particular plaintiff in facts sees, knows, understands and appreciates. In this it differs from the objective standard which is applied to contributory negligence. If by reason of age, or lack of information, experience, intelligence, or judgment, the plaintiff does not understand the risk involved in a known situation, he will not be taken to assume the risk, although it may still be found that his conduct is contributory negligence because it does not conform to the community standard of the reasonable man.

Id. § 496D cmts. b, c (citation omitted).

respond by stating that he does not use assumption of risk as an affirmative defense, but rather in its "primary" sense as a "no duty" rule.²¹⁹ This position, however, still rests on the consumer-expectations test. The only basis to support a no-duty rule is that the ordinary consumer, with the ordinary knowledge common to the community, knew that the Golf would not provide protection.

Aside from the problem of terminology, the significance of case (a) is that Schwartz denies liability because the consumer should have known of the product's danger, even if she was not contributorily negligent and had not assumed the risk. Consequently, a firm is not liable if its product meets the consumer-expectations test. The plaintiff cannot recover alternatively under the risk-benefit test. Thus, whenever consumers should be aware of a design's risks, Schwartz's rule provides firms with no incentive to reduce accident costs.

Dissatisfaction with the consumer-expectations test has led many courts to adopt the risk-benefit test as an alternative strict liability standard in design defect cases.²²⁰ Even if a jurisdiction does not recognize this alternative, a plaintiff can still use the risk-benefit test by proceeding under a negligence theory.²²¹ Access to the risk-benefit test is significant for plaintiffs because in some situations a product meets consumer expectations but nevertheless poses unreasonable

219. *Blackburn v. Dorta*, 348 So. 2d 287, 290-91 (Fla. 1977), discusses "primary" assumption of risk. *Blackburn* abolished the defense of implied, reasonable assumption of risk, and merged the defense of implied, unreasonable assumption of risk into the defense of contributory negligence and the principles of comparative negligence. *Id.* at 293. The decision presents an exhaustive review of the various forms of assumption of risk, which encompass distinctions between express and implied, primary and secondary, and reasonable and unreasonable. *Id.* at 290-93.

220. See, e.g., *Dart v. Wiebe Mfg., Inc.*, 709 P.2d 876, 879 (Ariz. 1985); *Ontai v. Straub Clinic and Hosp., Inc.*, 659 P.2d 734, 740 (Haw. 1983); *Knitz v. Minster Mach. Co.*, 466, 432 N.E.2d 814, 818 (Ohio 1982), *cert. denied*, 459 U.S. 857 (1982). Courts do not follow uniform rules in applying the strict liability risk-benefit test. Most jurisdictions place the burden on the plaintiff to establish that the product created an unreasonable risk of harm, but a few place the burden on the defendant to show that it did not. See, e.g., *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 455 (Cal. 1978); *Ontai*, 659 P.2d at 740.

221. See, e.g., *Delvaux v. Ford Motor Co.*, 764 F.2d 469, 474 (7th Cir. 1985). The plaintiff in *Delvaux* argued a risk-benefit theory in her negligence case, even though the consumer expectations test was the only available strict liability test under Wisconsin law for design defect.

Dart, 709 P.2d at 880-82, explains the difference between the negligence and strict liability tests. Although both tests use the concept of unreasonable risk, requiring the weighing of the risk-benefit factors, the negligence test asks whether a reasonable manufacturer, under the circumstances, would have produced the product as designed, while the strict liability test asks whether a reasonable manufacturer with knowledge of the product's danger would have produced the product as designed. *Id.* at 881. Thus, negligence requires a foreseeable risk, but the strict liability test does not. In the terminology of Calabresi and Klevorick, the negligence test is an *ex ante* Learned Hand test and the strict liability test is an *ex post* Learned Hand test. See *supra* text accompanying notes 38-39.

risks.²²² In recent years, most courts that have considered the "patent danger rule"—a rule precluding recovery for injuries caused by obviously dangerous products—have rejected it.²²³ Schwartz's proposal would revitalize the patent danger rule. Except for Schwartz's novel "failure to warn" test explained in case (b), the consumer-expectations test would be the only basis for a firm's liability for injuries caused by product design. A Washington court observed, "The manufacturer of the obviously defective product ought not to escape because the product was obviously a bad one. The law, we think, ought to discourage misdesign rather than encouraging it in its obvious form."²²⁴

Confining a plaintiff to the consumer-expectations test derives from the assumption that "the ordinary consumer [or user] is the best

222. See, e.g., *Toner v. Lederle Lab.*, 732 P.2d 297 (Idaho 1987) (finding defendant negligent in failing to develop a safer vaccine where three-month old infant became permanently paralyzed from inoculation, even though the vaccine was not defective under the consumer-expectations test); *Toner v. Lederle Lab.*, 828 F.2d 510 (9th Cir. 1987) (determining that the jury's findings on defect and negligence were reconcilable).

223. The "open and obvious [or patent] danger rule" is a product of the consumer-expectations test. *Koske v. Townsend Eng'g Co.*, 526 N.E.2d 985, 989 (Ind. Ct. App. 1988). Some jurisdictions, however, also have applied the rule in negligence actions as a restriction upon the duty of a product seller. See, e.g., *id.* at 991. The leading case of *Campo v. Scofield* defined and applied the patent danger rule:

[T]he manufacturer of a machine or any other article, dangerous because of the way in which it functions, and patently so, owes to those who use it a duty merely to make it free from latent defects and concealed dangers. . . .

If a manufacturer does everything necessary to make the machine function properly for the purpose for which it is designed, if the machine is without any latent defect, and if its functioning creates no danger or peril that is not known to the user, then the manufacturer has satisfied the law's demands.

95 N.E.2d 802, 803-04 (N.Y. 1950). *Campo* was overruled in *Micallef v. Miehle Co.*, 348 N.E.2d 571, 573 (N.Y. 1976). The Florida Supreme Court rejected the patent danger doctrine in *Auburn Mach. Works Co., Inc. v. Jones*, 366 So. 2d 1167, 1170 (Fla. 1979), stating that "[t]he patent danger doctrine encourages manufacturers to be outrageous in their design, to eliminate safety devices, and to make hazards obvious." It further stated:

The modern trend in the nation is to abandon the strict patent danger doctrine as an exception to liability and to find that the obviousness of the defect is only a factor to be considered as a mitigating defense in determining whether a defect is unreasonably dangerous and whether plaintiff used that degree of reasonable care required by the circumstances.

Id. at 1169. For documentation of the trend away from the patent danger rule, see Theresa L. Kruk, Annotation, *Products Liability: Modern Status of Rule That There Is No Liability for Patent or Obvious Dangers*, 35 A.L.R. 4th 861 (1985).

Indiana adheres to the patent danger rule, although it recently held that the rule would not bar a claim for willful or wanton misconduct. See *Koske v. Townsend Eng'g Co.*, 526 N.E.2d 985, 991 (Ind. Ct. App. 1988). For other decisions adhering to the patent danger rule, see *Hedgepeth v. Fruehauf Corp.*, 634 F. Supp. 93 (S.D. Miss. 1986); *McCullum v. Grove Mfg. Co.*, 293 S.E.2d 632 (Ct. App. 1982), *aff'd*, 300 S.E.2d 374 (N.C. 1983); *Orkin Exterminating Co. v. Dawn Food Prods.*, 366 S.E.2d 792 (Ga. Ct. App. 1988).

224. *Palmer v. Massey-Ferguson, Inc.*, 476 P.2d 713, 719 (Wash. Ct. App. 1970).

judge of whether the dangers he perceives are outweighed by the benefits of the product."²²⁵ However, allowing producers to escape liability unless their products fail the consumer-expectations test does not result in an optimal level of product-related accident costs. The reason for this is threefold. First, the product may present a demonstrably unreasonable risk.²²⁶ Second, the consumer who knows or should know of a product's danger is not necessarily in the best position to make a risk-benefit decision and to act upon it.²²⁷ Third, consumers may underestimate risks.²²⁸

To illustrate, assume that Farmer Brown bought his tractor

225. *Delvaux v. Ford Motor Co.*, 764 F.2d 469, 474 (7th Cir. 1985).

226. In reversing a trial court's grant of a directed verdict to the manufacturer of an ice machine, an Arizona court stated:

Even when a danger is appreciated, circumstances may cause it to be momentarily forgotten. When a person must work in a place of possible danger, the care which he is bound to exercise for his own safety may well be less, due to the necessity of giving attention to his work, than is normally the situation. In this case, in order to operate the ice machine in an efficient and economical manner, Turner had to stand in the vicinity of a closing gate capable of amputating human limbs and, on occasion, he had to reach within a few inches of the compression chamber gate to remove from the machine's exit ramp any ice residue or small unsalable ice blocks which did not have enough weight to travel down the ramp. Considering the nature of human inattentiveness and momentary forgetfulness, the risk associated with the unguarded gate was great despite the fact that the danger was obvious.

Turner v. Machine Ice Co., 674 P.2d 883, 888-89 (Ariz. Ct. App. 1983).

The court further stated:

The evidence clearly shows that Turner knew of the danger presented by the unguarded compression chamber gate. On the other hand, a guard would not have eliminated the machine's usefulness nor would it in any way interfere with the functional operation of the machine. Moreover, the likelihood of injury was "only a matter of time" and its probable seriousness was great. Although no evidence was presented as to the cost of placing a guard on the machine, it is apparent from the exhibits introduced at trial, showing the cage-like guard which was installed on the ice machine following Turner's accident, that the cost of the guard was small by any standard. Ultimately, all of these factors were to be weighed by the jury in making their determination as to whether the ice machine was unreasonably dangerous as designed.

Id.

227. In rejecting the patent danger rule, the New York Court of Appeals stated:

What constitutes "reasonable care" will, of course, vary with the surrounding circumstances and will involve "a balancing of the likelihood of harm, and the gravity of harm if it happens, against the burden of the precaution which would be effective to avoid the harm."

... This does not compel a manufacturer to clothe himself in the garb of an insurer in his dealings ... nor to supply merchandise which is accident proof. It does require, however, that legal responsibility, if any, for injury caused by machinery which has possible dangers incident to its use should be shouldered by the one in the best position to have eliminated those dangers.

Micallef v. Miehle Co., 348 N.E.2d 571, 577-78 (N.Y. 1976) (citations omitted).

228. See *infra* note 236.

before any tractor came with rollover bars. Also assume that a manufacturer feasibly could have attached rollover bars at a cost substantially less than the accident costs expected without rollover bars. While Brown carefully drove the tractor through a field, the tractor's right wheels fell into a hidden crevice, and the tractor rolled over and injured Brown. Under prevailing liability standards, Brown could recover damages for his injuries from the tractor manufacturer.²²⁹ Under Schwartz's approach, however, Brown could not recover because the risk was obvious. This result is not optimal because the risks of a tractor without rollover bars exceed its utility. Moreover, because tractors with rollover bars were unavailable, the tractor manufacturer, rather than Brown, was in the best position to make and act upon a risk-benefit analysis. Under Schwartz's approach, tractor manufacturers would produce an optimal amount of safety by attaching rollover bars only in response to market forces. Schwartz suggests that market forces will produce this result.²³⁰

b. Case (b)

Schwartz's second example of his liability system, case (b), introduces a "failure to warn" basis of liability. Like case (a), case (b) improperly relies upon the assumption of risk defense and produces a result that is far less than optimal.

In case (b), a magic metal which existed when the Volkswagen was sold would have made the Volkswagen as safe in crashes as today's Rolls Royce, though the Volkswagen would have weighed no more than normal Volkswagens. The manufacturer did not use the magic metal because it would have added \$500 to the car's costs and cars made of magic metal are much more expensive to repaint and hammer out in the event of scrapes and dents. Under current law, the manufacturer would be liable only if Golfs with magic metal did better on the risk/benefit test than Golfs without it. Under the proposed test, the manufacturer would be liable unless it gave an adequate warning that informed consumers of the additional risk of not using the magic metal. The consumer did not assume the risk in this second case because, without such a warning, she was unaware of the full set of options provided by the

229. See, e.g., *Caterpillar Tractor Co. v. Donahue*, 674 P.2d 1276 (Wyo. 1983). In *Donahue*, the court upheld the plaintiff's \$1,500,000 jury award for the wrongful death of her husband, killed while operating a front-end loader that rolled over and crushed him inside the fiberglass cab of the loader. The court affirmed the jury's finding that the loader manufacturer was negligent for failing to install a rollover protection structure on the vehicle in 1966, although at that time, no front-end loaders were manufactured with such structures. *Id.*

230. See *infra* text accompanying note 242.

market.²³¹

If the manufacturer *did* provide an adequate warning of the risk of not using magic metal, it follows from Schwartz's explanation of case (b) that the manufacturer would *not* be subject to liability for a design defect. A warning would protect the manufacturer from liability even if cars with magic metal were not available on the market.²³²

Current liability standards would allow the consumer to recover, absent a warning, if she could prove that a Golf made without magic metal was unreasonably dangerous—that is, that its risks outweighed its benefits. Alternatively, she could recover if an ordinary consumer would have expected the car to be made with magic metal.²³³ She could not recover under current standards, however, if the Golf was no more dangerous than the ordinary consumer would expect and if its utility outweighed its risks. If she voluntarily and unreasonably encountered a known risk, some jurisdictions would bar her from recovery, while other jurisdictions would allow her to recover only under comparative negligence rules. Also, ordinary contributory negligence rules in some states would bar or reduce damages.

Under current law, a manufacturer's "warning" that the Golf failed to incorporate technology unavailable in any car would not affect the manufacturer's liability. Such a warning would not alter the risk-benefit equation. Nor would it affect either the consumer-expectations test or the assumption of risk defense unless, without the

231. Schwartz, *supra* note 6, at 399.

232. Schwartz does not state so explicitly, but his explanation of case (b) indicates that a warning would absolve the manufacturer of liability. He states:

True strict liability is justified in case (b) for three reasons: (i) If use of the magic metal is optimal, given that the consumers behave nonnegligently, the firm will be induced to use it; (ii) If use of the metal is not cost justified, the price of Golfs nevertheless will more accurately reflect their accident costs, thereby better informing consumers of the risk of driving (just as a warning would); (iii) The administrative costs of trials would be reduced and their results made more predictable because the only issue would be the adequacy of the warning (if one were given). The law would not demand a complex risk/benefit test.

Id. Schwartz's discussion of airbags also indicates that a warning would protect the manufacturer from liability, even if cars with magic metal were not on the market. *Id.* at 399 n.92; see also *supra* text accompanying note 242.

233. In design defect cases, courts generally allow the plaintiff to use either the risk-utility or the consumer-expectations test, or both. See, e.g., *Dart v. Wiebe Mfg., Inc.*, 709 P.2d 876, 879 (Ariz. 1985); *In re Standard Jury Instructions (Civil Cases)*, 435 So. 2d 782 (Fla. 1983); *Knitz v. Minster Mach. Co.*, 432 N.E.2d 814, 818 (Ohio 1982), *cert. denied*, 459 U.S. 857 (1982). Some courts, however, restrict the plaintiff to the use of the risk-utility test. See, e.g., *Turner v. General Motors Corp.*, 584 S.W.2d 844, 851 (Tex. 1979). Other courts restrict the plaintiff to the use of the consumer-expectations test. See, e.g., *Betts v. General Motors Corp.*, 689 P.2d 795, 801 (Kan. 1984).

warning, the consumer would expect the Golf to incorporate magic metal.

The Calabresi strict liability tests would allow the manufacturer in case (b) to prevail only if other cars made with magic metal were available on the market. If the consumer knew that the Golf was not made with magic metal and if she knew or should have known (through the advertising claims of automobile manufacturers) that other cars were available with magic metal, then she would be in the best position to make and act upon a risk-benefit analysis of the Golf. If cars with magic metal were unavailable, however, the manufacturer would be in the best position to make and act upon a risk-benefit analysis, and the consumer would prevail. The consumer might be better positioned to make a risk-benefit analysis of her own needs in a car, but she could not act upon her analysis if she preferred a car with magic metal. Thus, the consumer should prevail whether or not the manufacturer informed her of the Golf's risks without the magic metal.

Schwartz reaches a different result. He concludes that, without a warning, the consumer did not assume the risk, but with a warning, she did. This result expands assumption of risk beyond even Schwartz's use of the doctrine in case (a) to denote a situation in which a consumer should know of a product's hazards. Schwartz's application of the assumption of risk doctrine in case (b) does not consider whether the consumer had knowledge of the *product's risks*, but whether she had knowledge of *a technologically feasible, safer alternative design*. Under Schwartz's approach, the consumer with such knowledge assumes the risk, whether or not the safer design is available.

Schwartz justifies his result in case (b) by assuming that informing consumers about technological developments will generate market forces that produce optimally safe products. In explaining case (b), he states:

[T]he question whether cars are defectively designed when they lack airbags falls within case (a) rather than case (b). Consumers know that airbags exist, are safer than not using seat belts, and would increase the price of cars by a nontrivial amount. The failure of firms to use them thus seems a response to consumer preference.²³⁴

The airbag analogy implies that if consumers know about magic metal, but market forces do not cause manufacturers to produce cars with magic metal, then a car without magic metal is optimal.

234. Schwartz, *supra* note 6, at 399 n.92.

The first problem with this view is that a car without magic metal may *not* be optimal, even if consumers know of the metal's existence. Competitive markets will not necessarily produce optimal safety just because consumers are aware of existing technology. Corporate managers, often more concerned with short-range profits than with long-range effects, may forego a plant retooling to maximize short-range profits, rather than produce a safer car with long-range optimal accident costs.²³⁵ Moreover, if consumers underestimate dangers, they will not demand the production of optimally safe prod-

235. See James A. Henderson, Jr., *Products liability and the Passage of Time: The Imprisonment of Corporate Rationality*, 58 N.Y.U. L. REV. 765 (1983). In this article, Professor Henderson notes "the existence of a rich and growing literature dealing with the behavioral and legal implications of corporate structures and governance," observing that "the implications of this literature for the area of products liability have yet to be developed." *Id.* at 781. He adds:

The place to begin in looking [for these implications] is with empirical studies of the attitudes and behavior patterns of corporate managers. These studies reveal that those whose responsibilities include risk management tend to be significantly more risk averse than their counterparts who do not deal on a regular basis with the possibility of sustaining substantial losses. At first blush, these studies might suggest that managers would avoid engaging in behavior that would increase their firms' long-term exposure to risk of loss or raise the long-term stakes of the games in which their firms are engaged, but several factors appear to counterbalance such a tendency. For example, in recent years the performance of managers has been increasingly judged on the basis of short-run results. This phenomenon suggests that managers who defer taking necessary action may reasonably assume that they will be rewarded for the short-run benefits derived from their deferral tactics and that they will have been promoted to another position, possibly with another corporation, by the time the negative, long-run implications of their tactics have fully materialized. Thus, they may reasonably expect to escape most, if not all, of the blame for the losses eventually incurred by their deferral tactics. Their escape will depend, of course, on the extent to which the managers' selfish behavior can be monitored from either within or without the firm. But there are reasons to believe that substantial limits inhere in efforts to monitor manager's behavior.

