

1998

Achieving Consensus on Defective Product Design

Aaron Twerski

Brooklyn Law School, aaron.twerski@brooklaw.edu

J. A. Henderson

Follow this and additional works at: <https://brooklynworks.brooklaw.edu/faculty>



Part of the [Other Law Commons](#), and the [Torts Commons](#)

Recommended Citation

83 Cornell L. Rev. 867 (1998)

This Article is brought to you for free and open access by BrooklynWorks. It has been accepted for inclusion in Faculty Scholarship by an authorized administrator of BrooklynWorks.

ACHIEVING CONSENSUS ON DEFECTIVE PRODUCT DESIGN

James A. Henderson, Jr.[†] & Aaron D. Twerski^{††}

INTRODUCTION: DESIGN-BASED LIABILITY IN AMERICAN PRODUCTS	
LIABILITY LAW.....	868
I. DEMONSTRABLY DEFECTIVE DESIGNS: WHY APPLICATION OF A GENERAL STANDARD IS SOMETIMES NOT NECESSARY.....	872
II. DEVELOPING A GENERAL DEFECTIVENESS STANDARD FOR CLASSIC DESIGN CASES.....	876
A. The Nature of Classic Design Cases.....	876
B. Distinguishing Between Fairness-Based and Efficiency-Based Design Standards.....	877
C. Why Disappointment of Consumer Expectations Is an Inappropriate Standard for Defectiveness in Classic Design Cases.....	879
D. Why a Risk-Utility Standard Requiring Proof of a Reasonable Alternative Design Is the Only Sensible Standard for Determining Defectiveness in Classic Design Cases.....	882
III. WHAT COURTS HAVE DONE IN DECIDING CLASSIC DESIGN CASES.....	887
A. Identifying Potential Sources of Error in Classifying Published Decisions.....	888
1. <i>Failure to Distinguish Between Reasonable Alternative Design As an Expression of the Risk-Utility Standard, Itself, and the Availability of an Alternative Design As Merely One Factor to Be Considered in Risk-Utility Balancing</i>	888
2. <i>Failure to Distinguish Between Classic Design Cases and Cases Involving Demonstrably Defective Designs</i> .	889
3. <i>Failure to Distinguish Between Design Standards Applicable to Products Generally and Design Standards Applicable Only to Unique Subsets of Products</i>	890

[†] Frank B. Ingersoll Professor of Law, Cornell Law School. A.B. 1959, Princeton University; LL.B. 1962, LL.M. 1964, Harvard University.

^{††} Newell DeValpine Professor of Law, Brooklyn Law School. A.B. 1962, Beth Medrash Elyon Research Institute; B.S. 1970, University of Wisconsin-Milwaukee; J.D. 1965, Marquette University.

4. <i>Failure to Distinguish Between Cases Involving Unreasonably Dangerous Designs and Cases Involving Egregiously Dangerous Designs</i>	890
5. <i>Failure to Distinguish Between What a Plaintiff Must Prove to Establish Design Defect and What a Defendant May Prove to Escape Liability</i>	891
6. <i>Failure to Distinguish Between the Standard Used in Determining Sufficiency of Plaintiff's Proof and the Standard Used to Instruct the Jury</i>	892
7. <i>Failure to Distinguish Between Substance and Rhetoric</i>	893
B. What the Courts Have Done: Understanding the Decisions Adopting General Standards for Defective Design.....	893
C. Most American Legal Scholars Agree That the General Standard for Defective Design Is Risk-Utility with a Requirement of Proof of Reasonable Alternative Design	901
IV. RECENT WORK OF THE AMERICAN LAW INSTITUTE: THE <i>RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY</i> ...	905
A. What the New Restatement Says About the General Standard for Defective Design	905
B. Close But No Cigar: The Puzzling Reception of the <i>Restatement (Third)</i> in Connecticut.....	908
C. Critiquing the Critics of the <i>Restatement (Third)</i>	911
CONCLUSION: CONSENSUS HAS BEEN ACHIEVED	919

INTRODUCTION: DESIGN-BASED LIABILITY IN AMERICAN PRODUCTS LIABILITY LAW

Myths die hard. Many believers cling to them long after they have been discredited. Three decades after the onset of the American products liability revolution, a widely shared belief persists that the general standard for defective product design is unsettled.¹ Although