It follows, then, that even for the risk-averse manager, the safer course may be to avoid incurring losses in the short run. Thus, to the extent that the individual interests of corporate managers conflict with those of their firms, they appear to do so in ways that exacerbate the tendency to maintain the status quo. The decision that is best for the manager may not be best for the firm, but to the extent that managers can advance their own interests and avoid scrutiny, that circumstance will not affect their decisions.

Id. at 781-82 (footnotes omitted); see also JOEL KOTKIN & YORIKO KISHIMOTO, *THE THIRD CENTURY: AMERICA'S RESURGENCE IN THE ASIAN ERA* 143-45 (1988); Joel Kotkin, *Wall Street's Primacy May Be Ending*, MIAMI HERALD, Oct. 16, 1988, § C, at 1. Kotkin states in his article:

[There] is a growing realization among businessmen that following Wall Street's direction can be harmful to the most fundamental goals of business activity, the growth and long-term prosperity of the enterprise itself.

. . . .

In fact, a recent survey of chief executive officers from *Inc.* magazine's list of

ucts.²³⁶ Thus, a Golf without magic metal (or without an airbag) may

the nation's fast-growing, small, private firms found that over half had little or no interest in taking their companies public.

"The problem is that people mistake Wall Street for business. You end up putting all the focus on impressing the folks in New York with short-term earnings. A private firm can focus on the more crucial things, like maximizing long-term growth and profits," says Warren E. Braun, president of Comsonics, a fast-growing Virginia cable-television equipment and service firm with 1986 sales of nearly \$7 million.

Id. Kotkin and Kishimoto state:

As founders died or deteriorated with age, most of the great organizations formed by them—such as Ford Motor Company and U.S. Steel—lost their sense of mission. Rising in their place was, in Pitirim Sorokin's phrase, a "managerial aristocracy" who has replaced the sense of mission with a bureaucratic mentality fundamentally opposed to the company-building ethos of a Thomas Watson, Henry Ford or Andrew Carnegie. By stripping away the "transcendental" element in business and replacing it with a blind adherence to the "cash nexus," the builders of the modern bureaucratic corporation, as Sorokin noted in 1941, unintentionally dealt "the first mortal blow" against the spirit of capitalism.

The deadening effects of this bureaucratization—the world in which the lawyer, accountant and stock analyst replaced the entrepreneur in the corporate driver's seat—were at first disguised by the predominant position of the United States after World War II. Only later, when integrated industrial challengers emerged first in Europe and then Asia, did the weaknesses of the "managerial aristocracy" become clear.

By the mid-1970's, financialism had established a firm grip even on the largest of the classic industrial corporations, General Motors. Epitomized by the rise of chairman Frederick G. Donner, a former accountant, and his eventual successor, Roger Smith, GM became a pure expression of the "cash nexus." To Smith, Donner—who served as GM's chairman from 1958 to 1967—represented "a true financial genius . . . with a well-ordered, analytical mind" under whom "the corporation flourished . . . establishing new records in dollar sales, earnings, dividend payments and world-wide sales." Yet at the same time, for the corporation and its long-term mission (to be the dominant automobile manufacturer in the world), Donner proved to be a disaster. In his *Decline and Fall of the American Automobile Industry*, veteran auto journalist Brock Yates notes that it was under Donner that an increasingly finance-driven GM management began ignoring its engineers and production staff, cutting costs at the expense of quality, ignoring the emerging small-car market and, for the saving of \$100 worth of parts, made the Corvair the menace described in Ralph Nader's *Unsafe at Any Speed*.

By the time Donner had retired, the legacy of Smith's hero was firmly embedded in the corporation. Once renowned for quality, GM now became synonymous with shoddy workmanship. In 1971, it was found that a fault with engine mounts forced GM cars to spin out of control; that year an astounding 6.7 million Chevrolets had to be recalled. Yet years afterward, the iron grip of financialism remained so strong that the manager of the company's Tarrytown, New York, plant—recognized for producing "the poorest quality cars" among all of GM's twenty-two U.S. assembly plants—received one of the highest bonuses in the company simply because his plant also had among the lowest production costs.

KOTKIN & KISHIMOTO, *supra*, at 143-45.

236. Schwartz maintains that "[t]he essence of the risk underestimation claim is that because consumers are optimistic, they either misprocess information about risk or will not

not be more dangerous in a crash than the ordinary consumer would expect, but consumers may underestimate the chance that they will be involved in a crash. In these situations, insulating the producer from liability on the ground that the consumer was informed about unavailable technology would not reduce the total cost of accidents to

invest time in learning about it." Schwartz, *supra* note 6, at 379 n.48. Based on an analysis of evidence on consumer optimism, he concludes that "evidence drawn from surveys and actual market behavior more strongly supports the view that consumers are informed [about risk levels] than the view that they are ignorant." *Id.* at 380. Schwartz further finds "considerable evidence that people respond rationally to the provision of information about risk." *Id.* at 382. The factual data cited, however, are both minimal and conflicting.

Whether or not people generally misperceive information about risk, their level of information is frequently inadequate. Marketing techniques often build consumer confidence in a product's quality and safety beyond its actual levels of quality and safety. These marketing techniques have been a key factor in courts' adoption of strict liability. An oft-quoted statement by Justice Traynor expounds this point:

As handicrafts have been replaced by mass production with its great markets and transportation facilities, the close relationship between the producer and consumer of a product has been altered. Manufacturing processes, frequently valuable secrets, are ordinarily either inaccessible to or beyond the ken of the general public. The consumer no longer has means or skill enough to investigate for himself the soundness of a product, even when it is not contained in a sealed package, and his erstwhile vigilance has been lulled by the steady efforts of manufacturers to build up confidence by advertising and marketing devices such as trade-marks. Consumers no longer approach products warily but accept them on faith, relying on the reputation of the manufacturer or the trade mark.

Escola v. Coca Cola Bottling Co. of Fresno, 150 P.2d 436, 443 (1944) (Traynor, J., concurring) (citations omitted).

Most people will acknowledge that manufacturers devote greater resources to promoting product quality and attaching positive images to products than they do to warning the public about risks. As a result, consumers cannot acquire much information about product risks without cost. Schwartz cites studies indicating that housing prices reflect earthquake risks and the probability of defects, and that workers exact substantial wages in risky jobs. Schwartz, *supra* note 6, at 379. However, people are likely to invest time and resources in acquiring information about risks in these situations. Moreover, the cost of earthquake insurance and the efforts of unions alert people to the hazards of natural disasters and jobs. In contrast, people are less likely to invest time and resources discovering in advance the hazards of tile adhesives and carpet cleaning products because they do not suspect danger from these sources. See *Burch v. Amsterdam Corp.*, 366 A.2d 1079 (D.C. 1976), in which the plaintiff sustained severe burns when the vapors created by a tile adhesive he was applying to his kitchen floor exploded; see also *Maize v. Atlantic Ref. Co.*, 41 A.2d 850 (Pa. 1945). Mrs. Maize died after cleaning her carpets with "Safety-Kleen."

In Schwartz's "magic metal" hypothetical, he would not label the car without the magic metal defective if the producer informed consumers that magic metal existed. Schwartz assumes that the existing car was optimal provided that consumers knew of the alternatives, even if cars with magic metal were unavailable. Yet consumers who underestimate the risk of automobile accidents are unlikely to organize and urge car manufacturers to use safer materials. Schwartz himself cites one study indicating that consumers underestimate their chances of being injured in automobile accidents. Schwartz, *supra* note 6, at 379-80 n.51 (citing Warner, *Public Policy and Automobile Occupant Restraint: An Economist's Perspective*, 19 ACCIDENT ANALYSIS & PREVENTION 39, 48 (1987)). Even if consumers knew of the danger, however, transaction costs would handicap their efforts to promote production of the magic metal car.

an optimal degree. Airbags illustrate these points: the slow appearance of air bags and other passive restraints in the automotive market may be more attributable to short-range managerial policy²³⁷ and consumer underestimation of risks²³⁸ than to informed consumer preference.

A second problem with Schwartz's warning requirement is that if a Golf without magic metal is optimal, then producers should not be burdened with a duty to warn consumers of technology that the producers have rejected. Schwartz's case (b) analysis holds the manufacturer liable for injuries that magic metal could have prevented if the manufacturer failed to warn the consumer that a car without magic metal created more risks than a car made with it. Accordingly, Schwartz's system would hold a manufacturer liable if it did not properly warn consumers, even if the Golf without magic metal satisfied both the consumer-expectation and risk-benefit tests. As a result, the proposed duty to warn requires producers to warn consumers of an infinite array of technologically feasible safety devices that no producer would find practicable. For example, a producer presumably would be liable to a non-negligent consumer for injuries she sustained in a crash, if the producer failed to inform her of a feasible and sophisticated detection system that warns the driver of environmental hazards and that would have prevented the crash. Liability would attach to the producer even though the detection system would add

237. In response to industry opposition to air bags, Rep. Timothy Wirth (D. Colo.), Chairman of the House Consumer Protection Committee, said, "I am concerned that a delay [in implementing the Department of Transportation's passive restraint order] will only exacerbate the economic troubles of the American auto industry by encouraging them to defer safety improvements while their foreign competitors gain the edge once again by offering increased safety features." CONGRESSIONAL QUARTERLY INC., *supra* note 149, at 132.

238. For a discussion of the underutilization of seat belts, see Schwartz, *supra* note 6, at 379-80 n.51; see also *American Motorists Applaud Airbags but Question Reliability*, *ACTS Survey Says*, 17 PROD. SAFETY & LIAB. REP. (BNA) No. 15, at 351 (Apr. 14, 1989). The article reports:

The majority of motorists think airbags are a good idea, but they also question their reliability, according to a survey released April 6 by the American Coalition for Traffic Safety Inc.

Phil Haseltine, ACTS executive director, announced the results at a news conference where he said the survey revealed widespread myths and misconceptions consumers harbor about airbag effectiveness. The most prevalent public misconceptions, Haseltine said, are that airbags "might not inflate when they should, inflate when they should not, block the driver's vision, and pin the driver in the car."

....
Haseltine said the entire traffic safety community must accept the challenge to educate people about the use of airbags and stress the continuing need to wear safety belts.

Id. at 351-52.

\$25,000 to the price of the car. If Schwartz did not impose liability on the producer in this circumstance, he would have to deny liability in case (b) on the ground that the Golf's utility outweighed its risks.

Technology experts predict that many electronic safety systems that are technologically feasible today will be in widespread use by the year 2000. These advances include anti-lock brakes, electronically controlled automatic transmissions and suspensions, electronic keys, and voice-activated control devices. Today, however, they are not developed to the point of being cost effective for widespread use. Other safety systems, such as a head-up display, which projects instrument panel information onto the windshield in front of the driver, are not expected to gain widespread acceptance because of their high cost and low perceived consumer benefit.²³⁹ Under Schwartz's warning requirement, car sellers would have to inform consumers of all these technologically feasible devices.

The warnings required by Schwartz's approach are burdensome and do little to reduce accident costs. Manufacturers would invest considerable time and money in useless warnings, and courts would spend needless time determining whether alternative designs not warned about would have prevented accidents.

c. Case (c)

Schwartz's third example, case (c), illustrates his treatment of research incentives:

In case (c), magic metal is invented after the Golf is sold. A majority of jurisdictions today, applying the state-of-the-art defense, would exculpate the manufacturer on the ground that consumers could not expect products to contain features whose use was infeasible when the products were made. Scholars criticize this rule as creating insufficient incentives for firms to develop safety improvements. Two alternative rules may be considered. One rule would hold that liability depends on the effectiveness of a firm's research program. If a firm had an optimal safety research program and did not discover a safety improvement, then it would not be held liable. Such a program would require a firm to equate the marginal costs of safety research with its marginal gains. These gains would be the increased profits resulting from lowering expected accident costs through improved safety information. The other alternative would be to hold the firm liable absolutely, that is, liable regardless of when knowledge of the safety improvement

239. *Electronic Innovations Will Improve Safety, Comfort of Auto's in Most U.S. Cars by 2000*, 17 *PRODUCT SAFETY & LIAB. REP.* (BNA) No. 39, at 961 (Sept. 29, 1989).

could have been learned.²⁴⁰

Schwartz concludes:

[T]he manufacturer should be strictly liable for failing to make cars with magic metal only if the existence of the metal would have been revealed by an optimal safety research program. Such a result will create either correct or excessive incentives for firms to do research; either outcome is acceptable. It also has relatively low uncertainty costs. The current state-of-the-art rule probably produces insufficient safety incentives, while an absolute liability rule generates excessive uncertain costs.²⁴¹

Schwartz's analysis in case (c) underrates current incentives for research. His purported optimal safety research program requirement is not a marked departure from current rules, which provide significant incentives for safety research. Under the consumer-expectations test, "[s]tate-of-art evidence helps to determine the expectation of the ordinary consumer."²⁴² Consequently, if consumers understand a product's dangers, the consumer-expectations test does not encourage investment in new knowledge. However, the consumer-expectations test provides incentive for firms to engage in optimal safety research programs when courts use it to establish liability for injuries resulting from risks not understood by the ordinary consumer. For example, as a strict liability test for a design defect in asbestos,²⁴³ the consumer-expectations test places liability on the party in the best position to determine and act on the costs and benefits of a safety research program. Additionally, the risk-benefit test subjects a manufacturer to liability if another safer and practicable product design was feasible at the time of manufacture.²⁴⁴ Feasibility depends upon the reasonable-

240. Schwartz, *supra* note 6, at 400 (footnotes omitted).

241. *Id.* at 403.

242. *Bruce v. Martin-Marietta Corp.*, 544 F.2d 442, 447 (10th Cir. 1976). The court commented:

A consumer would not expect a Model T to have the safety features which are incorporated in automobiles made today. The same expectation applies to airplanes. Plaintiffs have not shown that the ordinary consumer would expect a plane made in 1952 to have the safety features of one made in 1970. State-of-art evidence was properly received and considered by the trial court.

Id. at 447.

243. See *Elmore v. Owens-Illinois, Inc.*, 673 S.W.2d 434, 438 (Mo. 1984) (state-of-the-art evidence has no relevance to strict liability based upon the consumer expectations test). The plaintiff in *Elmore* was entitled to recover damages for asbestosis based upon a design defect theory.

244. See, e.g., *Singleton v. Int'l Harvester Co.*, 685 F.2d 112, 115 (4th Cir. 1981) (applying Md. law) (plaintiffs did not produce evidence upon which a jury could find that it was feasible and practicable in 1948 for a manufacturer to produce a tractor with a roll-over protective structure); *Lease v. International Harvester Co.*, 529 N.E.2d 57, 60-61 (Ill. App. Ct. 1988); *Kallio v. Ford Motor Co.*, 407 N.W.2d 92, 94-97 (Minn. 1987); *Voss v. Black & Decker Mfg.*

ness of the manufacturer's efforts to develop a safer design.²⁴⁵ Thus, if the producer of the Golf should have discovered magic metal, and a Golf with magic metal would have prevented the plaintiff's injuries, the producer would be subject to liability if the utility of a Golf with magic metal outweighed its risks. Thus, current authority provides incentives for firms to engage in optimal safety research programs. Schwartz's proposal, however, would reduce those incentives.

In case (c), Schwartz requires an optimal research safety program and provides a sanction of strict liability for firms failing to conduct such a program. In case (c), however, Schwartz fails to discuss the effect of case (b) upon the strict liability sanction. The apparent incentives for an optimal safety research program that case (c) describes become illusory in light of the assumption of risk defense illustrated in case (b).

The assumption of risk defense recognized by Schwartz in case (b) allows a producer to protect itself from liability by advising consumers of the existence of a safer and feasible product design. As explained in the discussion of case (b), the advised consumer "assumes the risk" of the more dangerous product, even if a product employing the safer design is not on the market. This assumption of risk defense dramatically reduces firms' incentive to invest in safety research. Such a defense would allow "strictly liability" for injuries that a Golf with magic metal would have prevented only if the pro-

Co., 450 N.E.2d 204, 208 (N.Y. 1983). Some jurisdictions place the burden of persuasion on the defendant. See, e.g., *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871, 885 (Alaska 1979).

245. See *supra* note 229; see also James A. Henderson, Jr., *Coping with the Time Dimension in Products Liability*, 69 CALIF. L. REV. 919, 926 (1981); cf. *Borel v. Fibreboard Paper Prod. Corp.*, 493 F.2d 1076, 1089-90 (5th Cir. 1973) (discussing the standard of reasonableness of a manufacturer's efforts), *cert. denied*, 419 U.S. 869 (1974). In *Borel*, the court noted:

[I]n cases such as the instant case, the manufacturer is held to the knowledge and skill of an expert. This is relevant in determining (1) whether the manufacturer knew or should have known the danger, and (2) whether the manufacturer was negligent in failing to communicate this superior knowledge to the user or consumer of its product. The manufacturer's status as expert means that at a minimum he must keep abreast of scientific knowledge, discoveries, and advances and is presumed to know what is imparted thereby. But even more importantly, a manufacturer has a duty to test and inspect his product. The extent of research and experiment must be commensurate with the dangers involved. A product must not be made available to the public without disclosure of those dangers that the application of reasonable foresight would reveal. Nor may a manufacturer rely unquestioningly on others to sound the hue and cry concerning a danger in its product. Rather, each manufacturer must bear the burden of showing that its own conduct was proportionate to the scope of its duty.

Id. (citations omitted) (footnotes omitted). An exception to the requirement that the plaintiff establish a feasible, safer, practicable alternative is the rare case in which it is unreasonable for the manufacturer to market the product at all. See *Kallio v. Ford Motor Co.*, 407 N.W.2d 92, 97 n.8 (Minn. 1987).

ducer sold the Golf causing the injuries between the time the producer should have discovered magic metal and the time it learned of the discovery of magic metal by someone else. As soon as the producer learns of magic metal, it can protect itself from liability by advising consumers of the existence of the safer alternative. Consequently, the producer would not invest in research on safer designs if the expected cost of research exceeded the expected cost of the accidents preventable by safer designs for *the time between when an optimal research program would have revealed the safer alternative and when someone else discovered and announced it*. The result would be to discourage substantial research by *any* producer.

If Schwartz omitted his so-called assumption of risk defense, however, his system would provide incentives for firms to develop optimal safety research programs. Schwartz's system, so modified, would employ an interesting combination of tests: the ex ante strict liability test, conditioned on a firm's failure to satisfy the ex ante Learned Hand test applied to research. Thus, the producer would be liable in case (c) if, when it sold the Golf, it was in a better position than the consumer to decide whether expected accident avoidance costs would be cheaper than expected accident costs. The producer would be in the better position to make this decision if an optimal safety research program would have revealed the feasibility of producing Golfs with magic metal.

If determining whether a firm has conducted an optimal safety program is feasible, then Schwartz's strict liability rule, without his assumption of risk defense, seems to encourage an optimal level of accident costs.²⁴⁶ Imposing strict liability for failing to conduct such a program avoids the necessity of a trial on the issue whether the utility of a Golf with magic metal exceeds its risks—a difficult issue for a court and jury to resolve.²⁴⁷ The producer has an incentive to make a cost-justified decision on this issue because the producer bears either the cost of accidents preventable by the use of magic metal, or the cost of producing the Golf with magic metal. The availability of Schwartz's assumption of risk defense, however, destroys this incentive.

Schwartz's proposal is farther from achieving an optimal safety system than either his proposed system without an assumption of risk

246. For Schwartz's argument that an ex ante Learned Hand test is feasible when considering whether a firm has an optimal safety research program, see Alan Schwartz, *Products Liability, Corporate Structure, and Bankruptcy: Toxic Substances and the Remote Risk Relationship*, 14 J. LEGAL STUD. 689, 695-703 (1985). For further discussion of this argument, see *infra* text accompanying notes 367-69.

247. Calabresi & Klevorick, *supra* note 4, at 611.

defense or current risk-benefit rules.²⁴⁸ Nevertheless, each of these other tests has flaws. Section IV discusses how an acceptable products liability system should accommodate these flaws.

IV. A PROPOSED LIABILITY SYSTEM FOR DESIGN DEFECT INJURIES

A. *Policy Justifications for Liability for Product-Related Injuries*

In his milestone 1980 article on the policies of a products liability system, Professor David Owen reviews the three developmental stages of modern products liability law.²⁴⁹ In Stage I, strict liability emerged in first warranty and then tort law during the 1960's.²⁵⁰ Stage II involved the expansion and definition of doctrines in the 1970's.²⁵¹ Stage III, Owen says, "should be the time for doing what usually comes late in the common-law process: [developing] a system of fundamental social values and goals to be protected and advanced by the law in this area."²⁵² He further observes:

248. The availability of the "assumption of risk" defense in Schwartz's proposal reduces firms' incentives to produce optimally safe products below the level that Schwartz's ex-ante strict liability test would provide without the defense. Under the latter test, the producer invests in safety research until the cost of further research equals the gain in reducing expected accident costs. The producer analyzes these costs of producing a safer product for the time between when an optimal research program would have revealed the safer design and when a product with the safer design becomes available on the market. If no product with a safer design was available, a warning to consumers that a safer design was feasible would not protect the producer. The reason is that the producer is in a better position than the consumer to conduct *and act upon* a risk-benefit test for safer design. This rule provides an incentive for producers to market a safer product if the producer determines that its benefits outweighs its risks. The incentive exists because the producer bears either the costs of accidents preventable by the safer design or the cost of producing the product with the safer design until the safer product is on the market, placing the consumer in a better position than the producer to make the risk-benefit analysis and to act upon it.

Schwartz's proposal also reduces firms' incentives to produce optimally safe products below the levels induced under current risk-benefit rules. Under those rules, the producer invests in a safety research and production program until the marginal cost of the program equals the reduction of expected accident costs achievable by sale of a product with a safer, practicable design. The producer analyzes these costs of creating a safety program for the time between when an optimal program would have placed the product with the safer design on the market and when the producer placed the product on the market.

249. Owen, *supra* note 9, at 681-84. More recently, Owen has discussed the foundations in moral philosophy that inform a principled regime of products liability law. See David G. Owen, *Products Liability: Principles of Justice for the 21st Century*, 11 PACE L. REV. 63 (1990) [hereinafter Owen, *Products Liability: Principles of Justice*]. Owen also has an article in progress developing these ideas in greater detail. See David G. Owen, *The Moral Foundations of Products Liability Law: Toward First Principles* (1991) (unpublished manuscript on file with the author).

250. Owen, *supra* note 9, at 681.

251. *Id.* at 681-83.

252. *Id.* at 683-84 (footnote omitted).

Broadly stated, an appropriate balance between individual liberty and social welfare needs to be struck within a fair and workable adjudicatory system. Once a jurisprudential basis of this type has been set, we may then begin to develop a consistent set of principles tailored to this area of the law. It will then be possible to construct one or more "tests" or rules of liability (and defense) which are firmly rooted in the values of society.²⁵³

Stage III is far from completion in 1991. During the 1980's, courts developed diverse definitions of liability standards and defenses. At the same time, some state legislatures restricted the scope of liability. These developments reflected diverging views of the social values and goals that products liability law should advance. Owen recognizes the need for "deliberate analysis of the relevant political values that can support a principled system of goals and rules."²⁵⁴ Although scholars have debated these social values and goals, no consensus has emerged. As this search for a principled system of goals and rules proceeds, it remains vital to examine critically the policies justifying the numerous liability systems advanced.

This Part reviews Owen's conclusions concerning the validity of conventional policy justifications for strict liability in tort. Owen finds some of these justifications inadequate and suggests they be discarded.²⁵⁵ He determines that other justifications reflect important social values, but conflict with other significant goals.²⁵⁶ Furthermore, he finds that the tools of analysis for adequately resolving these apparent conflicts have not been developed.²⁵⁷ Owen concludes that "[t]he difficult resolution of questions involving the proper accommodation of the relevant goals and values in different contexts still lies ahead."²⁵⁸ This Part examines recent literature suggesting ways to accommodate conflicting social goals. It concludes that the goal of an optimal reduction in accident costs is the most defensible foundation available to construct a products liability system.

253. *Id.* at 684.

254. *Id.* at 683.

255. *See, e.g., id.* at 703-07 (discussing the justifications of compensation, loss shifting, and loss spreading).

256. *See, e.g., id.* at 707-09 (discussing the conflict between the protection of consumer expectations and consideration of fairness and efficiency).

257. *See, e.g., id.* at 709, where Owen states: "While consumer expectations should clearly be accorded significant respect in products liability law, we are far from understanding just how this objective may best be made to fit within a scheme that also accords respect to other goals of fairness and to the economic interests of the group."

258. *Id.* at 715.

1. COMPENSATION AND RISK SPREADING

Owen finds that the frequently articulated goals of compensation and risk spreading cannot, alone, justify strict liability in tort.²⁵⁹ Owen considers these goals "'structurally' inadequate as decisional tools, since they point in one direction only—toward liability."²⁶⁰ He also finds the goals problematic because they employ the costly litigation process, although compensation and risk spreading for pecuniary losses generally are available today at administrative costs far below the costs of litigation. Moreover, compensation and risk spreading by themselves provide no justification for preferring "compassion" for accident victims over "compassion" for those who benefit from the welfare of institutional defendants.²⁶¹

Owen's position is sound. Professor Shapo explains the persistent references to compensation as a justification for strict liability in tort in the following cogent (and perhaps wry) observation:

[T]he limited coverage and deficient benefit levels of the legislative social schemes conspire with rising expectations to keep a strong compensationist feature in the cases. If there is imprecision in the logical support for this phenomenon, it derives only from the unruliness of the world.²⁶²

Compensation and risk spreading lower secondary accident costs.²⁶³ They cannot be the principal goals of tort law, however, because they do nothing to reduce accidents. Moreover, serving these goals would require compensation for all adverse human experiences.²⁶⁴ Private and social insurance provide better means than tort law to accomplish these objectives.²⁶⁵ Furthermore, as Professor Shavell notes, the development of insurance has decreased the necessity for tort law to

259. *Id.* at 703-07.

260. *Id.* at 707.

261. *Id.* at 704-07.

262. Marshall S. Shapo, *A Representational Theory of Consumer Protection: Doctrine, Function and Legal Liability for Product Disappointment*, 60 VA. L. REV. 1109, 1293 (1974).

263. Secondary accident costs are the "costs of rapid changes in income distribution." CALABRESI, *supra* note 8, at 33. Dean Calabresi states:

The advantages of interpersonal loss spreading would probably be stated as a pair of propositions: (1) taking a large sum of money from one person is more likely to result in economic dislocation, and therefore in secondary or avoidable losses, than taking a series of small sums from many people; (2) even if the total economic dislocation were the same, many small losses would be preferable to one large one simply because people feel less pain if 10,000 of them lose one dollar apiece than if one person loses \$10,000.

Id. at 39 (citation omitted).

264. CALABRESI, *supra* note 8, at 43-44.

265. SHAVELL, *supra* note 84, at 297.

assure compensation for accident victims.²⁶⁶

2. DETERRENCE AND MANUFACTURER'S PROBABLE NEGLIGENCE

Owen also finds other stated goals of strict liability—deterrence and the manufacturer's probable negligence—inadequate.²⁶⁷ Both of these goals burden the sale of all dangerous products, no matter how useful, and therefore ought to be discarded. Moreover, a deterrence rationale discourages accidents at all cost—a proposition no one would advocate.²⁶⁸ Finally, Owen properly observes that a manufacturer's probable negligence may warrant the shifting of evidentiary burdens in some situations, but as a liability rationale it ignores the extent of product misuse in causing injuries and overlooks the central issue of product defectiveness.²⁶⁹

Having identified the indefensible justifications for products liability, Owen turns to the problems presented by three other rationales for a products liability system: consumer expectations,²⁷⁰ risk con-

266. Shavell explains:

Before the development of insurance markets, liability furnished victims a source of compensation that presumably would not otherwise ordinarily have been forthcoming. Tort law thus served to an important degree the dual purposes of compensation and deterrence. Moreover, in early times before criminal law and tort law had emerged as separate branches of law, a significant additional purpose of the making of money payments for harm was the maintenance of social order. Without the system of money payments, private vengeance would often have followed the doing of harm.

SHAVELL, *supra* note 79, at 297-98.

267. Owen, *supra* note 9, at 709-11.

268. Calabresi expresses his views on society's commitment to avoiding accident at all costs:

Our society is not committed to preserving life at any cost. In its broadest sense, the rather unpleasant notion that we are willing to destroy lives should be obvious. Wars are fought. The University of Mississippi is integrated at the risk of losing lives. But what is more pertinent to the study of accident law, though perhaps equally obvious, is that lives are spent not only when the *quid pro quo* is some great moral principle, but also when it is a matter of convenience. Ventures are undertaken that, statistically at least, are certain to cost lives. Thus we build a tunnel under Mont Blanc because it is essential to the Common Market and cuts down the traveling time from Rome to Paris, though we know that about one man per kilometer of tunnel will die. We take planes and cars rather than safer, slower means of travel. And perhaps most telling, we use relatively safe equipment rather than the safest imaginable because—and it is not a bad reason—the safest costs too much. It should be apparent that while some of these accident-causing activities also result in diminution of accidents—the Mont Blanc tunnel may well save more lives by diminishing traffic fatalities than it took to build it—this explanation does not come close to justifying more accident-causing activities. Railroad grade crossings are used because they are cheap, not because they save more lives than they take.

CALABRESI, *supra* note 8, at 17-18 (citation omitted).

269. Owen, *supra* note 9, at 711.

270. *Id.* at 707-09.

trol,²⁷¹ and enterprise liability.²⁷²

3. CONSUMER EXPECTATIONS

Owen finds that the consumer-expectations rationale for products liability poses significant problems, but at the same time serves important social goals. He observes that the consumer-expectations test is based upon the principle of autonomy, which recognizes the importance of consumers' ability to order their affairs without fear of unexpected economic loss.²⁷³ Although "consumer expectations should clearly be accorded significant respect in products liability law,"²⁷⁴ this objective suffers from the difficulty of defining precisely whose expectations to respect, the possibility of conflict with the greater economic good, and the likelihood of confrontation with producers' autonomy.²⁷⁵ As Owen puts it, "we are far from understanding just how this objective may best be made to fit within a scheme that also accords respect to other goals of fairness and to the economic interests of the group."²⁷⁶

The fundamental importance of protecting consumer expectations has been recognized throughout the development of products liability law. Professor Shapo's landmark article on representational theory published in 1974 documents the centrality of product portrayal as an influence on the determination of liability.²⁷⁷ Shapo observes that product portrayals arise not only from explicit representations, but also from a myriad of implicit representations created by advertising, product appearance, social context, and other intangibles.²⁷⁸

The subjective and open-ended nature of the consumer-expectations test, however, has drawn criticism.²⁷⁹ Professor Twerski persuasively defends the test and proposes some promising methods for making it workable.²⁸⁰ In defending the consumer-expectations test, Twerski agrees with Shapo that product image created by producers

271. *Id.* at 711-13.

272. *Id.* at 713-14.

273. *Id.* at 709.

274. *Id.* at 709.

275. *Id.* at 708-09.

276. *Id.* at 709.

277. Shapo, *supra* note 262.

278. See, e.g., *id.* at 1370.

279. The drafters of the Model Uniform Products liability Act, as well as some judicial decisions, have rejected the test in design defect cases. See Aaron D. Twerski, *From Risk-Utility to Consumer Expectations: Enhancing the Role of Judicial Screening in Products Liability Litigation*, 11 HOFSTRA L. REV. 861, 901 (1983).

280. See Twerski, *supra* note 279.

and advertisers influences consumer behavior.²⁸¹ Although these "soft," or implied, representations created by product image do not rise to the level of express warranties, they do generate expectations about quality and safety that deserve protection.²⁸² Nevertheless, Twerski acknowledges the difficulty of determining the nature of consumer expectations for any given product. In an attempt to devise a workable consumer-expectations test, he proposes both a narrow definition of the test and a careful judicial screening of its use. The test would be whether the product failed "to meet consumer expectations when the product fail[ed] in a normal use context."²⁸³ Twerski rejects a test of "foreseeable use" because it "is so elastic that it could be stretched to encompass some very remote risk,"²⁸⁴ thereby destroying the test's validity. Thus the consumer-expectations test, according to Twerski, "must be limited to those cases in which consumer use patterns are so clear that the product can be said to have failed in its normal use. In defining normal use patterns, courts will take into account the impact of product image on use patterns."²⁸⁵

Under Twerski's approach the consumer-expectations test is a true strict liability test. It is no defense that the utility of the product outweighed its risks²⁸⁶ or that the danger was unforeseeable.²⁸⁷ Twerski also allows a plaintiff to use both a consumer-expectations and a risk-utility test as theories of product defect. He states:

Once it is understood that the consumer expectation test is not the sole test for defect, but provides a method for resolving a hard core of product defect cases, many of the problems disappear. It would be the function of the court in the first instance to determine whether the injury took place when the product was being put to a normal use. . . . Similarly, the problem of how to resolve the foreseeable misuse cases evaporates; only hardcore normal uses would be governed by the consumer expectation test. All other cases would be subject to the imposition of liability only if the plaintiff were able to establish that the product failed to meet societal acceptability under risk-utility analysis.²⁸⁸

Professor Twerski's case for a limited and clearer consumer-expectations test is convincing. He unrealistically claims, however, that his test does not require determining the hypothetical expecta-

281. *Id.* at 897.

282. *Id.* at 897-901.

283. *Id.* at 906.

284. *Id.* at 916.

285. *Id.* at 907.

286. *Id.* at 918.

287. *Id.* at 919.

288. *Id.* at 908.

tions of consumers. He explains that the test predicates recovery upon the failure of a product to perform safely in normal use.²⁸⁹ He defines the test, however, as "*the failure of the product to meet consumer expectations* when the product fails in a normal use context."²⁹⁰ Under this definition, a court or jury determination of whether an injury occurred during normal use of the product would not suffice; the court or jury also would have to determine whether the product frustrated consumer expectations. Thus, a hammer might "fail" in a normal use if the user hit her thumb with it while striking a nail, but no liability would attach under the consumer-expectations test unless the hammer's danger was greater than a consumer would expect. Likewise, a small car might "fail" in a normal use if the car was "totaled" when hit by a larger car, but no liability would attach under the test unless the danger to the occupant of the small car was beyond consumer expectations.

Thus, despite his claim to the contrary, Twerski's approach requires deciding whether a product's danger exceeds consumer expectations; it is necessary to decide whose expectations should control—those of the individual injured consumer, the "ordinary" consumer with "ordinary" knowledge of the product's danger, the "reasonable" consumer, or the "foreseeable" consumer. This decision, however, can draw on the same approach that Twerski employs on the use issue: normal user expectations should control. If the jury could not find that the product posed a surprising risk to a normal user of the product, the court would relegate the plaintiff to a risk-utility test.

An additional problem remains with defining "normal" uses and users. Although "normal" uses and users may be a narrower concept than "foreseeable" uses and users, it is no more self-defining. Shapo urges that the fundamental starting point in product frustration problems should be the portrayal of the product and the consumer's likely image of it.²⁹¹ Shapo's concept of the objectively determined intent of the seller in its product portrayal sheds light on the definition of normal uses and users. Like Twerski, Shapo finds the foreseeability test "obfuscatory, or at least inadequate."²⁹² Shapo states his basic thesis as follows:

Judgments of liability for consumer product disappointment should center initially and principally on the portrayal of the prod-

289. *Id.* at 906-07.

290. *Id.* at 906 (emphasis added).

291. Shapo, *supra* note 262, at 1240.

292. *Id.* at 1224.

uct which is made, caused to be made or permitted by the seller. This portrayal should be viewed in the context of the impression reasonably received by the consumer from representations or other communications made to him about the product by various means: through advertising, by the appearance of the product, and by the other ways in which the product projects an image on the mind of the consumer, including impressions created by widespread social agreement about the product's function. This judgment should take into consideration the result objectively determinable to have been sought by the seller, and the seller's apparent motivation in making or permitting the representation or communication.²⁹³

Thus, normal uses and users can be determined by "the result objectively determinable to have been sought by the seller, and the seller's apparent motivation in making or permitting the representation or communication."²⁹⁴ Courts can use this standard to screen cases from the jury that do not fit the narrow scope Twerski would allow for the consumer-expectations test. The standard's objectivity makes it less susceptible than a bare test of normality to the problems of elasticity and unpredictability that concerned Twerski.