¹ See, e.g., Marshall S. Shapo, *In Search of the Law of Products Liability: The ALI Restatement Project*, 48 VAND. L. REV. 631, 646-650, 654, 685-86 (1995) (noting the unsettled nature of products liability law); Frank J. Vandall, *The Restatement (Third) of Torts: Products Liability Section 2(b): The Reasonable Alternative Design Requirement*, 61 TENN. L. REV. 1407, 1408-09 (1994) (arguing that different jurisdictions employ varying standards in defective product design cases); Anita Bernstein, *Restatement Redux*, 48 VAND. L. REV. 1663, 1665-66, 1677-82 (1995) (book review) (noting a "lack of uniformity" in the area of products liability). From the early days of products liability to the present, courts have said that the definition of design defect is elusive and difficult to discern. See, e.g., *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1329 (Conn. 1997) ("[C]ourts have sharply disagreed over the appropriate definition of defectiveness in design cases."); *Prentiss v. Yale Mfg. Co.*, 365 N.W.2d 176, 182 (Mich. 1984) ("[Q]uestions related to 'design defects' and the determination of when a product is defective, because of the nature of its design, appear to be

thousands upon thousands of design defect decisions have been reported, reflecting generally consistent patterns of outcomes, the myth continues. This Article demonstrates that, contrary to this mistaken perception, a pragmatic and theoretically sound standard for defective design can be articulated and, in fact, the overwhelming majority of American courts have adopted such a standard. Not surprisingly, a powerful combination of social norms and inexorable logic both support and demand acceptance of this standard as the governing rule. It is time for the myth to give way to reality. Consensus has been achieved.

At the outset, this Article rejects two extreme positions that question the need to develop a general standard for defective design. The first position argues for some form of enterprise liability without requiring plaintiffs to establish a design defect.² The second position questions the institutional capability of courts to review design decisions and, in the absence of direct governmental regulation, defers responsibility for design choices exclusively to the market.³ Given that these views have no support in the case law, nothing is served by tilting at windmills.⁴ Liability for harm caused by defective design is alive and well. Defining its proper contours is the order of the day.

One should begin by placing liability for defective design in its proper context. By now, everyone accepts the tripartite division of product defects: manufacturing defects, warning defects, and design defects.⁵ The law regarding manufacturing defects is both well settled and easily applied.⁶ And while application of the failure-to-warn doc-

the most agitated and controversial issues before the courts in the field of products liability.”); *Phillips v. Kimwood Mach. Co.*, 525 P.2d 1033, 1035 (Or. 1974) (“[C]ourts continue to flounder while attempting to determine how one decides whether a product is ‘in a defective condition unreasonably dangerous to the user.’”).

² See, e.g., Mark Geistfeld, *Implementing Enterprise Liability: A Comment on Henderson and Twerski*, 67 N.Y.U. L. REV. 1157, 1160-66 (1992) (arguing that enterprise liability is superior to a negligence regime); Jon D. Hanson & Kyle D. Logue, *The First-Party Insurance Externalities: An Economic Justification for Enterprise Liability*, 76 CORNELL L. REV. 129, 168-73 (1990) (discussing justifications for enterprise liability).

³ See James A. Henderson, Jr., *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531 *passim* (1973).

⁴ The authors are unaware of any case law adopting enterprise liability. In addition, the courts have considered and rejected Professor Henderson's thesis that design safety review is beyond the institutional capability of courts. See, e.g., *Owens v. Allis-Chalmers Corp.*, 326 N.W.2d 372, 377-78 (Mich. 1982); *Wilson v. Piper Aircraft Corp.*, 577 P.2d 1322, 1326 (Or. 1978).

⁵ See, e.g., *Shanks v. Upjohn Co.*, 835 P.2d 1189, 1194 (Alaska 1992); *Ulrich v. Kasco Abrasives Co.*, 532 S.W.2d 197, 200 (Ky. 1976); *Voss v. Black & Decker Mfg. Co.*, 450 N.E.2d 204, 207 (N.Y. 1983). Several state statutes also differentiate liability standards based on the type of defect. See, e.g., MISS. CODE ANN. § 11-1-63 (Supp. 1997); WASH. REV. CODE ANN. § 7.72.030 (West 1992).

⁶ See, e.g., N.J. STAT. ANN. § 2A:58C-2 (West 1987) (noting that a manufacturer is liable if a claimant proves that the product “deviated from the design specifications, formulae, or performance standards of the manufacturer or from otherwise identical units manu-

trine can be exceedingly difficult,⁷ the legal standard is clear.⁸ In contrast to the standards governing manufacturing defects and inadequate warnings, the standard for establishing defective product design continues to be the subject of acrimonious and often confused debate among legal writers,⁹ leading many observers to the unjustified conclusion that the proper legal definition of defective design remains elusive. Several factors give credence to the myth. First, section 402A of the *Restatement (Second) of Torts* ("*Restatement (Second)*") got American courts off on the wrong foot by relying on a single, unified definition of defectiveness to cover all three forms of product defect.¹⁰ It is received wisdom that section 402A imposed a general regime of strict liability.¹¹ By painting with a broad brush, section 402A sent courts scrambling to discover how strict liability would apply to

factured to the same manufacturing specifications or formulae"); *Barker v. Lull Eng'g Co.*, 573 P.2d 443, 454 (Cal. 1978) ("[A] defective product is one that differs from the manufacturer's intended result or from other ostensibly identical units of the same product line."); *Rix v. General Motors Corp.*, 723 P.2d 195, 200 (Mont. 1986) (noting that a product is defective if the manufacturer did not construct it correctly and if it does not conform to its intended design).

⁷ See, e.g., James A. Henderson, Jr. & Aaron D. Twerski, *Doctrinal Collapse in Products Liability: The Empty Shell of Failure to Warn*, 65 N.Y.U. L. REV. 265, 289-311 (1990) (discussing the "difficult conceptual and doctrinal problems" in applying negligence law to failure to warn cases); Michael S. Jacobs, *Toward a Process-Based Approach to Failure-To-Warn Law*, 71 N.C. L. REV. 121, 124-27 (1992) (asserting that application of the doctrine has become problematic); Howard Latin, "Good" Warnings, Bad Products, and Cognitive Limitations, 41 UCLA L. REV. 1193, 1194-98 (1994) (questioning whether giving a warning should suffice to absolve producers from liability).

⁸ Liability depends on whether the seller or a predecessor in the distributor chain failed to provide reasonable instructions or warnings with regard to foreseeable risks. See, e.g., *Anderson v. Owens-Corning Fiberglas Corp.*, 810 P.2d 549, 557 (Cal. 1991) (en banc) (stating that actual or constructive knowledge of risk is a requisite for failure-to-warn action); *Fibreboard Corp. v. Fenton*, 845 P.2d 1168, 1175 (Colo. 1993) (en banc) (same); *Olson v. Prosoco, Inc.*, 522 N.W.2d 284, 289 (Iowa 1994) (plaintiff "must prove a defendant knew or should have known of potential risks associated with the use of its product, yet failed to provide adequate directions or warnings to users").

⁹ See, e.g., Philip H. Corboy, *The Not-So-Quiet Revolution: Rebuilding Barriers to Jury Trial in the Proposed Restatement (Third) of Torts: Products Liability*, 61 TENN. L. REV. 1043, 1087-98 (1994) (arguing that the ALI should modify the *Restatement* so that proof of an alternative design is a factor but not an element of the plaintiff's prima facie case); Theodore S. Jankowski, *Focusing on Quality and Risk: The Central Role of Reasonable Alternatives in Evaluating Design and Warning Decisions*, 36 S. TEX. L. REV. 283, 284-93 (1995) (arguing for risk-utility analysis in design defect cases); Jerry J. Phillips, *Achilles' Heel*, 61 TENN. L. REV. 1265 (1994) (arguing that the *Restatement's* negligence approach to design defects constitutes a "major mistake"). For a more balanced view, employing the metaphor of mythology, see David G. Owen, *Defectiveness Restated: Exploding the "Strict" Products Liability Myth*, 1996 U. ILL. L. REV. 743.

¹⁰ RESTATEMENT (SECOND) OF TORTS § 402A (1965) [hereinafter RESTATEMENT (SECOND)] provided for liability against one who sold a product "in a defective condition unreasonably dangerous to the user or consumer." It made no distinction, either in the black letter or comments, among the various kinds of defects.