With the modifications this Article suggests, Twerski's definition of the consumer-expectations test appears to solve one of the problems critics have found with the test—its open-endedness. Professor Epstein approves of a similar test based on the realities of insurance markets.²⁹⁵ This definition of the test properly reflects its implied warranty origins and may solve the otherwise intractable problems of identifying foreseeable uses and deciding whose expectations are relevant. This definition is not a perfect solution, but few legal tests are capable of simple application. It is the courts' function to apply legal standards in light of the policies they embody. Courts should have no more difficulty grappling with a narrowly defined consumer-expectations test than with many other tests they apply everyday.

A solution to the definitional problem does not resolve all the difficulties with the consumer-expectations test. The major issue remaining is whether courts should use the test as a "true" strict liability test, allowing recovery even if the utility of the product outweighs its risks or the risk is unforeseeable. Although Shapo

293. *Id.* at 1370.

294. *Id.*

295. Epstein accepts a rule of liability holding manufacturers liable "for latent defects in a product in its original condition that causes harm to a user who makes normal and proper (or 'intended') use of the product." Richard A. Epstein, *Products Liability as an Insurance Market*, 14 J. LEGAL STUD. 645, 663 (1985).

recommends the firm's product portrayal and the consumer's likely product image as starting points in product frustration cases, he does not advocate that consumer expectations invariably should control the outcome of cases.²⁹⁶ Shapo recognizes that policy factors may "refute the case established by the image the [seller projected to the user]."²⁹⁷ Owen observes that the consumer-expectations test may pose a conflict with the greater economic good and with producers' autonomy. Thus, preservation of individual autonomy—like risk spreading, compensation, and deterrence—cannot be a primary goal of a tort-liability system. Natural disasters, illnesses, and other events interfere with individuals' ability to order their affairs without fear of unexpected economic loss. As with risk spreading, liability for interference with autonomy would require compensation for all adverse experiences—including those of consumers generally and of persons adversely affected by interference with a producer's autonomy. No tort liability system can accomplish such a goal; at best, it can promote aggregate autonomy.²⁹⁸ As Professor Shavell states, "The main difference the presence of the liability system [makes] is that it creates incentives toward safety. This, then, must be said to be the chief purpose of the liability system today."²⁹⁹

Professor Attanasio has advanced the thesis that the principle of aggregate autonomy supports liability under the Calabresian cheapest-cost-avoider theory.³⁰⁰ The following Part discusses the relation of Attanasio's thesis to risk control as an objective of tort law. The principle of aggregate autonomy implies that a liability system should not protect consumer expectations in all circumstances. For instance, Attanasio states that his thesis might not support liability for "totally unforeseeable" harms,³⁰¹ or for harms caused by "a product of high necessity and expense that liability renders totally unavailable."³⁰²

296. Shapo, *supra* note 262, at 1240.

297. *Id.* at 1225.

298. See Attanasio, *supra* note 12, at 707.

299. SHAVELL, *supra* note 79, at 297.

300. See Attanasio, *supra* note 12.

301. *Id.* at 711-12.

302. *Id.* at 737. Attanasio explains more fully his position on harms caused by necessary products:

Another poignant case on the demand side is the seriously ill patient who is denied the use of a drug that accident costs render prohibitively expensive or even unmarketable. Again, the attack hits the fringe of an aggregate autonomy defense of Calabresian theory. Nevertheless, this qualification hardly rebuts the initial criticism. The hypothetical assumes a product of high necessity and expense that liability renders totally unavailable. Perhaps, in a few extreme cases similar to this one, the principle of aggregate autonomy might allow such products to be marketed without liability if appropriate warnings were given.

Even if the frustration of consumer expectations does not justify liability in every instance, as Owen observes, consumer expectations warrant "significant respect."³⁰³ Calabresi and Klevorick's interpretation of the consumer-expectations test accords it an integral role in products liability law, but avoids the problem of conflict with the economic interests of the larger group. Calabresi and Klevorick find that courts using the test are reaching for a liability theory that places responsibility upon the party in the best position to make a risk-benefit judgment and to act upon it.³⁰⁴ They further recognize that strict liability sometimes conflicts with the best economic interests of the group. Consequently, the test should be used only when other available tests are unlikely to reduce total accident costs. Calabresi and Klevorick conclude:

[I]f the court is comfortable with its own (and a jury's) capacity to decide what risks are worth taking—at least when all the retrospective data are available—it is apt to impose liability regardless of which party can assess risks and benefits better. It will insist on its own prerogative, as representative of the state, to decide what is and what is not worth doing. This will be true especially when important choices are available to both parties so that which party is in a better position to decide between safety and risk and to act on that choice is quite uncertain. Conversely, the more difficult it is to tell whether a product is worth having in its current state, the more a court will seek to determine which of the parties can make that decision most intelligently. It will try to determine where incentives are best placed and assign accident costs accordingly.

It follows that in evaluating and criticizing judicial decisions in each area of torts, we must consider whether the courts have insisted on their own capacity to assess risks and benefits when, in fact, they would have done better had they looked to the parties' relative capacity to choose. But we should be equally critical if courts have been too hesitant and have sought the best decision maker when in fact the decision should clearly be for or against the product.³⁰⁵

The task, then, is to determine when the test is suitable for use—that is, when the test is likely to serve the goal of reducing total accident costs or of promoting aggregate autonomy.

Alternatively, society might choose to pay for the autonomy infringements caused by such products.

Id. at 737 (footnote omitted.)

303. Owen, *supra* note 9, at 709.

304. Calabresi & Klevorick, *supra* note 4, at 586-87, 608.

305. *Id.* at 611-12 (footnote omitted).

4. RISK CONTROL

Owen observes that although liability based upon ability to control risk—Calabresi's cheapest-cost-avoider test—has much in its favor,³⁰⁶ it presents "the problem of allocating priorities between the values within the rationale and other interests raised by other values."³⁰⁷ In Owen's view, "[t]his issue principally involves the push and shove between efficiency and 'rights' deserving of protection, which may arise from expectations of product safety or from views of fairness in the rules of law."³⁰⁸

Professor Attanasio examines the conflict of values posed by the cheapest-cost-avoider test.³⁰⁹ Attanasio rejects the Nozickian, libertarian theory of autonomy,³¹⁰ because its "commitment to absolute or near-absolute rights may, in the aggregate, reduce autonomy across the society: people may feel inhibited to act if shackled by such pervasive and stringent side constraints."³¹¹ Under many circumstances, Nozickian theory sanctions strict liability; however, that theory appears to permit warranty disclaimers and limitations. Attanasio notes that "[i]n certain respects . . . the Nozickian conception may reach too far to protect victims; in others like products liability, it may leave accident victims inadequately protected."³¹²

Attanasio takes the position that liberty and order have a symbiotic relationship, and that an important goal of tort law is to keep liberty and order in balance, to increase autonomy.³¹³ In Attanasio's words: "[T]ort liability imposes a degree of order on the individual liberty of the tortfeasor in order to advance victim autonomy. If tort law is working properly, compensation should increase victim autonomy without unduly constricting the long term choices, or autonomy, of others."³¹⁴ Attanasio maintains that tort law must strike "a propitious balance between liberty and order to preserve autonomy for as many individuals in society as possible."³¹⁵ He further posits that tort law promotes aggregate autonomy rather than utility, and that utility is indeterminate because "the ideal mix of order and freedom of

306. Owen, *supra* note 9, at 712.

307. *Id.* at 713.

308. *Id.*

309. See Attanasio, *supra* note 12.

310. See ROBERT NOZICK, *PHILOSOPHICAL EXPLANATIONS* (1981); ROBERT NOZICK, *ANARCHY, STATE, AND UTOPIA* (1974).

311. Attanasio, *supra* note 12, at 722.

312. *Id.*

313. *Id.* at 686-87. My summary of Attanasio's thesis necessarily is oversimplified, so I caution those with an interest in his ideas to consult his entire article.

314. *Id.* at 687.

315. *Id.* at 707.

action is virtually impossible to calculate with confidence.”³¹⁶ Attanasio asserts:

[P]rinciples of tort compensation may require paying millions of dollars to allow one badly mangled person to survive in a relatively “unproductive” existence. Often, this money might more efficiently be spent to alleviate other human suffering. For example, society might place the amount that a severely damaged victim might recover into a general fund used to reduce malnutrition. For the same price needed to sustain one badly mangled tort victim, society might save many people. If tort law adhered strictly to utilitarian concerns, it would follow this hypothesized arrangement or some similar plan that did not waste so much money on victims who could not efficiently be healed.³¹⁷

Attanasio maintains that negligence law promotes aggregate autonomy. On one side of the balance of interests, accidents impose severe restrictions on victims’ autonomy. On the other side, the requirements in negligence law of foreseeability, unreasonableness, and causation avoid undue restriction upon the autonomy of potential tortfeasors.³¹⁸ Thus if the perpetrator of the accident could foresee the risk and take precautions with less sacrifice of liberty than the risk of sacrifice to the victim’s liberty, liability would advance victims’ autonomy without undue constraints on others’ autonomy.³¹⁹

Attanasio further maintains that the principle of aggregate autonomy supports liability under the Calabresian best-decider theory, and that the Calabresian theory, when joined with enterprise liability, is superior to negligence. According to Attanasio, the “weak principle of aggregate autonomy” supports action “to protect the individual against severe constrictions of life plans whenever such protection may be accomplished through de minimis wealth-related interference with the life plans of some members of society.”³²⁰ Attanasio observes that “accidents that maim or kill impose some of the most severe constraints against choice imaginable”³²¹—choices of both the victim and those affected by the victim’s injuries. The notion of extended responsibility supports placing a duty on the manufacturer to help victims when the manufacturer is the best decider, because the best decider’s superior knowledge makes it the party best able to protect its own autonomy and to make the election between

316. *Id.* at 713.

317. *Id.* at 689 (footnote omitted).

318. *Id.* at 694-97, 701-02.

319. *Id.* at 694-702.

320. *Id.* at 723.

321. *Id.* at 724.

safety and insurance.³²² Attanasio further finds that placing liability on the best decider helps the consumer make informed product choices and reduces product consumption and resultant accidents. The consumer has better information through effective warnings or higher product prices.³²³ The enterprise liability aspect of the best-decider rule allows manufacturers to spread the risk through insurance, thus alleviating the infringement on the defendant's liberty.³²⁴

Because of its reliance on superior knowledge, Attanasio contends that the best-decider rule advances autonomy in four ways. First, it reduces the effort required to make the decision between safety and insurance. Second, it improves the accuracy of the decision. Third, it increases the likelihood of safety measures to reduce the number and severity of injuries. Fourth, it places the insurance decision on the party with superior knowledge about insurance needs.³²⁵

Attanasio observes that the best-decider rule enhances autonomy more than the negligence rules do because it protects victims while not unduly infringing on others' autonomy. Firms with superior knowledge can spread the risk of loss. Although the best-decider rule generates somewhat higher product prices than does negligence, it also increases aggregate autonomy, which in turn reduces the profound autonomy infringements suffered by accident victims.³²⁶

Despite these justifications for the best-decider rule, Attanasio acknowledges its limitations. Thus he expresses reservations about liability for totally unforeseeable risks:

Even under these conditions, however, the superior ability of producers to spread the loss and to factor in some unforeseeable loss when marketing a product might favor imposing the liability on them. However, the better solution may be for society to shoulder the loss through general tax revenues. In some sense, such a loss may be more accurately attributable to the march of technological progress than to any particular product. Because we all benefit from technological advances, we perhaps should all pay for the costs they impose.³²⁷

Using the best-decider rule for unforeseeable risks weakens the superior-knowledge justification for the rule. Recognizing this problem, Attanasio observes that a lack of foreseeability "impairs the ability of

322. *Id.* at 708.

323. *Id.* at 709-10.

324. *Id.* at 711.

325. *Id.* at 708-09.

326. *Id.* at 712-13.

327. *Id.* at 712 n.148.

the alleged tortfeasor to avert liability, thus undermining his power to defend his liberty against the order imposed by tort liability. It also impairs the possibility of insuring against liability."³²⁸

The seriously ill patient "who is denied the use of a drug that accident costs render prohibitively expensive or even unmarketable"³²⁹ also troubles Attanasio. He explains: "Perhaps, in a few extreme cases similar to this one, the principle of aggregate autonomy might allow such products to be marketed without liability if appropriate warnings were given. Alternatively, society might choose to pay for the autonomy infringements caused by such products."³³⁰ In addition to recognizing these limitations, Attanasio presumably would recognize limitations upon the best-decider rule when a court cannot identify the best decider. Calabresi and Klevorick have acknowledged that sometimes "important choices are available to both parties so that which party is in a better position to decide between safety and risk and to act on that choice is quite uncertain."³³¹ In that case, the court should "insist on its own prerogative, as representative of the state, to decide what is and what is not worth doing."³³² In other words, the court should determine whether a product's risks outweigh its benefits when the court cannot identify the best decider.

The question arises whether Calabresi's goal of an optimal reduction of accident costs (including the costs of accidents and the costs of accident avoidance) differs from Attanasio's goal of promoting aggregate autonomy. Attanasio agrees that negligence law promotes aggregate autonomy, because if a defendant creates an unreasonable risk, "the imposition on [the defendant's] liberty in taking precautions is less than the magnitude and scope of risk to the victim's liberty."³³³ The best-decider rule further promotes autonomy by allowing more compensation to victims and by recognizing the ability of commercial firms to make safety decisions and to spread costs. Also, a cost-reduction objective does not abjure consideration of moral values. As Part III.2.C's discussion of the risk-utility decision observed, the concept of unreasonable risk balances social values. Analysis of accident "costs" need not, and should not, ignore the implicated moral values.³³⁴ Thus, the goals of Calabresi and Attanasio employ different

328. *Id.* at 704-05.

329. *Id.* at 737.

330. *Id.* (footnote omitted).

331. Calabresi & Klevorick, *supra* note 4, at 611-12.

332. *Id.*

333. Attanasio, *supra* note 12, at 696.

334. See *supra* note 138; see also Owen, *Products Liability: Principles of Justice*, *supra* note

languages—one of economics, the other of philosophy—but they are consistent.

The minimization of accident costs, as informed by the principle of aggregate autonomy, provides a defensible objective for products liability law. Owen raises important concerns about “the push and shove between efficiency and ‘rights’ deserving of protection, which may arise from expectations of product safety or from views of fairness in the rule of law.”³³⁵ Attanasio’s theory of aggregate autonomy goes a long way toward resolving these concerns. In fact, given Attanasio’s view of the apparent conflict between liberty and order, Owen’s use of the term “push and shove” is apt. Though Attanasio recognizes the tension between liberty and order, he believes that neither can exist without the other.³³⁶ Thus, if the goal of accident cost reduction takes account of social values and promotes aggregate autonomy, efficiency and rights will not conflict to an unacceptable degree.

The idea that risk control alone promotes efficiency also troubles Owen. He notes that risk control rules “may not work in practice as well as in the thoughts of man.”³³⁷ Calabresi’s admonition that no one rule of liability is appropriate in all circumstances³³⁸ helps in the search for plausible liability rules. Both the best-decider rule, reflected in part by the consumer-expectations test, and negligence law can minimize accident costs and promote aggregate autonomy when used in the appropriate circumstances. The task is to identify those circumstances.

5. ENTERPRISE LIABILITY

Owen tentatively finds an enterprise or cost-internalization rationale for products liability somewhat appealing. He states:

While one’s initial tendency is to reject summarily such a very strict causation approach to products liability . . . the thought may need much more analysis. At an early date, Professor Cowan pointed to the deliberate nature of many if not most decisions concerning product safety. Managers routinely decide how much risk to leave in the product’s design, in the production and quality assurance process, and in the package of safety information carried

249, at 64 (arguing that “the rules that . . . govern products liability into the twenty-first century [should be] constructed on considered principles of justice set firmly upon a sound moral philosophy”).

335. See *supra* note 308 and accompanying text.

336. Attanasio, *supra* note 12, at 686.

337. Owen, *supra* note 9, at 712.

338. See *supra* note 305 and accompanying text.

with the product. To the extent that accidents from manufacturer-created conditions are not the result of deliberate choices but result instead from oversight, such failures may fairly be charged to manufacturers on more traditional grounds of fault. This would appear to exhaust the possibilities, since unforeseeable misadventure from external sources was excluded by hypothesis from the scope of liability. "Ultra-strict" liability of this kind may thus amount to little more than liability for intentionally or negligently inflicted harm. From another perspective, it may reduce essentially to something like the best-risk-controller economic standard Under any form of "ultra-strict" liability, one would very probably have to exclude from coverage losses attributable to serious consumer abuse not only on grounds of economic sense but also to treat fairly the careful consumers who do apply a rule of reason to curtail their personal liberties for the common economic weal. Such an exclusion would also seem required to eliminate the apparent unfairness of forcing manufacturers to internalize consumer "madness" in putting products to unpredictably dangerous use.

The cost-internalization rationale thus contains the germs of a theory of "ultra-strict" liability that may deserve some further study. The concept is close to that of risk control, and thus to Calabresi's cheapest-cost-avoider test as well. While only embryonic, some of these combined ideas appear to shed at least potential light upon important issues in this field of law.³³⁹

Owen's focus upon probable fault and risk control is useful in evaluating the desirability of enterprise liability. Yet in this article, Owen does not discuss the problem of products that pose unforeseeable risks—a controversial problem that emerged in the 1980's.³⁴⁰ Also, the principle of intentionally inflicted harm as a basis for imposing "ultra-strict" liability is not very helpful. If a product poses an unforeseeable risk, its producer has caused harm to the consumer unintentionally.³⁴¹ Even if the producer knew to a substantial certainty that its product would harm someone, that knowledge alone would not justify liability. No fundamental social policy supports placing liability upon a person solely because he intentionally inflicted

339. Owen, *supra* note 9, at 713-14 (citations omitted). For the discussion of deliberate choice Owen refers to in this quotation, see Thomas A. Cowan, *Some Policy Bases of Products Liability*, 17 STAN. L. REV. 1077 (1965).

340. In a later article, Owen has taken the position that principles of moral philosophy do not support liability for unforeseeable risks. See *infra* note 359. For a thoughtful consideration of products that pose unforeseeable risks, see Henderson, *supra* note 245.

341. Henderson states, "In contrast to producers' quality control decisions affecting manufacturing defect rates, which arguably amount to the deliberate taking of plaintiffs' physical well-being, it is difficult to see how the decision to market a product believed to be free of hazards involves the deliberate taking of the plaintiff's well-being." *Id.* at 950.

harm on another. The law does not consider all intentionally inflicted harms tortious, for good reason. Western Union, for example, would not be liable for harm caused by a telegram delivery informing parents of the death of their child, despite the company's agents' substantial certainty that the telegram would cause severe emotional distress.³⁴² Nor is one liable for intentional harms inflicted in the course of reasonable self defense or a lawful arrest.³⁴³ The question for purposes of products liability is whether, for example, the manufacturer of baseball bats, who knows to a substantial certainty that some persons will be harmed by use of the bats, should be liable for the inevitable harms that the bats will produce.

The reasonableness of an actor's conduct provides a basis for the defense of privilege for the intentional infliction of harm. As with negligence, the law has generally refused to impose liability for intentional harms when the social utility of the actor's conduct outweighs its risks.³⁴⁴ The law does make an exception to the rule of nonliability for privileged—and therefore reasonable—conduct when a defendant acts out of "necessity."³⁴⁵ In a "necessity" situation, the defendant caused damage to another to avert harm to itself. Courts allow an invasion of the other's interest if the defendant acted reasonably; however, they attempt to mitigate the invasion by requiring the defendant to pay compensatory damages because the plaintiff derived no benefit from the defendant's conduct. Arguably, the privilege of necessity could justify strict liability on the ground that the producer benefits from selling a risky product that harms the plaintiff. This argument is unpersuasive, however, if courts view product risks and benefits as widely distributed throughout society.³⁴⁶

342. A defendant's conduct must be outrageous before liability attaches for the intentional infliction of emotional distress. RESTATEMENT (SECOND) OF TORTS § 46 (1965).

343. For these and other privileges that apply to the use of force, see RESTATEMENT (SECOND) OF TORTS §§ 63-156 (1965).

344. See, e.g., PROSSER AND KEETON, *supra* note 90, § 16, at 108-09.

345. See, e.g., *Vincent v. Lake Erie Transp. Co.*, 124 N.W.2d 221, 222 (Minn. 1910); RESTATEMENT (SECOND) OF TORTS § 197 (1965).

346. Cf. Henderson, *supra* note 245, at 965. Henderson takes a broad view of product risks and benefits:

If one views product manufacturers as dominant, powerful actors who impose value choices on passive, unconsenting users, consumers, and bystanders, then the forms of strict liability considered in this Article are likely to be attractive on fairness grounds. If one views manufacturers as conduits through which the value choices of users and consumers find expression, and if one feels that product-related costs and benefits are fairly evenly distributed throughout our interdependent society, then principles of fairness will seem less important in deciding whether or not to impose strict liability. Because this writer tends to agree with the latter view, he finds it difficult to support, on fairness grounds, those forms of liability that seem likely to result in the waste of scarce resources.

The concept of intentional harm is inadequate to support enterprise liability. The principles of probable fault and risk control, however, support an important—but not an exclusive—role for strict products liability.

A pure enterprise liability system that held producers liable for all harms caused by their products, except those caused by the plaintiff or a third party, would not achieve optimal reduction in total accident costs. Although such a system would reduce judicial administration costs and spread accident costs, it would produce either excessive costs resulting from preventable accidents or excessive costs of accident prevention. No defenses exist that would make enterprise liability workable as an effective cost-reduction system, nor can a system use a cheapest cost-avoider standard to support the conclusion that such a system would be efficient.

A rule of “true” strict liability with a contributory negligence defense—the rule that Schwartz purports to advocate, but fails to implement in his proposals—would not reduce product accidents to an optimal level. Although economic models portray true strict liability as efficient,³⁴⁷ these models make fallacious assumptions about the influence of tort rules upon human behavior. The inevitable carelessness of product users causes many product-related injuries that could be avoided by the incorporation of safety devices in the product design at reasonable cost.³⁴⁸ Scholars have argued persuasively that the fear of losing a tort action does not deter consumers from using products negligently any more than the fear of injury itself. Thus, a rule of contributory negligence cannot substantially alter human behavior; however, a rule of liability for producers can alter the behavior of firms in designing products.³⁴⁹ Indeed, safety engineers assume that if injuries can result from the negligent use of a product,

Id. (footnotes omitted).

347. See, e.g., SHAVELL, *supra* note 79, at 12-13.

348. See Calabresi & Hirschhoff, *supra* note 29. Calabresi and Hirschhoff believe that the product user's contributory negligence does not necessarily show that the product user was the best cost avoider. They illustrate:

[T]he fact that a use of the product is deemed contributorily negligent does not necessarily mean that the manufacturer is not in a better position than the user to evaluate the costs and benefits. To take an example from a different area of strict liability, a worker may negligently use a piece of equipment, but his employer may nonetheless be in a better position to evaluate the relevant costs and benefits. That is, he may know the propensity to negligent use and be better able to evaluate a substitute piece of equipment which cannot readily be negligently used. This explains why contributory negligence has not been an inevitable defense to an action based on strict liability.

Id. at 1064.

349. See e.g., Mark E. Roszkowski & Robert A. Prentice, *Reconciling Comparative*

they will. Often the best way to prevent such injuries is to make the product safer.³⁵⁰

Owen views an enterprise liability system as requiring manufacturers to "absorb the costs of all those accidents that are not the 'fault' of product users or third persons (perhaps defined in terms of unforeseeable abuse)."³⁵¹ Of course, if a liability system exonerated manufacturers whenever a product user or a third person caused a product-related injury, many more injuries would occur that could be prevented at a reasonable cost than would if a system allowed only a contributory negligence defense. A defense of the plaintiff's or a third party's negligence would not reduce preventable injuries for the same reasons that a contributory negligence defense would not reduce such injuries. An employer who uses punch presses without protective guards, for example, is unlikely to add guards out of fear that the employee will be unable to collect damages from the punch press manufacturer.

At the other extreme, if unforeseeable product misuse were the only defense available in a products liability action, enterprise liability would be socially unacceptable. Consider the situations in which manufacturers would be liable for injuries if unforeseeable product misuse were the only available defense in an enterprise liability system. Manufacturers would be liable to persons who cut themselves with knives; persons injured by bicycles and by striking the corners of tables; children injured by falling off of wagons, scooters, and tricycles; children who run into the paths of oncoming cars; baseball play-

Negligence and Strict Liability: A Public Policy Analysis, 33 ST. LOUIS U. L.J. 19, 59-64, 85-91 (1988).

For an excellent example of why contributory negligence should not be a defense in a products liability case, see *Turner v. Machine Ice Co.*, 674 P.2d 883 (Ariz. Ct. App. 1983). While attempting to wipe crushed ice off the ramp in front of an ice machine, Turner accidentally stuck his hand into the metal gate at the front of the machine and failed to remove his hand before the guillotine-like metal gate closed. His hand was crushed, and the gate amputated three of his fingers. *Id.* at 885. On cross examination, the defense attorney asked the plaintiff's expert, a safety engineer, "No one needed to tell you, even though you never saw this machine in operation, that if you put your hand in there where that gate operates, you would be injured?" *Id.* at 888. The expert answered:

Well, to me, as a safety engineer, I know that that type of arrangement results in only a matter of time until someone, for some reason, somehow gets their hands into it and then an injury results. So, my life has been geared to the prevention and it's very basic to me that the way you prevent these types of injuries is not to base it upon hopefully hoping that all human performance is going to be 100 percent perfect 100 percent of the time. *The easiest, the cheapest and the most expedient method it to put a guard on it.*

Id. (emphasis in original). For the court's holding in *Turner*, see *supra* note 226.

350. See Roszkowski & Prentice, *supra* note 349, at 86-88.

351. Owen, *supra* note 9, at 713.

ers or bystanders who are struck by flying balls and bats; people who fall off of ladders or through glass doors and windows; people who step upon dropped nails, needles, or pins and develop serious infections; children who fall while running with a crayon or pencil and sustain the loss of their eyesight; patients who suffer unforeseeable side effects from essential, life-saving drugs; patients who fall out of hospital beds; babies who suffocate in pillows; and all workers injured by state-of-the-art, high-powered machinery. All of these situations involve injuries resulting from foreseeable product misuse, or from "pure accident." All result from "product design" and from products generally considered to be reasonably safe.³⁵² In each case, no safer, feasible alternative design exists that would allow these products to perform the same socially useful function.

Should a system use enterprise liability in such situations? Higher prices for baseballs, bats, bicycles, ladders, glass doors, crayons, and pencils would reduce consumers' use of those products and, consequently, the number of injuries they produce. Internalizing accident costs, however, would not make these products safer. Nor would higher prices provide greater information about these products' risks to the public; the risks are already well known. However, these facts alone do not explain fully why enterprise liability is inappropriate for situations involving foreseeable product misuse.

The only plausible reason not to use enterprise liability in these situations is the courts' belief—unconstrained by a contrary legislative judgment—that the aggregate utility of these products outweighs their aggregate risk as a matter of social policy. Baseball bats and bicycles provide affordable recreation and transportation, both socially valuable activities. Manufacturers cannot make these products safer without reducing their utility. Society is willing to subsidize the prices of these products because their aggregate utility with lower

352. Viscusi reported the ten products involved in the most injuries (excluding death) in 1981:

<u>Product Group</u>	<u>Injuries in thousands</u>
Stairs, steps, ramps, and landings	763
Bicycles and bicycle accessories	518
Baseball	478
Football	470
Basketball	434
Nails, carpet tacks, screws and thumbtacks	244
Chairs, sofas, and sofa beds	236
Skating	225
Nonglass tables	225
Glass doors, windows, and panels	208

W. VISCUSI, *supra* note 161, at 36, (citing U.S. CONSUMER PROD. SAFETY COMM'N, 1982 ANNUAL REPORT 22ff).

prices outweighs the aggregate losses that higher prices for these products would prevent. In other words, society is unwilling to reduce injuries caused by certain "reasonably safe" products because a reduction in the number of accidents arising out of the use of those products would cost too much.

Calabresi's best-decider rule cannot explain the rule of nonliability for these reasonably safe products. Persons injured by such products are not in the best position to make a risk-benefit decision and to act upon it. Generally, young children and bystanders cannot make and act upon choices to avoid injury. It is doubtful that even an adult purchaser of such products is in a better position than the producer to make and to act upon a risk-benefit decision. Human fallibility, the inevitable and predictable carelessness of product users, supports this conclusion. Neither the producer nor the consumer is in a good position *both* to make the risk-benefit decision as to the safety of the product *and* to act upon that decision.

To illustrate, assume that P buys a pair of skis and begins learning how to ski. P enjoys the sport, and so she skis frequently, continually improving her skills. On one occasion, she attempts to traverse a steep slope for advanced skiers, and she falls. Despite having safety bindings on her skis, she breaks her leg.

In this situation, the ski manufacturer should not be liable for P's broken leg. Is the reason that P was in the best position to decide how to maximize her own happiness or to make a risk-benefit decision and to act upon it? To assume that skiers know better than ski manufacturers the odds of breaking a leg, the circumstances most likely to produce a fall, and the medical complications that may result from a broken leg overestimates human knowledge and intelligence. Skiers probably are unaware of the specific risks they encounter, unless they are professional skiers with M.D. degrees. Moreover, "rational" people sometimes take "foolish" risks, become distracted, and fail to inform themselves thoroughly of hazards. Thus, human fallibility makes skiing injuries inevitable. Even skiers who comprehend the risks of skiing are unable to avoid falls.

If a liability system required the ski manufacturer to internalize all injury costs from consumers' use of skis, producers would charge more for skis and better educate the public about the hazards of skiing. Consumers, in turn, would purchase fewer skis and ski less often. Injuries from skiing would decline. Yet, in most situations, courts are satisfied if products contain warnings of risks generally not known by foreseeable users and do not require that consumers know as much about risks as product manufacturers know, or would know, if they

internalized accident costs. Skis with safety bindings are "reasonably safe." Few would advocate enterprise liability for such products.

The same analysis applies to Schwartz's case (a), which involves the consumer injured when her Golf crashed. A Golf is less safe than a Rolls Royce in a crash. If no magic metal exists, a Golf is reasonably safe. But does the owner possess greater ability than the manufacturer to make a risk-benefit judgment on the Golf and to act upon it? Is she as aware as the manufacturer of the specific hazards posed by the design, the frequency of crashes, and the conditions most likely to create crashes? Even if she is aware of these factors, does she have the ability to avoid accidents? If a liability system required the manufacturer to internalize injury costs, Golf prices would rise, fewer Golfs would be sold, and injuries from Golfs would decline.

Skis and Golfs provide affordable recreation and transportation—two socially valuable activities. Manufacturers cannot make skis safer, nor can they make Golfs safer if magic metal does not exist, without raising prices. Skis and Golfs are reasonably safe because their aggregate utility with the lower prices outweighs the aggregate losses that higher prices would prevent.

The best-decider rule is not helpful in these situations because consumers do not have a greater ability than manufacturers to evaluate product risks and benefits and to act on the evaluation even when consumers understand those risks in a general way.³⁵³ Although pro-

353. See Calabresi & Hirschoff, *supra* note 29, at 1065. They assert:

Just as the employer may be in the better position to evaluate the costs and benefits of a piece of equipment given the likelihood of occasional employee negligence (defendant's strict liability), so a spectator at a baseball game may be best suited to evaluate the desirability of sitting in an unscreened bleacher given the likelihood of occasional negligent wild throws by the players during the game which may result in the spectator's being hit on the head (plaintiff's strict liability, or assumption of risk). In both these situations, the conclusion as to whether an accident cost should be shifted depends not on whether a party was negligent, but rather on a judgment as to which party was in a better position to make the cost-benefit analysis irrespective of the other's negligence. In each situation, strict liability (whether defendant's or plaintiff's) is imposed regardless of whether the other party "ought" to have done what he did.

Id. (footnotes omitted).

It is debatable whether the spectator is really in a better position than the operator of the ball park to make a risk-benefit decision and to act upon it. The baseball fan may be aware of the risk of being struck. However, he or she probably does not know the odds of being hit. Thus, the operator of the ball park is in a better position than the spectator to know the odds of a spectator being hit and the location of the riskiest seats. If the operator had to internalize these costs, it would charge more for baseball tickets or screen more seats. Injuries would be reduced, either because the field would have more screened seats, or because fewer persons would attend baseball games because of the higher cost of tickets. However, the reduction in either a clear view of the field or in attendance at baseball games is undesirable. Baseball fans value the pleasure of clear views, and courts have decided that ball park operators use "reason-

ducers are in a position to understand the risks these products create, they cannot (and should not) pass judgment on the benefits of these products to consumers. Even if producers could evaluate the risks and benefits of these products to individuals, producers could not *act* on that evaluation because they could neither make their products safer nor control consumer's use of their product. Producers cannot completely educate consumers about the risks of their products. Highly detailed explanations of every potential hazard would be costly and, for the most part, would go unread. For products such as Golfs and skis, courts allow the loss to fall on the accident victim if consumers have a relatively good understanding of product risks, despite the injuries that those products are bound to cause. Judges, not victims or producers, are in the best position to make and act upon the risk-benefit decision for these products.³⁵⁴

able care" when they provide a "reasonable" number of screened seats. Given the spectators' general awareness of the hazards involved, the risk of a spectator being hit is outweighed by the utility of unscreened seats. The injuries that higher ticket prices or more screened seats would prevent fall upon the victims, not because the park operator is less able than the spectator to make the risk-benefit decision and to act upon it, but because utility outweighs risk.

354. See, e.g., *Metal Window Prods. Co. v. Magnusen*, 485 S.W.2d 355 (Tex. Civ. App. 1972). The plaintiff in *Metal Window*, a guest at a cookout, passed through an open sliding glass doorway several times. *Id.* at 356. Incorrectly believing that the door was still open, she attempted to reenter the apartment and bruised her face and damaged her teeth. *Id.* She had believed the door was still open because a light was on inside the apartment and she could see objects inside clearly, although she could not see the door. *Id.* In an action against the glass-door manufacturer, the trial court entered judgment for the guest. *Id.* at 356-57. The appellate court reversed, holding that the door was not defective under either a risk-utility test or a consumer-expectations test. *Id.* at 358-60.

On the issue whether the door was dangerous beyond the expectations of the ordinary user, the court stated:

In light of the extensive use of glass doors and common knowledge as to the possibility and frequent occurrence of collisions with them, a reasonable user must be held to appreciate the risk inherent in them. *The danger posed is not a hidden or latent one but on the contrary is perceptible. The fact that glass can be invisible is itself the clue to the public that glass doors are a potential hazard.*

Id. at 358 (emphasis added). The court's reasoning is internally inconsistent. The plaintiff ran into the door because she could not see it, yet the court said the door's danger was perceptible. The court really meant that the plaintiff should have been more careful in light of her knowledge of the dangers of glass doors. That analysis involves contributory negligence rules, not the consumer-expectations test. Under the consumer-expectations test, it would be logical to conclude that an invisible glass door is dangerous when it is closed because an ordinary user may not see it.