¹¹ See, e.g., *Cronin v. J.B.E. Olson Corp.*, 501 P.2d 1153, 1158-60 (Cal. 1972) (en banc).

design defects.¹² Second, courts early on intuited that, in some cases, they could draw an inference of design defect and avoid the need to articulate or apply a general standard for defectiveness.¹³ Third, both legal commentators and the practicing bar muddled the waters by confusing the issue of the standard for design defect with other issues that have little or nothing directly to do with the standard, such as the issue of whether the producer should be liable when a design conforms with the best technology available at the time of sale.¹⁴ Finally, the rhetoric of products liability law is, undeniably, a mess. With a plethora of available doctrines—e.g., negligence, strict liability, and express and implied warranties of merchantability—courts have been at sea trying to determine how the standard for defective design fits into these doctrinal theories.¹⁵

Although quite real, the rhetorical confusion is largely unnecessary. The consensus standard for defective design that American courts are actually applying is both sound in theory and elegant in application. But to perceive these truths, it will be necessary to clear away the rhetorical overgrowth that obscures the underlying reality. Part I of this Article identifies the relatively easy design cases that do not require a general standard for defect. Part II develops conceptually and normatively the proper general standard for design defect for classic design cases that do not fall within the easy-case rubric. Part III puts the normatively derived standard to the test by asking empirically whether the reported cases support the theory. In doing so, Part III identifies those ancillary issues, both real and rhetorical, that cause confusion in interpreting the case law, which perpetuates

¹² See, e.g., *Nesselrode v. Executive Beechcraft, Inc.*, 707 S.W.2d 371, 377-78 (Mo. 1986) (en banc); *id.* at 389 (Blackmar, J., concurring); *id.* at 393 (Welliver, J., dissenting); *Brooks v. Beech Aircraft Corp.*, 902 P.2d 54, 62-63 (N.M. 1995); *Phillips v. Kimwood Mach. Co.*, 525 P.2d 1033, 1036-37 (Or. 1974); *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*, 230 N.W.2d 794, 797-99 (Wis. 1975).

¹³ See, e.g., *Phipps v. General Motors Corp.*, 363 A.2d 955, 959 (Md. 1976) (holding that the catastrophic failure of a product in normal use does not require risk-utility balancing to determine defect); *Holloway v. General Motors Corp.*, 271 N.W.2d 777, 783 (Mich. 1978) (holding that plaintiff need not identify whether the failure of a ball joint was due to a manufacturing defect, design defect, or improper material if an inference can be made that some defect attributable to the manufacturer caused the accident).

¹⁴ See, e.g., *Johnson v. Hannibal Mower Corp.*, 679 S.W.2d 884 (Mo. Ct. App. 1984); *Boatland of Houston, Inc. v. Bailey*, 609 S.W.2d 743, 746 (Tex. 1980); *Phillips, supra* note 9, at 1271; John F. Vargo, *The Emperor's New Clothes: The American Law Institute Adorns a "New Cloth" for Section 402A Products Liability Design Defects—A Survey of the States Reveals a Different Weave*, 26 U. MEM. L. REV. 493 (1996) (confusing the requirement of reasonable alternative design and the issue of whether a seller should be charged with knowledge of risk at time of trial).

¹⁵ See, e.g., *Tipton v. Michelin Tire Co.*, 101 F.3d 1145, 1149-50 (6th Cir. 1996) (discussing how design defect cases fit into the theories of strict liability and negligence); *Mather v. Caterpillar Tractor Corp.*, 533 P.2d 717, 719 (Ariz. Ct. App. 1975) (same); *Hasson v. Ford Motor Co.*, 564 P.2d 857, 871-72 (Cal. 1977) (en banc) (same); *Greiten v. LaDow*, 235 N.W.2d 677, 681-82 (Wis. 1975) (same).

the myth of indeterminacy. With the overgrowth removed, Part III demonstrates that the overwhelming majority of courts have consistently applied a common-sense test for design defect, forcing the conclusion that consensus has been achieved. Part IV examines the new *Restatement (Third) of Torts: Products Liability* ("*Restatement (Third)*") and demonstrates that it supports the conclusions reached in this Article. It should surprise no one that the recently approved *Restatement (Third)* adopts the consensus definition of defective design derived herein from both common-sense norms and reported case law.¹⁶ As Reporters for the American Law Institute ("ALI") in that project, the authors were charged with overseeing the tasks of determining what the law is and what it should be. Fortunately, as those involved in the ALI project came to realize, the two tasks merged into one. Why that is so—indeed, why it must be so—is the story this Article will now endeavor to tell.