Shapo observes that in cases involving injuries from glass doors, "it is not always easy to determine the cheapest cost avoider." Shapo, *supra* note 262, at 1346. Under a best-decider analysis, the plaintiff in *Magnusen* may not have been in a better position than the manufacturer to make a risk-benefit decision and to act upon it. Perhaps she could decide, based upon her understanding of the dangers of glass doors, whether to remain at the cookout or to leave. But the manufacturer was in a better position than the cookout guest to determine the frequency with which people run into closed glass doors, and to act upon that determination. People may understand generally the dangers of glass doors, but they cannot act upon that

This result comports with Attanasio's principle of aggregate autonomy. It is sound to base enterprise liability on the best-decider rule. For many reasonably safe products, however, neither the producer nor the victim is a best decider. The defendant has created a foreseeable, but not an unreasonable, risk. In this situation, enterprise liability would constrain the autonomy of producers and those affected by the producer's liability. The principle of extended responsibility places a duty upon the producer to protect the victim of product accidents. Under Attanasio's version of the best-decider theory, the producer has this duty because of its greater knowledge and ability to spread loss.³⁵⁵ But "[a]s between two parties with relatively equal ability to avert and redress a particular loss, shifting the loss from one to another without any additional reason will not advance the level of autonomy in society."³⁵⁶

Thus, an enterprise liability system with a contributory negligence defense, or a defense of the plaintiff's or a third party's negligence, would result in an excessive amount of preventable injuries. In contrast, an enterprise liability system with only a defense of unforeseeable misuse would result in an excessive accident prevention cost. If the purpose of a products liability system is to reduce total accident

understanding because they are fallible. Placing decals on glass doors is one means of reducing the number of injuries. If manufacturers did not use decals, they would be forced to internalize accident costs, which would reduce the sale of glass doors and the number of injuries they cause. Shapo notes that "[e]ven the contributing conduct of those who elect to use these products may not save manufacturers from judgments of defect based on appearance, which in the case of this product is fully determined by function." *Id.* In *Magnusen*, however, the court's risk-benefit analysis "trumped" the best-decider formula. On risk-benefit, the court stated:

It is true that a transparent glass door, because of the illusion of space it maintains even when closed, represents a degree of danger that persons will collide with it. Given the widespread use of such doors and the large number of injuries resulting annually from collisions with them, it is proper to expect a manufacturer to anticipate that some users might fail to see a closed door and walk into it. But glass doors are purposely designed without bars, etchings or decals. "Indoor-outdoor living, the 'gracious and spacious' concept, and the desire for a 'view' have lead to widespread use of clear transparent glass panels in . . . construction Doors, once considered as providing merely a means of ingress and egress, are now regarded as sources of light and ventilation, and as a means of adding 'size' to a room." . . . Markings on the door would, to whatever degree they can be observed, detract from the illusion literally millions of persons seek, and apparently upon which they insist. The virtual invisibility now complained of is the very quality which gives desirability and value to glass doors. Interestingly that quality, invisibility, is the only feature complained of in the instant situation.

Magnusen, 485 S.W.2d at 357-58 (citation omitted).

355. Attanasio, *supra* note 135, at 728.

356. *Id.*

costs, the manufacturer must be able to produce safer products at cost-effective prices.

B. A Summary of Applicable Tort Goals in Design Defect Cases

This Part's review of tort goals applicable to product design defect liability concludes:

(1) Compensation, risk spreading, deterrence, and manufacturer's probable negligence are inadequate bases, in themselves, to justify the imposition of liability on manufacturers.

(2) The consumer-expectations test presents problems of vagueness that can be solved by framing the test narrowly. Protecting consumer expectations is an important consideration in products liability law, but it cannot be the fundamental objective. Protecting consumer expectations promotes autonomy to a degree, but tort law can promote autonomy only in the aggregate. Both negligence law and the best-decider rule promote aggregate autonomy, but aggregate autonomy does not support liability for totally unforeseeable harms or for harms inflicted by essential, life-sustaining products.

(3) The goal of minimizing accident costs, as informed by the principle of aggregate autonomy, is the only defensible, unifying objective of accident law. This goal can accommodate both efficiency and rights if the objective of accident cost reduction takes account of social values and promotes aggregate autonomy. No single liability rule, however, can achieve this goal.

(4) A pure enterprise-liability system would either underproduce or overproduce safety and would not promote aggregate autonomy. Use of a contributory negligence defense undermines efficiency goals when a feasible alternative design would prevent the injury. In addition, product prices should not reflect the cost of harm caused by reasonably safe products. Courts should predicate liability for harm caused by product designs upon the ability of manufacturers to produce safer products at a cost-effective price.

(5) A system that bases liability on product defectiveness is likely to come closer than an enterprise liability system to achieving an optimal level of accident costs. A liability system should determine defectiveness using a risk-benefit test when a product's risks and benefits can be assessed without significant difficulty. The best-decider rule should govern the harder cases, when it is applicable, and perhaps the hardest cases should be resolved outside the tort system.³⁵⁷

357. See *infra* Part IV.C.1.b.

Liability based on product defectiveness would involve administrative costs higher than those under enterprise liability and would pose uncertainty for firms in predicting the findings of courts and juries. The question is whether the savings in total accident costs would offset the administrative and uncertainty costs. My own assessment is that a defect-based system can be cost effective in accident prevention.

C. A Design Defect Liability System Based on the Goal of an Optimal Reduction in Accident Costs

1. CHOICES BETWEEN EX POST AND EX ANTE RULES, BETWEEN NEGLIGENCE AND A BEST-DECIDER RULE, AND ON THE BURDEN OF PERSUASION

The selection of liability tests for injuries caused by product designs requires consideration of the four basic liability standards defined by Calabresi and Klevorick.³⁵⁸ Those standards pose two fundamental choices: (1) between a negligence and a best-decider rule, and (2) between ex ante and ex post rules. Another necessary choice is where to place the burden of persuasion. The liability system this Article proposes chooses ex ante over ex post rules and uses both negligence and the best-decider rule. Non-negligence is a defense to liability under the best-decider rule.

a. Ex Ante Liability Rules over Ex Post Rules

A liability system for design defects should use ex ante rules, because liability for unforeseeable harms creates both efficiency and autonomy problems.³⁵⁹ The uncertainty associated with liability for

358. See *supra* text accompanying notes 38-41.

359. See *supra* text accompanying notes 304-07, 336-37; see also David G. Owen, *Products Liability: Principles of Justice*, *supra* note 249, at 84-85. In his examination of the foundations in moral philosophy that support a principled regime of products liability law, Owen concludes that "[m]anufacturers should be responsible for foreseeable harm that reasonably could have been prevented by (a) designing out unreasonable dangers, or (b) providing danger information." *Id.* at 84. For unforeseeable dangers, however, Owen states:

A principled theory of products liability law probably should seek to take into account a manufacturer's ability to know that its product is good or bad, for reasons both practical and moral. The manufacturer is not likely to be much deterred from selling a product that reasonably appears to be a "good" one, nor would society appear to be much helped by deterrence of this sort. From the moral standpoint, fairness appears to suffer if even a corporate actor can be held legally accountable for harm that it could not foresee or guard against, when its actions reasonably were expected to benefit, not harm, other persons. Like the other conventional rationales, the simple notion of deterrence provides no help in the search for moral principle in products liability law.

Id. at 74.

unforeseeable risks creates insurability problems³⁶⁰ and discourages the development of new technologies and products.³⁶¹ As Owen observes, however, plaintiffs face difficulty in establishing producers' negligence, especially in proving that risks were foreseeable.³⁶² Professor Rabin has suggested that shifting the burden of persuasion can resolve these difficulties, without destroying producers' incentives to develop safer products.³⁶³ Shifting the burden of persuasion to the defendant constitutes a reasonable infringement upon the autonomy of producers under some circumstances because producers have superior access to information about their own product designs.³⁶⁴ At the same time, producers would not be liable for harms that they could

360. See Epstein, *supra* note 295.

361. See Henderson, *supra* note 245, at 940-49.

362. See *infra* notes 374-76 and accompanying text.

363. Professor Rabin states:

[M]y guess is that in virtually every case where a producer of drugs or toxics might have its bias toward promoting further research "corrected" by a hindsight test, it would be similarly impelled to act by the future prospect of having to demonstrate that it neither knew nor should have known about potential human health risks associated with its product. And in the rare case of absolute ignorance neither liability rule is likely to have any incentive effect. These propositions apply with even greater force to investments in avoidance technology, which raise such imprecise questions of "feasible expenditures" that a shift in the burden of proof seems tantamount to a hindsight rule, as far as correcting a bias toward underinvestment is concerned.

Moreover, this is a situation in which modesty about empirical guesses is unwarranted. In virtually all drug and toxic cases, superior access to data on health and safety risks and technological know-how will be in the hands of either product suppliers or third-party research enterprises and not consumers. As a consequence there is no reason to think that an ex post test will create on balance greater incentives to reveal vital information. If anything, product suppliers would be inclined toward nondisclosure of damaging information under an ex post rule, as Calabresi and Klevorick admit. Finally, disclosure policies of independent third-party researchers (government sponsored studies, for example) would be largely unaffected, one way or the other. Realistically, then, it is again difficult to discern the special virtues of an ex post approach.

Robert L. Rabin, *Indeterminate Risk and Tort Reform: Comment on Calabresi and Klevorick*, 14 J. LEGAL STUD. 633, 638-39 (1985) (footnote omitted).

364. Cf. *Feldman v. Lederle Lab.*, 479 A.2d 374 (N.J. 1984). The court in *Feldman* justified placing the burden of persuasion upon the defendant:

In strict liability warning cases, unlike negligence cases . . . the defendant should properly bear the burden of proving that the information was not reasonably available or obtainable and that it therefore lacked actual or constructive knowledge of the defect. The defendant is in a superior position to know the technological material or data in the particular field or specialty. The defendant is the expert, often performing self-testing. It is the defendant that injected the product in the stream of commerce for its economic gain. As a matter of policy the burden of proving the status of knowledge in the field at the time of distribution is properly placed on the defendant.

Id. at 388 (citations omitted.)

prove were unforeseeable. The producers' control of the risk justifies liability for some unforeseeable harms, to the extent that such liability may result from producers' bearing the burden of persuasion.

b. Negligence and the Best-Decider Rules with Non-Negligence as an Affirmative Defense

Courts should use both of Calabresi and Klevorick's basic liability rules, but with non-negligence as an affirmative defense. Thus, strict liability in the form of the best-decider rule is a default basis of liability. The best-decider rule would not function as an independent liability test; nevertheless, it would operate when the producer was in the best position to make the risk-benefit calculation and to act upon it. Optimal cost reduction, however, is not achieved by basing liability upon foreseeable harms caused by reasonably safe products;³⁶⁵ negligence, therefore, is the "preferred" rule. Liability should be predicated upon the ability of the manufacturer to produce safer products at a cost-effective price. As with foreseeability, and for the same reasons, the defendant should bear the burden of proving that it used reasonable care.

Whether the producer used reasonable care is a difficult issue to litigate, particularly with regard to whether the defendant should have discovered a risk.³⁶⁶ Schwartz has developed a model for the

365. See *supra* notes 358-60 and accompanying text.

366. On this point, Twerski and Weinstein discuss a manufacturer's knowledge of risks:

What could a manufacturer have known at the time of manufacture about a product hazard if due diligence would have been applied? There is perhaps no issue more difficult for a plaintiff to litigate than what the state of knowledge should have been for a manufacturer with expertise in his field. Were the tell-tale hints of a possible hazard available and were they properly considered? What testing as full and complete as it might have been? In the rush to the marketplace, were factors overlooked that now loom large in retrospect? These questions are inordinately difficult to prove. We have, as yet, no mechanism in place to assure that negative test results will not be secreted and destroyed by the wary manufacturer. The histories of some of the drug cases indicate that scandalous liberties have been taken with test results. However, even putting such unethical practices aside, it is simply unfair to burden the plaintiff with proving that a product hazard that did become a reality was foreseeable at the time of manufacture. This issue should be determined by the application of strict liability. However, if there is belief that fundamental fairness demands that the manufacturer be given the opportunity to establish that a hazard was scientifically unknowable at the time of manufacture, then the defendant should be required to carry the burden of proof on that issue. The state of scientific knowledge and the adequacy of testing is within the control of the manufacturer who has expertise in the field. Thus, it would appear to be a fair allocation of burdens of proof to require the defendant to either convince the court that the risk that inhered in the product was not capable of scientific detection at the time

resolution of this issue.³⁶⁷ The Schwartz model assumes, however, that a set of research stages exists that the scientific community agrees upon as appropriate, and that a scientifically acceptable point exists at which researchers perceive danger. These assumptions are questionable. For example, if research reveals that a chemical causes cancer in rats, should the chemical producer have a duty to warn consumers that the product may cause cancer in humans? Recently chemical manufacturers have attempted to enjoin a government publication listing certain chemicals as potential human carcinogens, because manufacturers and government scientists disagree upon the significance of the findings from animal studies.³⁶⁸

If the defendant cannot establish a clear case for reasonable care in developing safer alternative designs or in discerning the risks posed by a product, a best-decider rule should apply by default. Again, a liability system should exonerate the defendant using reasonable care because liability in the face of such care is justifiable solely upon compensation and risk-spreading goals. If the negligence equation cannot produce a reliable result, however, the default strict-liability test is appropriate.

The choice of a defense of reasonable care differs from decisions holding that the "unavoidably unsafe" defense recognized under section 402A of the *Restatement (Second) of Torts*³⁶⁹ requires the defendant to show that the product meets an "exceptional social need."³⁷⁰ Similarly, the reasonable care defense departs from Attanasio's position that the best-decider rule would not apply if the harm caused by a product was "totally unforeseeable."³⁷¹ Attanasio also states that "in a few extreme cases [such as essential drugs], the principle of aggregate autonomy might allow such products to be marketed without liability if appropriate warnings were given."³⁷² A defense of reasonable care is preferable to a defense using a nebulous measure of the degree of foreseeability of a product's risk or the degree of a product's

of manufacture, or, in the alternative, to bear the burden of rebutting a presumption that such knowledge was attainable.

Aaron D. Twerski & Alvin S. Weinstein, *A Critique of the Uniform Products Liability Law—A Rush to Judgment*, 28 *DRAKE L. REV.* 221, 227-28 (1978-1979) (citations omitted).

367. Schwartz, *supra* note 246, at 695-705.

368. See *Synthetic Organic Chem. Mfrs. Ass'n v. Secretary, Dep't of Health and Human Servs.*, 720 F. Supp. 1244, 1253-56 (W.D. La. 1989). The court denied preliminary injunctive relief, stating: "Plaintiffs have not demonstrated a substantial likelihood that they will prevail on the merits of their claim that defendants' classification criteria are arbitrary, capricious, or an abuse of discretion in violation of the APA." *Id.* at 1257.

369. See *infra* note 402.

370. See, e.g., *Hill v. Searle Lab.*, 884 F.2d 1064 (8th Cir. 1989) (applying Arkansas law).

371. Attanasio, *supra* note 135, at 712.

372. *Id.* at 737.

utility, because marginal degrees in balancing the utility of a product against its risks cannot be defined with any precision.³⁷³ Moreover, the issue arises whether courts would reach different results under the different tests, as a risk-utility balance considers the gravity of the risk in relation to the utility of the product.³⁷⁴

2. THE PROPOSED LIABILITY TESTS

This Article proposes three alternative tests for a design defect. Under these tests a product is defective in design if:

I.

A. The plaintiff establishes by a preponderance of the evidence that the product was dangerous beyond the expectations of a normal user of the product, when put to a normal use, *and*

B. The defendant fails to establish by a preponderance of the evidence that, at the time the defendant sold the product, the product did not pose a foreseeable and unreasonable risk of harm.

or II.

A. The plaintiff establishes by a preponderance of the evidence that, at the time the defendant sold the product, it was feasible to produce a safer design that would have prevented the injury suffered by the plaintiff, *and*

B. The defendant fails to establish by a preponderance of the evidence that, at the time the defendant sold the product, the product did not pose a foreseeable and unreasonable risk of harm.

or III.

The plaintiff establishes by a preponderance of the evidence that, at the time the defendant sold the product, the product posed

373. Starting in the 18th century, courts developed the doctrine of degrees of negligence—including slight, ordinary, and gross negligence—as standards of liability. PROSSER AND KEETON, *supra* note 90, § 34, at 210. Because the doctrine of degrees of negligence generated confusion and many appeals, most writers opposed its use and, except in bailment cases, most courts have rejected it. *Id.*

374. In *Hill*, for example, the court stated:

In the case of the CU-7, Searle should bear the risk of injury caused by the CU-7, if the CU-7 is defective and unreasonably dangerous. The reasons are that alternative methods of birth control are available and that Searle has made no showing that CU-7s, or IUDs in general, are exceptionally beneficial to society. The CU-7 is certainly not the *sine qua non* for birth control, as is the Pasteur vaccine for the treatment of rabies.

Hill, 884 F.2d at 1069-70 (citation omitted). In *Hill*, the plaintiff alleged that the CU-7 had perforated her uterus and had become partially implanted in her small bowel. *Id.* at 1065. A product posing such foreseeable risks should be found unreasonably dangerous if safer contraceptive devices were available and the defendant failed to warn of the risk. The unreasonable risk test weighs the seriousness of the risks posed, the number of persons endangered, and the overall utility of the product. Thus, a product is unlikely to pass the unreasonable risk test if it poses grave risks not found in alternative products serving the same purpose.

a foreseeable and unreasonable risk of harm.³⁷⁵

3. FURTHER EXPLANATIONS OF THE PROPOSED LIABILITY TESTS

a. The Burden of Proof Rules, the Problem of Polycentricity, and Optimal Cost Avoidance

The three proposed design defect tests incorporate Dean Calabresi's and Professor Henderson's concerns that the negligence test is ill suited to resolve some design defect issues.³⁷⁶ The seminal article by Professor Henderson on the limits of adjudication on products liability issues³⁷⁷ elucidates the differences between manufacturing and design defects and the reasons why justiciability problems arise in design defect cases. Henderson discusses polycentric issues, which courts and juries are ill equipped to resolve.³⁷⁸ A polycentric issue in a design defect case may be illustrated by an allegation that a car should have been designed to give better occupant protection in a side-impact collision, when a car so designed might give less protection in a head-on collision. Thus, whether the overall benefits of a car's design outweigh its overall risks depends upon the performance of interrelated design features in many different situations. The litigation process cannot resolve this type of risk-benefit issue effectively.³⁷⁹

375. These proposed rules resemble those adopted by the Alaska and California Supreme Courts. See *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871 (Alaska 1979); *Barker v. Lull Eng'g Co.*, 573 P.2d 443 (Cal. 1978). For a discussion of the differences between the proposed rules and the Barker/Beck liability tests, see *infra* text accompanying notes 400-05.

376. This Article has noted Calabresi's concerns previously. See *supra* text accompanying notes 45-46.

377. James A. Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 (1973).

378. Henderson describes polycentricity:

[P]olycentric problems are many-centered problems, in which each point for decision is related to all the others as are the strands of a spider web. If one strand is pulled, a complex pattern of readjustments will occur throughout the entire web. If another strand is pulled, the relationships among all the strands will again be readjusted. A lawyer seeking to base his argument upon established principle and required to address himself in discourse to each of a dozen strands, or issues, would find his task frustratingly impossible. As he moved from the first point of his argument to the second and then to the third, he would find his arguments regarding the earlier points shifting beneath him. Unlike most of the traditional types of cases in which litigants are able, in effect, to freeze the rest of the web as they concentrate upon each separate strand, the web here retains its natural flexibility, adjusting itself in seemingly infinite variations as each new point, or strand, in the argument is reached.

Id. at 1536. For a list of articles discussing the conceptual ancestry of polycentricity, see *id.* at 1534 n.18.