I

DEMONSTRABLY DEFECTIVE DESIGNS: WHY APPLICATION OF A GENERAL STANDARD IS SOMETIMES NOT NECESSARY

Before considering what a general definition of defective design might look like, it will be useful to identify those cases in which product designs are demonstrably defective and thus application of a general design standard is not necessary. Subsequent discussions will examine American case law to determine which general standard courts have adopted for application in classic, mainstream design cases. It will be useful in those latter contexts to be able to identify decisions in which, because the products do not conform to specific safety standards, the nature of the general design standard is not at issue. Specific design standards may emanate from the producer and thus may be characterized as "internal;" or they may emanate from outside sources and thus may be characterized as "external." In either event, when a specific standard is available and is recognized as applicable, the court may deem a design that fails to conform to that standard defective without undertaking the more difficult task of applying a general definition of defect. These design cases are relatively easy to decide because, given that the normative standards are relatively specific and the relevant facts are typically undisputed, the conclusion of defectiveness has a compelling, "per se" quality about it. In contrast, determining defectiveness under a general design standard requires a

¹⁶ The ALI approved the Proposed Final Draft of the *RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY* (Apr. 1, 1997) [hereinafter *RESTATEMENT (THIRD)*] at its Annual Meeting on May 20, 1997. The Reporters supported several clarifying amendments that were submitted to the membership, and several amendments that were offered from the floor were adopted. The final draft of the *Restatement (Third)* will incorporate these changes.

more nuanced analysis that is typically more difficult for courts to perform.

Internal design standards may be explicit or implicit. Explicit internal standards arise when the producer affirms or promises that the design contains certain safety features or will perform certain functions safely. If the design fails to conform to such an explicit affirmation or promise and the failure causes harm, the producer will be subject to liability based on the doctrinal rules governing express warranty¹⁷ and misrepresentation,¹⁸ whether or not the design is defective under the generally applicable test for defectiveness. Thus, if the producer of an automobile affirms or promises that the automobile will float safely in water and it fails to do so, thereby harming its occupants, the producer will be subject to liability¹⁹ even if, under the general standard, automobiles are not defectively designed merely because they do not float.²⁰

Implicit internal safety standards are also straightforward. Whatever greater levels of safety may be required under the general design standard, at the very least a producer will be held responsible when its design does not safely perform the functions for which it is presumably intended.²¹ Observe that this modest assertion refers only to the producer's presumed intentions regarding what functions, at a minimum, the design should be able to perform safely. It makes no reference to foreseeable-but-unintended functions for which users might nevertheless reasonably have a right to expect the design to perform safely. Reasonable foreseeability is an important consideration in applying the general standard of defectiveness when more specific design standards are not available.²² But reliance on reasonable foreseeability destroys the specificity necessary to make the designs in these cases demonstrably defective. Limiting the implicit affirmations of design safety to the narrower set of functions that a reasonable person would assume the producer intended supplies the specificity necessary to render these designs demonstrably defective. Indeed, when

¹⁷ See U.C.C. § 2-313 (1995).

¹⁸ See RESTATEMENT (SECOND), *supra* note 10, § 402B.

¹⁹ See, e.g., *Baxter v. Ford Motor Co.*, 12 P.2d 409, 412 (Wash. 1932) (holding a car manufacturer liable for injuries that a shattered windshield caused when manufacturer had represented that the windshield was nonshatterable).

²⁰ See, e.g., *Larsen v. General Motors Corp.*, 391 F.2d 495, 502 (8th Cir. 1968) ("We do agree that . . . an automobile manufacturer is under no duty to design [a] vehicle . . . that floats on water . . .").

²¹ See, e.g., *Sanders v. Quikstak, Inc.*, 889 F. Supp. 128, 131 (S.D.N.Y. 1995) ("[A] jury may infer that an accident occurred because of a defect when the plaintiff has proven that the product did not perform as intended and has excluded all causes of the accident not attributable to the defendant").