379. See, e.g., *Dawson v. Chrysler Corp.*, 630 F.2d 950 (3d Cir. 1980), *cert. denied*, 450 U.S. 959 (1981). In *Dawson*, the court reluctantly affirmed a judgment for the plaintiffs entered upon a jury finding that a police car was defectively designed. *Id.* at 963. The plaintiff police

Henderson's discussion of manufacturing defects maintains that the question of the reasonableness of a manufacturer's quality control procedures presents a polycentric issue. Once courts abolished the no-duty rule of privity, they resorted to a rule of strict liability for manufacturing defects—a rule that circumvented adjudication of an issue difficult for judges and juries to resolve. Courts found a ready-made strict liability test available in manufacturing defect cases: the manufacturer's own product standard. Henderson observes that "the manufacturing flaw area represents a happy coincidence of the substantively desirable and the institutionally feasible."³⁸⁰

In Henderson's discussion of design defects, he observes that "unconscious" design defects, like manufacturing defects, present justiciable issues. These defects "do not adequately conform to basic design standards developed and universally accepted by the engineering profession, and the courts adopt and apply those standards to determine the acceptability or defectiveness of the product designs."³⁸¹

In contrast, many conscious design cases present severe adjudication problems. In these cases, Henderson finds that the courts face three possible options: absolute liability, judicial determination of the reasonableness of the product's design, and a no-duty rule.³⁸² Henderson recommends adoption of the no-duty rule, exonerating the manufacturer for harms caused by conscious designs, unless the

officer suffered severe injuries when his car slid off a road and into a steel post. *Id.* at 953-54. The left side of the car struck the post, which pierced through the body of the car. *Id.* at 954. The plaintiffs alleged that the design of the car was defective because it lacked sufficient protection for the occupants in side-impact crashes. *Id.* Although the court affirmed the plaintiffs' judgment under the applicable New Jersey rules on design defect, it expressed concern over the result:

[W]hile the jury found Chrysler liable for not producing a rigid enough vehicular frame, a factfinder in another case might well hold the manufacturer liable for producing a frame that is too rigid. Yet, as pointed out at trial, in certain types of accidents—head-on collisions—it is desirable to have a car designed to collapse upon impact because the deformation would absorb much of the shock of the collision, and divert the force of deceleration away from the vehicle's passengers. In effect, this permits individual juries applying varying laws in different jurisdictions to set nationwide automobile safety standards and to impose on automobile manufacturers conflicting requirements. It would be difficult for members of the industry to alter their design and production behavior in response to jury verdicts in such cases, because their response might well be at variance with what some other jury decides is a defective design. Under these circumstances, the law imposes on the industry the responsibility of insuring vast numbers of persons involved in automobile accidents.

Id. at 962.

380. Henderson, *supra* note 377, at 1546.

381. *Id.* at 1550.

382. *Id.* at 1553-54.

design failed to conform to governmental regulations or industry standards, or the manufacturer failed to warn of hidden dangers.³⁸³ He rejects adjudicating the reasonableness of the design because the conscious design issue is classically polycentric.³⁸⁴ The lack of a defectiveness standard leads Henderson to reject absolute liability. Absolute liability would make manufacturers insurers against the risks of harm posed by their products.³⁸⁵ In support of his rejection of absolute liability, Henderson notes that courts consistently have refused to adopt absolute liability for product manufacturers.³⁸⁶

Examination of Henderson's defect categories, in light of Calabresi's theories, suggests that Henderson's conclusions coincide in most respects with Calabresi's cost-reduction objective. Not only is a manufacturing defect standard available that makes the issue of defect adjudicable, but a violation of that standard places the loss upon the party in the best position to determine and act upon the optimal level of quality control. The negligence test adequately redresses unconscious design defects because courts and juries can be trusted to weigh a design's utility against its risks.

Calabresi's cost-reduction goal and Henderson's no-duty rule diverge, however, in addressing conscious design defects. I base the first two proposed design defect tests upon the notion that the manufacturer should be liable, as the best cost decider, if the plaintiff can establish a violation of consumer expectations, or a safer, feasible, alternative design, and the manufacturer cannot establish that the design was reasonable.³⁸⁷

The proposed defect tests do not involve absolute liability, but rather a default rule of strict liability. Under this system, a producer would not insure against harms caused by all reasonably safe products. The threshold requirements would obviate liability for injuries caused by products such as knives, skis, and Golfs, because the plaintiff could establish neither a violation of expectations nor a safer, feasible alternative design. If, however, the plaintiff could establish either a violation of expectations or a safer feasible design, and the

383. *Id.* at 1555-62.

384. *Id.* at 1540-41, 1557-58.

385. *Id.* at 1554.

386. *Id.*

387. For example, in Schwartz's case (b), because the manufacturer did not make the Golf with magic metal when magic metal was available, the plaintiff would prevail unless the manufacturer could convince the jury that the Golf as made would perform better on the risk-benefit test than a Golf with the safer metal. If that question is polycentric, then the plaintiff would prevail under the proposed rules. A warning that the Golf was made without magic metal would not protect the defendant, at least if comparable cars were unavailable on the market, because the warning would make no difference to the safety of the plaintiff.

design issue was polycentric, then, unlike Henderson's approach, the proposed tests would place the loss upon the manufacturer. As Attanasio maintains, placing the burden on the manufacturer with superior knowledge of product design is fair.³⁸⁸ Additionally, the result is closer to optimality than Henderson's. The automobile manufacturer, as the best decider, would be induced to balance the factors of a car's safety in head-on crashes versus its safety in side impact versus esthetic feature, and so on, to reach the most cost-effective design. In contrast, Henderson's no-duty rule provides no incentive to optimize safety costs beyond a duty to warn of hidden dangers and a duty to comply with governmental regulations.

Building upon Henderson's theories, Professor Twerski has developed a set of criteria for courts to employ to screen out plaintiffs' allegations of unreasonable design when the design defect issue is unsuitable for adjudication.³⁸⁹ My proposed defect tests would employ these criteria under the first two liability rules, instead, to determine whether the jury should hear the manufacturer's evidence of the reasonableness of its product's design. In agreement with Henderson's and Twerski's concerns with both justiciability problems and the use of absolute liability, the third proposed test would place the burden upon the plaintiff to show that the product's design posed an unreasonable risk. In this situation, courts should screen out polycentric issues and find liability only if the plaintiff can establish an unconscious design flaw or a conscious design flaw that does not raise a polycentric issue.³⁹⁰ When the plaintiff can prove neither a violation of consumer expectations nor the existence of a safer, feasible alternative, courts cannot conclude that either the plaintiff or the defendant was in the best position to make a risk-benefit decision about the safety of the product and to act on it.

Professor Bender recently proposed shifting the burden of persuasion to corporate defendants in all mass tort cases in which the court finds the defendant to be "the more empowered party in the dispute."³⁹¹ The premise of her proposal is sound in many respects. She notes that burdens in the criminal justice system favor the individual defendant to counterbalance the collective power of the state.

388. See *supra* text accompanying note 322.

389. See Aaron D. Twerski, *Seizing the Middle Ground Between Rules and Standards in Design Defect Litigation: Advancing Directed Verdict Practice in the Law of Torts*, 57 N.Y.U. L. REV. 521, 527, 550-78 (1982); Twerski, *supra* note 287, at 868.

390. Henderson, *supra* note 377, at 1567-68. Industrial machinery lacking safety devices, for example, generally does not present such an issue.

391. Leslie Bender, *Feminist (Re)torts: Thoughts on the Liability Crisis, Mass Torts Power, and Responsibilities*, 1990 DUKE L.J. 848, 886.

She argues that burdens in mass tort cases also should favor the individual to counterbalance the considerable power of large corporations.³⁹² However, in products liability actions, courts should determine burden shifting under the best-decider theory rather than on power alone. There is no broad social benefit in forcing a corporate defendant into court and placing the burden of exoneration upon it, absent a minimal showing that it was the best-decider. In fact, a burden of exoneration based upon power alone probably would increase the price of reasonably safe products, making them less affordable for less empowered people.

b. Why Courts Do Not Use the Best-Decider Rule as an Independent Liability Test

The approach just described may solve one problem with the best-decider rule—how courts should use it. A consumer-expectations test reflects a portion of the best-decider rule, and it appears to be a test that, given proper judicial screening, juries can apply.³⁹³ Beyond the consumer-expectations test, however, who is to apply the best-decider theory? Courts and juries might apply it inconsistently, particularly if they failed to understand its complexities. Currently, courts consult the best-decider rule as a factor in resolving products liability issues.³⁹⁴ Yet courts do not use it as an independent test of liability. Under the proposed design defect tests, the best-decider theory should occupy an appropriate place in the doctrinal scheme. Under the first two tests, a manufacturer is strictly liable if it cannot establish reasonable care. This result is justified on the ground that, in these situations, the manufacturer was the best decider. Under the third test, the plaintiff is "strictly liable" if he fails to prove the manufacturer's negligence. This result is justified on the ground that either the plaintiff was the best decider, or that neither party was the best decider, and no liability should attach for reasonably safe products.

c. The Consumer Expectations Test with a Non-Negligence Defense—The Problem of Foreseeable Harm to Some Product Users

The first proposed test protects consumer expectations and

392. *Id.* at 878-88.

393. See Twerski, *supra* note 279, at 895-932 (describing a useful approach to judicial screening of consumer-expectations issues).

394. See, e.g., *Whitehead v. St. Joe Lead Co.*, 729 F.2d 238, 247 (3d Cir. 1984); *Johnson v. William C. Ellis & Sons Iron Works, Inc.*, 604 F.2d 950, 955-56 (5th Cir. 1979); *Beshada v. Johns-Manville Prod. Corp.*, 447 A.2d 539, 547-48 (N.J. 1982); *Micallef v. Miehle Co.*, 348 N.E.2d 571, 577-78 (N.Y. 1976).

places liability on the best decider, unless the defendant can establish that given what the defendant knew or should have known at the time it sold the product, its product posed reasonable risks. This test comports with the arguments made above, that the conflict between expectations and optimality should be resolved in favor of optimality, and that the test promotes aggregate autonomy because it does not pose liability for unforeseeable risks. The first test recognizes, however, that the manufacturer should bear the burden of proof on the risk-utility issue. Furthermore, if the plaintiff finds the issue of negligence difficult to adjudicate, the court should use strict liability in default.

Under the proposed defect tests, however, a problematic situation occurs when a plaintiff is injured by a reasonably safe product that poses a foreseeable risk to some, but not all, product users. A seriously ill patient, for example, may suffer a rare but known side effect from the best medication available to alleviate his illness. Contemporary jurisprudence has struggled to allocate liability for damage caused by such a side effect.³⁹⁵ The *Restatement (Second) of Torts* would place the loss upon the plaintiff if the product was "unavoidably unsafe" and the defendant had warned of foreseeable risks.³⁹⁶

395. See, e.g., Calabresi & Hirschhoff, *supra* note 29, at 1062; Page Keeton, *Products Liability—Drugs and Cosmetics*, 25 VAND. L. REV. 131, 133-34 (1972); Page Keeton, *Some Observations About the Strict Liability of the Maker of Prescription Drugs: The Aftermath of MER/29*, 56 CALIF. L. REV. 149 (1968).

396. The RESTATEMENT (SECOND) OF TORTS provides:

k. *Unavoidably unsafe products.* There are some products which, in the present state of human knowledge, are quite incapable of being made safe for their intended and ordinary use. These are especially common in the field of drugs. An outstanding example is the vaccine for the Pasteur treatment of rabies, which not uncommonly leads to very serious and damaging consequences when it is injected. Since the disease itself invariably leads to a dreadful death, both the marketing and the use of the vaccine are fully justified, notwithstanding the unavoidable high degree of risk which they involve. Such a product, properly prepared, and accompanied by proper directions and warning, is not defective, nor is it *unreasonably* dangerous. The same is true of many other drugs, vaccines, and the like, many of which for this very reason cannot legally be sold except to physicians, or under the prescription of a physician. It is also true in particular of many 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. The seller of such products, again with the qualification that they are properly prepared and marketed, and proper warning is given, where the situation calls for it, is not to be held to strict liability for unfortunate consequences attending their use, merely because he has undertaken to supply the public with an apparently useful and desirable product, attended with a known but apparently reasonable risk.

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

Calabresi and Hirschhoff, by contrast, argue that this type of loss should fall upon the product manufacturer, because the manufacturer is in the best position to evaluate whether the need for a safer product justifies additional research.³⁹⁷

Although Calabresi and Hirschhoff's solution places the loss on the best decider, it does not necessarily minimize total primary accident costs. The appropriate rule to serve the cost-minimization goal is to place the loss on the plaintiff if the defendant warned of the risk and establishes the reasonable safety of its product. A product is reasonably safe if its benefits exceed its risks and if the defendant had a reasonable research and testing program for improving product safety. Absent the reasonable-safety defense, the manufacturer's liability would rest exclusively upon the compensation and risk-spreading goals, rather than upon the cost-minimization objective. The manufacturer, however, should bear the burden of proving reasonable safety, because it has superior access to product safety information and therefore is the best decider.

Nevertheless, the proposed defect tests may not address the situation in which a product poses a foreseeable risk to a limited number of consumers. The proposed tests require the manufacturer to establish a product's reasonable safety only if the plaintiff proves frustration of consumer expectations or the existence of a feasible, alternative product design. Two alternative solutions would correct this deficiency. First, courts could tailor an additional liability rule to address this specific problem.³⁹⁸ However, a proliferation of liability

397. Calabresi & Hirschhoff explain:

Suppose that a product occasionally causes the user's leg to fall off. Failure to warn the potential user that this may happen in .0001 per cent of the cases will normally result in manufacturer liability. But even such a warning is not likely to allow the user to make an intelligent cost-benefit analysis between accident and avoidance costs. Unless the user has reason to believe himself to be in the dangerous category and unless a close substitute exists which at some cost avoids the danger, the user is hardly in a position to evaluate the benefits of the product as against its costs. The producer may seem to be no better suited, but if we move from a static to a dynamic situation, this will not be the case. The producer is in a position to compare the existing accident costs with the costs of avoiding this type of accident by developing either a new product or a test which would serve to identify the risky .0001 per cent. The consumer, in practice, cannot make this comparison. Relatively, the producer is the cheapest cost avoider, the party best suited to make the cost-benefit analysis and to act upon it.

Calabresi & Hirschhoff, *supra* note 29, at 1062 (footnote omitted).

398. Courts would hold the defendant liable if:

A. The plaintiff establishes by a preponderance of the evidence that the product posed a foreseeable and unavoidable risk to some users, in its normal use, *and*

B. The defendant fails to establish by a preponderance of the evidence that, at the time the defendant sold the product, the product did not pose an unreasonable risk of harm.

rules, each targeted at a narrow issue, would be impractical. A second alternative would be to apply the first proposed defect test, including its reasonable safety defense. When a product threatens a finite number of consumers and users, it is arguably dangerous beyond a normal product user's expectations. Dean Keeton observed: "The typical consumer or user may be aware of the dangers of allergic reactions and yet not anticipate or guard against them. Although the product is no different than anticipated, the consumer does not expect to be in the group of those who are sensitive to it."³⁹⁹ Once the plaintiff establishes consumer frustration, the manufacturer could avoid liability under the first test only by establishing that its product was reasonably safe.

d. Proof of a Feasible Alternative with Non-Negligence Defense

The proposed defect tests resemble those adopted by the California Supreme Court in *Barker v. Lull Engineering Co.*,⁴⁰⁰ but they differ from the *Barker* rules in two major ways. First, in contrast to *Barker*, the first proposed test permits a defense of reasonable design to a claim brought by a plaintiff under the consumer-expectations test.⁴⁰¹ Second, under the proposed second and third tests, the plaintiff has the burden of persuasion on the negligence issue, unless he can establish that a safer, feasible, alternative design available existed at the time the defendant sold the product. Under *Barker*, once the plaintiff establishes that the product's design was the proximate cause of the plaintiff's injury, the defendant has the burden of proving the

399. Keeton, *Some Observations*, *supra* note 394, at 155.

400. 573 P.2d 443 (Cal. 1978). Alaska adopted the same design defect tests in *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871 (Alaska 1979). Under *Barker*, a product is defective in design if:

(1) the plaintiff proves 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) the plaintiff proves that the product's design proximately caused 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.

Barker, 573 P.2d at 452; *see also Caterpillar*, 593 P.2d at 884-85 (adopting the *Barker* test).

401. Under *Barker*, a product is defective in design if it frustrates consumer expectations, or if the design proximately causes an injury and the defendant fails to prove that the design was reasonable. *See supra* note 400. The defense of reasonable design does not seem available under *Barker* if the plaintiff proves a frustration of expectations. *See Anderson v. Owens-Corning Fiberglass Corp.*, 810 P.2d 549 (Cal. 1991) (Broussard, J., concurring). Also, in *Brown v. Superior Court*, 751 P.2d 470 (Cal. 1988), the California Supreme Court held that the *Barker* rules do not apply to prescription drugs. The court held in *Brown* that "a manufacturer is not strictly liable for injuries caused by a prescription drug so long as the drug was properly prepared and accompanied by warnings of its dangerous propensities that were either known or reasonably scientifically knowable at the time of distribution." *Id.* at 482-83.

reasonableness of the design.⁴⁰² Scholars have criticized this aspect of the *Barker* rules as "open-ended," because it forces a seller to defend its product whenever it causes injury and inhibits judicial control over the "polycentricity" problem.⁴⁰³ In contrast to *Barker*, the proposed defect tests deter vexatious litigation and forced settlement by requiring the plaintiff to prove either frustration of consumer expectations, the existence of a safer, feasible, alternative design, or negligence. Because the safer alternative must be in the same category as that of the product that caused the injury, the alternative design option is not "open-ended"; for example, the design of a hardtop sedan is not an acceptable alternative to a convertible.⁴⁰⁴ As previously discussed, the polycentricity problem should favor the injured plaintiff rather than the product designer under the first two tests.⁴⁰⁵ Once the plaintiff meets its initial burden, the burden of persuasion on product safety shifts to the manufacturer due to its expertise and superior access to information.

4. ADDITIONAL AFFIRMATIVE DEFENSES

The issue of allowable affirmative defenses in products liability actions is complex. It implicates the debate between contributory negligence rules that bar recovery if the plaintiff is negligent and comparative fault rules that merely reduce the plaintiff's recovery. Furthermore, affirmative defense rules must define the roles of various

402. *Barker*, 573 P.2d at 455.