²² See, e.g., *Ellsworth v. Sherne Lingerie, Inc.*, 495 A.2d 348, 355 (Md. 1985) ("We conclude, as have most courts which have considered the issue, that 'reasonable foreseeability' is the appropriate test [for defective design.]").

a relatively new product fails to perform even the basic function that the producer must have intended it to perform, one's first reaction is to assume that a manufacturing defect must have caused the product to malfunction.²³

Thus, a producer that sells a new automobile with the manifest (although implicit) intention that it provide safe and effective transportation under normal conditions is liable to those harmed when the automobile fails dangerously to perform that basic function. For example, if a fire spontaneously starts under the dash of the automobile while it is being driven in a normal, obviously intended manner, then the case for liability is straightforward—a self-defeating malfunction of this most basic sort demands that the courts hold the producer responsible for the resulting harm. In effect, the malfunction of the product “speaks for itself” on the issue of defectiveness in a manner quite similar to the operation of the doctrine of *res ipsa loquitur* within the common law of negligence.²⁴ In those instances in which such a malfunction occurs as a result of the product design, the court should not have to undertake the difficult task of applying a general standard to conclude that the design is defective. Indeed, the plaintiff is not required to prove what sort of defect—manufacturing defect or design defect—caused the malfunction; in either event the manufacturer is subject to liability.²⁵

In contrast, if any circumstance surrounding an accident extends beyond the narrowly defined performance functions that the producer manifestly (although implicitly) intends, the court may not draw an inference of defect from the mere fact of the accident. Instead, the court must apply the general defectiveness standard to determine the producer's responsibility for design-related injury. For example, if a driver operated an automobile in such a manner as to collide violently with another automobile, resulting in harm to the occupants, the measure of defectiveness described in this discussion of implicit internal standards would not be applicable because the producer presumably does not intend violent collisions. To be sure,

²³ See Henderson, *supra* note 3, at 1548-49 (explaining how manufacturing defects are functionally similar to defective designs that cause product malfunctions).

²⁴ See *Welge v. Planters Lifesavers Co.*, 17 F.3d 209 (7th Cir. 1994).

The doctrine [of *res ipsa loquitur*] is not strictly applicable to a products liability case because . . . the defendant . . . has parted with possession and control of the harmful object before the accident occurs. But the doctrine merely instantiates the broader principle, which is as applicable to a products case as to any other tort case, that an accident can itself be evidence of liability.

Id. at 211 (citation omitted).

²⁵ See, e.g., *Harrell Motors, Inc. v. Flanery*, 612 S.W.2d 727, 729 (Ark. 1981) (“[P]roof of the specific defect is not required when common experience tells us that the accident would not have occurred in the absence of a defect.”).

collisions are reasonably foreseeable, and the general design standard may support a conclusion of defectiveness based on the design's inadequate crashworthiness.²⁶ However, the automobile's defectiveness would not be demonstrable in the sense being developed here. Analogously to the doctrine of *res ipsa loquitur* under the common law of negligence, an inference of defect is supported only when the very nature of the accident supports the conclusion that the product failed to function as the producer itself must have intended it to function.²⁷ When harm to occupants results from an automobile's violent collision with another vehicle, a more nuanced analysis under the general standard for determining design defectiveness is necessary.

The analysis thus far has considered instances in which specific design standards emanate internally from the producer itself. It remains to consider instances in which specific design standards emanate externally, from sources other than the producer. Once again, these specific standards may be explicit or implicit. Explicit external safety standards are contained in specific safety statutes and regulations to which designs must conform. When a court determines that a design fails to conform to such an external standard and that the failure has caused harm, defectiveness is demonstrable, and a court may subject the producer to liability without determining whether the design would be considered defective under the general definition of defective design.²⁸ Industry safety standards, when explicit and specific, also provide a basis for subjecting producers to liability for harm caused by designs that fail to conform to such external standards. Although formally promulgated industry design standards lack the force of law for regulatory purposes, courts resolving tort claims tend to treat violations of such specific industry standards in much the same way as they treat violations of governmental standards. Perhaps because consumers generally rely on producers to conform—at a minimum—to recognized industry safety standards, nonconformance with such standards tends to be conclusive on the issue of defective design.²⁹ Implicit external design standards take the form of industry

²⁶ See, e.g., *Blankenship v. General Motors Corp.*, 406 S.E.2d 781, 782 (W. Va. 1991) (reviewing the doctrine of crashworthiness in the United States).

²⁷ Conversely, the design's conformance to implicit standards based on manifestly intended functions does not provide a ceiling on the producer's responsibility. The leading authority for this assertion is *Larsen v. General Motors, Inc.*, 391 F.2d 495 (8th Cir. 1968), which holds that even when the defect in design did not cause the initial accident, the manufacturer has a duty "to use reasonable care in the design and manufacture of a product to minimize injuries." *Id.* at 504.

²⁸ See, e.g., *Wells v. City of Vancouver*, 467 P.2d 292, 295 (Wash. 1970) ("The scope of the duty imposed by statutory rule is a matter of law.").

²⁹ See generally MARSHALL S. SHAPO, *THE LAW OF PRODUCTS LIABILITY* ¶ 11.02[8][a] (2d ed. 1990) (explaining why courts are likely to grant evidentiary weight to industry standards).

custom. The universal rule is that nonconformance with informal industry standards may provide significant support for a conclusion of defectiveness,³⁰ but that conformance to customary design standards, while always admissible, is never controlling.³¹

As subsequent discussions make clear, recognizing these special instances when designs are demonstrably defective is important when measuring support in the case law for a particular definition of the general design standard. For example, even courts that reject consumer expectations and adopt a risk-utility test as the general standard for defective design may refer to designs that unexpectedly malfunction as designs that disappoint consumer expectations.³² Failure to understand that instances of self-defeating design malfunction are special cases that do not involve application of the general design standard may lead to the mistaken conclusion that such a jurisdiction embraces a general "consumer expectations" definition of design defect, when quite the opposite is true.³³

II

DEVELOPING A GENERAL DEFECTIVENESS STANDARD FOR CLASSIC DESIGN CASES

A. The Nature of Classic Design Cases

The preceding Part defines demonstrably defective designs as those that fail to comply with specific safety standards and thus may be found to be defective without the necessity of applying a general defectiveness standard. Determining that a product design fails to meet a specific standard presents relatively few conceptual problems. In most cases, a design either conforms to a specific safety standard or it does not; and if it does not conform, it is demonstrably defective. Primary issues of fact may be disputed, but nuanced value judgments are not necessary. This Part examines those classic design cases in which either no specific safety standards apply or the designs comply with applicable standards, but the plaintiffs nevertheless plausibly claim that the designs are unacceptably dangerous, and therefore, legally

³⁰ See, e.g., *Roberts v. May*, 583 P.2d 305, 308 (Colo. Ct. App. 1978) (reversing summary judgment against plaintiff and noting that plaintiff proved that many firms in defendant's industry produced safer designs).

³¹ *The T. J. Hooper*, 60 F.2d 737, 740 (2d Cir. 1932), is the leading authority concerning conformity to custom in an industry.

³² See, e.g., *Cassisi v. Maytag Co.*, 396 So. 2d 1140, 1146 (Fla. Dist. Ct. App. 1981) ("[E]vidence of the nature of an accident itself may, under certain circumstances, give rise to a reasonable inference that the product was defective because the circumstances of the product's failure may be such as to frustrate the ordinary consumer's expectations of its continued performance.").

³³ See, e.g., *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1333 (Conn. 1997) (finding support for a consumer expectations standard in prior decisions involving product malfunctions); see also *infra* Part IV.B (discussing *Potter*).

defective. To respond adequately to such a claim, the court must apply a general normative standard that determines at what point designed-in danger becomes unacceptable and the design, for that reason, is defective.

A concrete example will be useful. Consider an automobile traveling ten miles per hour whose axle is inadvertently designed so that it breaks upon hitting a two-inch depression in the street and causes the driver to lose control and suffer serious injuries. On those facts, the driver's claim of defective design would be demonstrably defective as earlier defined. No court would refuse to allow the jury to infer a design defect based on the failure of the automobile to meet its manifestly intended function.³⁴ However, as both the speed of the car and the depth of the depression increase, cases involving axle failure lose their *res ipsa*-like quality. Thus, at a combination of thirty miles per hour and an eight-inch pot hole the court should not allow the jury to draw an inference of defect from the circumstance of axle failure. This is what is referred to here as a "classic" case. To find a defect on these facts, the court will require the jury to apply some sort of general normative standard regarding how much axle strength automobile designs should require.³⁵