403. See, e.g., James A. Henderson, *Renewed Judicial Controversy Over Defective Product Design: Toward the Preservation of an Emerging Consensus*, 63 MINN. L. REV. 773 (1979); Gary T. Schwartz, *Forward: Understanding Products Liability*, 67 CALIF. L. REV. 435, 468 (1979). For a discussion of the "polycentricity" problem, see *supra* note 378 and accompanying text.

404. See, e.g., *Dyson v. General Motors Corp.*, 298 F. Supp. 1064 (E.D. Pa. 1969). The court stated:

The defendant argues, with considerable plausibility, that [an adverse] result would be equivalent to declaring all "soft-top" convertible automobiles unreasonably dangerous *per se*, at least in the absence of roll bars. However, all that is involved is differentiation between various models of automobile, and a recognition of the inherent characteristics of each. The manufacturer cannot be expected to provide a convertible which is as safe in roll-over accidents as a standard four-door sedan with center posts and full-door frames. But the manufacturer can be expected to provide a convertible which is as safe as it reasonably can be made, and which is not appreciably less safe than other convertibles. So, too, in the present case, the manufacturer was not necessarily under an obligation to provide a hardtop model which would be as resistant to roll-over damage as a four-door sedan; but the defendant was required, in my view, to provide a hardtop automobile which was a reasonably safe version of such model, and which was not substantially less safe than other hardtop models.

Id. at 1073-74.

405. See *supra* text accompanying notes 387-88.

types of plaintiff misconduct: "ordinary" contributory negligence, failure to discover or guard against the presence of a defect, reasonable and unreasonable assumption of the risk, and foreseeable and unforeseeable product misuse.⁴⁰⁶ Because many commentators have explored this issue in detail, this Article confines its discussion to a review of their conclusions. Drawing upon the sound analysis of Professor Twerski,⁴⁰⁷ Professors Roszkowski and Prentice have investigated thoroughly the defenses available in strict products liability actions.⁴⁰⁸ Their analysis is generally consistent with this Article's analysis of the proper objectives of products liability law,⁴⁰⁹ and their conclusions identify the proper effect of plaintiff misconduct on products liability actions.

In addition to a manufacturer's affirmative defense that its product did not pose a foreseeable and unreasonable risk of harm, available under the first two proposed tests, a limited comparative fault defense should be available to a manufacturer. In accordance with the conclusions of Roszkowski and Prentice, this defense should use pure comparative fault. Moreover, plaintiff misconduct should diminish damages only when it "relates to and exacerbates the defect in the product,"⁴¹⁰ or when the plaintiff breaches a duty to maintain the product's safety.⁴¹¹ This limited defense is justifiable upon the principle that courts should restrict defenses to situations in which they will realistically deter plaintiff misconduct and will not dampen the deterrent effect of products liability rules.

Roszkowski and Prentice recognize that plaintiffs in many "misuse" cases cannot establish either the existence of a product defect or a causal connection between the defect and the plaintiff's injury.⁴¹² In such cases, an affirmative "misuse" defense is unnecessary. If the plaintiff succeeds in proving both a product defect and causation, Roszkowski and Prentice contend that ordinary contributory negligence and assumption of the risk as defenses would subvert the deter-

406. See, e.g., Roszkowski & Prentice, *supra* note 349.

407. See Aaron D. Twerski, *From Defect to Cause to Comparative Fault—Rethinking Some Products Liability Concepts*, 60 MARQ. L. REV. 297 (1977); Aaron D. Twerski, *Old Wine in a New Flask—Restructuring Assumption of Risk in the Products Liability Era*, 60 IOWA L. REV. 1 (1974); Aaron D. Twerski, *The Many Faces of Misuse: An Inquiry Into the Emerging Doctrine of Comparative Causation*, 29 MERCER L. REV. 403 (1978); Aaron D. Twerski, *The Use and Abuse of Comparative Negligence in Products Liability*, 10 IND. L. REV. 797 (1977) [hereinafter Twerski, *The Use and Abuse*].

408. Roszkowski & Prentice, *supra* note 349.

409. *Id.* at 25-30.

410. *Id.* at 78.

411. *Id.*

412. *Id.* at 72-75.

rent value of products liability rules and would not avert product users' carelessness.⁴¹³ The authors would allow a pure comparative fault defense when "(1) the product is proved to be defective; (2) the defect is a contributing cause of the injury; and (3) the plaintiff's unforeseeable misuse relates to the defect and magnifies it, so that the plaintiff's conduct is arguably a concurring and contributing cause of the injury."⁴¹⁴ Roszkowski and Prentice justify the comparative fault defense by relying on Twerski's argument that "[e]quitable considerations preclude a plaintiff from total recovery when the plaintiff's conduct is similar in scope and in nature to that of the defendant."⁴¹⁵ They conclude that courts should be cautious in using comparative fault, scrutinizing its effect on the policy bases of products liability law.⁴¹⁶ The authors emphasize that products liability rules have far greater effects upon the manufacturers' behavior than upon consumers' behavior.⁴¹⁷ These conclusions are sound. Practical realities must form the bases of affirmative defenses related to the plaintiff's misconduct to promote the goal of minimizing total accident costs. These realities include the manufacturer's superior ability to reduce accidents.

5. QUESTIONS RAISED BY THE PROPOSED LIABILITY TESTS

The proposed design defect tests represent an attempt to determine which liability rules, in which circumstances, best serve the fundamental goal of tort law: minimizing total accident costs. Although the proposed tests seek to minimize such costs, incalculable litigation costs and secondary accident costs could outweigh the intended savings in primary accident costs. These cost questions suggest four potential problems with the proposed tests. First, trying negligence issues involves undeniably high litigation costs. Both strict liability, at one extreme, and the recognition of contract limitations and disclaimers, at the other, are alternatives with less costly litigation.⁴¹⁸ Second, settlement becomes more difficult when negligence is an issue than when courts use the alternative extremes. All parties face a rise in litigation costs, and the accident victims face delayed payments.⁴¹⁹

413. *See id.* at 51-68, 85-91.

414. *Id.* at 75.

415. *Id.* at 79 (quoting Twerski, *The Use and Abuse*, *supra* note 406, at 800).

416. *Id.* at 102.

417. *Id.*

418. For a comparison of the litigation costs of negligence and strict liability, see SHAVELL, *supra* note 79, at 264. Logically, negligence litigation is costlier than a system recognizing defenses of contract limitations and disclaimers because these defenses would reduce the number of cases that go to trial.

419. The trial outcome on the negligence issue is less predictable than on strict liability;

Third, the proposed system does not recognize compensation and risk-spreading as tort goals in themselves. Consequently, if victims of product-related accidents can obtain neither commercial nor social insurance, secondary accident costs could be very high. Fourth, producers will argue that only a negligence system or a system enabling them to disclaim or limit their liability by contract will work; otherwise, consumers will be deprived of new technology and higher product prices will offset any cost savings from accident reduction.

All of these cost problems are troublesome. For the following reasons, however, the problems posed by the more extreme alternative liability systems appear to be greater:

(1) Although both strict liability and the allowance of contract disclaimers and limitations would lower litigation costs, they are not attractive alternatives. Strict liability is likely to produce more than compensating costs in higher product prices. Reasonably safe products with high utility would cost substantially more in a strict liability regime than under the proposed system. Moreover, strict liability would distribute wealth inequitably because the higher cost of useful products would fall more heavily on the poor than on the rich. The recognition of contract disclaimers and limitations would produce more than compensating costs in terms of accidents. This problem is addressed in (4), below.

(2) Although settlement becomes more difficult when negligence is an issue, under two of the three proposed defect tests, the defendant has the burden of persuasion to show reasonable product safety. Placement of this burden on the defendant should produce more settlements than a traditional negligence rule. The defendant possesses the most complete information about its product, its uses, its users, and its costs. Knowing that justiciability issues will be resolved in favor of the plaintiff, the defendant should be able to make a relatively sound assessment of its chances of success. Plaintiffs still must engage in discovery in an attempt to show negligence; however, the predictability of success or failure on the negligence issue appears to be greater when the cards are "stacked" against the best cost decider.

(3) Under the proposed tests, secondary accident costs would be substantial if not covered by commercial or social insurance. A strict liability system serving the goals of compensation and risk spreading would reduce the secondary accident costs, if such insurance were unavailable. Nevertheless, spreading the risks of accidents is a social

therefore, settlement is less likely in negligence cases. *Id.* The same comparison would hold true between a system using negligence and a system recognizing contract limitations and disclaimers.

problem far larger than a rule of strict products liability can solve. Products cause only some of life's catastrophies; illness, old age, and natural disasters take a larger toll. A products liability system with the major goal of reducing secondary accident costs would solve only a small portion of the risk-spreading problem at the expense of higher product prices and unavailability of new technology. The better social solution for secondary accident costs would address larger social problems.⁴²⁰

(4) Either a traditional negligence system or a system allowing producers to disclaim or limit liability by contract is less efficient than the proposed rules. A traditional negligence system leaves the burden of persuasion on the plaintiff in all cases, despite the defendant's superior access to product information. More important, the best-decider rule, available under the proposed tests when a negligence issue is difficult to resolve, produces results closer to the cost-minimization goal than a traditional negligence system produces. A system allowing contract limitations and disclaimers leaves safety incentives to the market. Corporate managers' incentive for short-term profits, as well as consumer underestimation of risks, suggest that the costs of accidents would offset the savings in litigation costs. Although these problems cannot be documented specifically, the evidence suggests they are substantial.⁴²¹ This Article argues that both the pecuniary and nonpecuniary costs of severe personal injuries and deaths are very high. Because people are highly risk averse, accident avoidance has great social value.⁴²²

A final consideration bearing upon some of these cost factors—particularly delay and litigation costs—is the value that accident victims place upon the opportunity to be heard in an impartial setting and to have their claims adjudicated on the merits.⁴²³ The judicial

420. See CALABRESI, *supra* note 8, at 43-44.

421. See *supra* notes 235-38 and accompanying text.

422. See *supra* notes 95, 96, 236 and accompanying text.

423. See ROBERT J. MACCOUN ET AL., ALTERNATIVE ADJUDICATION—AN EVALUATION OF THE NEW JERSEY AUTOMOBILE ARBITRATION PROGRAM (RAND Corp. Institute for Civil Justice No. R-3676-ICJ, 1988). The report states:

In recent years, legislators and court officials have become increasingly interested in the use of alternative dispute resolution (ADR) procedures to dispose of civil lawsuits. The goals of these procedures are to reduce congestion on trial calendars, to diminish court costs, to speed case disposition, and to reduce costs and time for litigants. . . . ADR programs divert certain cases from the regular trial court calendar to some form of arbitration or mediation process.

Id. at 1.

The study found, however, that the New Jersey Automobile Arbitration Program has had an insignificant effect on the trial rate and on litigation costs. Cases assigned to the program have terminated at a slower rate than those not assigned to the program, and the program has

system exists as a forum for peaceful dispute settlement, and individuals value the availability of the judicial forum. A recent RAND corporation-funded study on tort litigants' perceptions of justice reported that "[i]mpressions of the litigation process were the most powerful determinants of procedural fairness judgments and satisfaction with the court, and judgments of dignity, procedural care, and procedural bias were among the most powerful of these impressions in the their effects."⁴²⁴ The study further explained:

The litigants' judgments of fairness and their satisfaction with the court showed remarkably little relation to the cost of the case or how long it took to resolve. Litigation cost, in particular, was more weakly related to satisfaction and perceived fairness than we expected: there was in fact no indication at all that litigation cost was a source of perceived injustice or dissatisfaction. Economic concerns of all sorts seemed to play at most a minor role in determining litigants' attitudes.⁴²⁵

Case outcome, delay, and litigation costs affected litigants' satisfaction with the proceedings less than the availability of dignified, careful, and unbiased hearings in which the litigants felt they had a degree of control.⁴²⁶ The researchers concluded that "whatever procedure—formal or informal—is used, it must be perceived to be enacted well and seriously if it is to be viewed as fair."⁴²⁷ Furthermore, "improvements in perceived justice . . . are more likely to come from changes in the tone of the judicial process than from innovations designed to cut

reduced dramatically the number of cases disposed of without any adjudication. The authors conclude:

It appears that the New Jersey arbitration program is providing a service to disputants involved in auto negligence suits, albeit a somewhat different service than the designers might have envisioned. The program appears to be meeting a demand for informal adjudication. Disputants want a hearing, an opportunity to present their case before an impartial third party and to receive a judgment based on the merits of the case. They want a hearing to be dignified, respectful, and impartial, and they feel that arbitration hearings in New Jersey meet these criteria. Attorneys do not appear to mind the fact that arbitration hearings are informal, and litigants actually see this informality as a plus. In fact, it appears that disputants who might otherwise settle privately are willing to wait a year or more to take their case to arbitration. Thus, the arbitration program is providing an opportunity for more cases to be adjudicated, and it appears to be doing so without adding to private litigation costs.

Id. at 73 (footnote omitted).

424. E. ALLAN LIND ET AL., *THE PERCEPTION OF JUSTICE—TORT LITIGANTS' VIEWS OF TRIAL, COURT-ANNEXED ARBITRATION, AND JUDICIAL SETTLEMENT CONFERENCES* (RAND Corp. Institute for Civil Justice No. R-3708-ICJ, 1989).

425. *Id.* at 77.

426. *Id.* at 75-78.

427. *Id.* at 76.

costs or reduce delay."⁴²⁸ The report further stated:

In some respects, the most surprising results of the study were those showing how tort litigants view trials. Litigants in this study had relatively favorable views of trial. Trials are seen as high in dignity and procedural care. Few of the criticisms of trials were borne out by the data. Trials were not perceived to be uncomfortable, they did not make litigants feel that they had lost control of their cases, and they engendered feelings of high, rather than low, participation.⁴²⁹

The study's findings imply that it may be more important for litigants to perceive a system as fair than to have speedier justice at lower cost.⁴³⁰ Thus, the value litigants place on fairness might offset the costs of litigation and delay attributable to trying negligence issues. Negligence law reflects individuals' perceptions of fairness. Attanasio stated:

[I]n the wake of prominent efficiency models, explicit moral considerations have endured. While autonomy is not frequently discussed, the dogged tenacity of the concept of fault among judges, academics, practitioners, and the general public imbues tort law with deeply moral flavor. Some may dismiss this persistence as merely evidencing a lack of knowledge or understanding. This explanation fails to give judges and others sufficient credit. Fault considerations persist precisely because they are important: they ensure that the order that tort law imposes does not denigrate autonomy, and they offer moral justifications more substantial than economic efficiency for the restraints on liberty that tort law exacts. I do not think that this commitment to moral concepts such as fault exists simply to paint the tortfeasor as bad or evil. Rather, it focuses on the deprivation of autonomy that the victim has suffered in an attempt to justify the imposition that tort law will make on the liberty and autonomy of the tortfeasor.⁴³¹

The appeal of fault as a proper accommodation of the autonomy

428. *Id.* at 78.

429. *Id.* at 79.

430. The implications of the RAND study upon the substantive rules of products liability law are tentative in light of the inherent limitations of the study sample, consisting of personal injury cases involving awards of \$0 to \$35,000. *Id.* at 36, 50. The report stated:

Because the defendants in our study were typically insured, because the stakes involved were modest, and because those litigants are not "repeat players," there is reason to believe that these findings may not be representative of the expectations of litigants involved in larger-stakes cases or those who are repeat players. On the other hand, the majority of cases in the system (although not necessarily the majority of the dollars at issue) involve such modest stakes.

Id. at vi.

431. Attanasio, *supra* note 135, at 692-93 (footnotes omitted).

interests of victims and injurers, together with the high value litigants seem to place on due process, suggests that the proposed defect tests may serve a goal at least as important as accident cost minimization—the goal of satisfying the simple human desire for fairness and dignity.

V. CONCLUSION

Since Professor Owen's cogent analysis of the policy justifications for strict products liability in 1980, a rich literature has continued to advance the theories available to accommodate the conflicting social goals implicated in liability for product-related injuries. The best thinking leads back to Dean Calabresi's *Costs of Accidents* and his position that the most defensible goal of accident law is the minimization of accident costs. Nevertheless, a single, albeit complex, goal of tort law does not lead to a single liability theory that serves this goal in all instances. Consistent with the conclusions of Calabresi and Klevorick, courts cannot avoid the need to determine when strict liability or negligence is the more appropriate rule to apply in order to serve the policy objective. A major reason why Professor Schwartz's "single theory" liability system breaks down is that no effort to construct a single theory to meet the consumer welfare objective can succeed. Thus, the consumer-expectations and negligence tests inevitably crept into the applications of his strict liability construct, despite his protestations against their use. More fundamentally, Schwartz's liability system would not serve the cost-minimization goal.

The proposed design defect tests attempt to define the circumstances in which each of the available liability rules is most appropriate to serve the cost-minimization objective. They also attempt to factor both economic and moral or social values into the cost minimization calculus—values that tort law always has accommodated. Attanasio's principle of aggregate autonomy provides a promising means of reconciling conflicting social policies as well as a justification for taking account of moral and social values in the cost-minimization process.

The proposed tests provide a fair balance between the interests of producers and consumers. Ex ante rules take preference over ex post rules, because the latter create insurability problems and discourage new technology. Negligence takes preference over strict liability because, under the cost-minimization goal, no liability should attach for reasonably safe products; however, the producer must establish that the product was reasonably safe when the circumstances point to the producer as the best decider. In these circumstances, the proposed rules place the burden of persuasion on the negligence issue on

the producer, who has greater access to the relevant information. The producer is in the best position to make the risk-benefit analysis and to act upon it when the product has frustrated consumer expectations, or when a safer, feasible product design was available. In these circumstances, if the defendant cannot establish that the utility of the product outweighed its risks at the time of sale, the defendant should bear the loss.

The proposed tests are not overly complicated. Nor are they extreme departures from the rules now in use. They do, however, serve the cost-minimization goal better than either an exclusive use of negligence or an exclusive use of strict liability, and they come closer to minimizing costs than Professor Schwartz's proposals.

Some features of the proposed liability rules run counter to the cost-minimization goal. The most troublesome is the cost of litigating the negligence issue. It is impossible to calculate how these costs balance against the reduction of primary accident costs. I estimate that, despite these costs, the proposed liability rules are more efficient than either a pure negligence system or a pure strict liability system.

If the proposed liability rules do *not* achieve the cost-minimization goal, they may at least advance the debate over the policy objectives of tort law. The attempt to reconcile conflicting social values presents, perhaps, the most challenging problem of all. Any products liability system that does not make this attempt will not achieve consensus—and products liability reform will continue to be a futile exercise.