B. Distinguishing Between Fairness-Based and Efficiency-Based Design Standards

The normative foundations of tort may be separated into two basic justifications for civil liability. From one perspective, liability is supported on noninstrumental, fairness grounds.³⁶ On that view, the imposition of tort liability achieves corrective justice between the parties. From the other perspective, liability is supported on instrumental, efficiency grounds.³⁷ On that view, liability deters wastefully dangerous activity, thereby helping to achieve economic efficiency. In recent years, legal scholars have paid much attention to the differ-

³⁴ The seminal decision is *Henningsen v. Bloomfield Motors, Inc.*, 161 A.2d 69 (N.J. 1960) in which the court permitted an inference of defect when the steering failed in a new automobile being driven normally. *Id.* at 98.

³⁵ See, e.g., *Soule v. General Motors Corp.*, 882 P.2d 298, 308 (Cal. 1994) ("[A] complex product . . . may often cause injury in a way that does not engage its ordinary consumers' reasonable minimum assumptions about safe performance. . . . [A] product is still defective if its design embodies 'excessive preventable danger'. . . . But this determination involves technical issues of feasibility, cost, practicality, risk, and benefit . . .").

³⁶ See, e.g., Symposium, *Corrective Justice and Formalism: The Care One Owes One's Neighbors*, 77 IOWA L. REV. 403 (1992) (discussing various forms of corrective justice and how they provide a justification for tort law); George P. Fletcher, *Fairness and Utility in Tort Theory*, 85 HARV. L. REV. 537, 537-56 (1972) (describing a widely held view of tort liability, the "paradigm of reciprocity," and how it is grounded in terms of fairness).

³⁷ See, e.g., *PHILOSOPHICAL FOUNDATIONS OF TORT LAW* (David G. Owen ed., 1995); RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 206-11 (4th ed. 1992) (analyzing the justification for damages in intentional tort cases using an efficiency paradigm).

ences between these perspectives and the analytical problems that each presents.³⁸ Rather than attempting to solve these problems here, this Part identifies the most commonly advanced standards for defective design associated with each perspective, leaving to later discussions the task of choosing between them.

The noninstrumental legal standard for design defects that scholars most often propose to achieve corrective justice between parties is reasonable consumer expectations.³⁹ Judged by this standard, a design is defective if it is dangerous to an extent that disappoints reasonable expectations regarding safe use and consumption. As an independent standard for deciding classic design cases, the reasonable consumer expectations model rests on the premise that when a purchaser has paid value for a product, he and others have a right to expect that it will not cause harm unfairly.⁴⁰ Quite clearly, application of this standard relies heavily on intuition. However, its proponents have confidence that, especially with the American civil jury system, triers of fact will reach appropriate outcomes.⁴¹

The instrumental standard for design defects that scholars most commonly advance is reasonable design safety based on risk-utility analysis. Proponents believe that imposition of this standard deters the distribution of wastefully dangerous products, thereby helping to achieve optimal levels of design safety. In this regard, the risk-utility analysis employed in determining defective design is quite close to, if not identical with, the risk-utility analysis employed in determining negligence at common law.⁴² Compared with the consumer expectations standard, the reasonableness standard based on risk-utility analysis relies less on intuition and more on a balancing of articulated considerations regarding the relative advantages and disadvantages of the product as designed and as it alternatively could have been

³⁸ See, e.g., Gary T. Schwartz, *Mixed Theories of Tort Law: Affirming Both Deterrence and Corrective Justice*, 75 TEX. L. REV. 1801, 1802-11 (1997) (documenting the differences between the corrective and deterrence schools of thought); Matthew S. O'Connell, Note, *Correcting Corrective Justice: Unscrambling the Mixed Conception of Tort Law*, 85 GEO. L.J. 1717, 1717-33 (1997) (discussing two competing theories of corrective justice).

³⁹ The seminal work on the consumer expectations standard is Marshall S. Shapo, *A Representational Theory of Consumer Protection: Doctrine, Function and Legal Liability for Product Disappointment*, 60 VA. L. REV. 1109 (1974).

⁴⁰ See generally James A. Henderson, Jr., *Coping with the Time Dimension in Products Liability*, 69 CAL. L. REV. 919, 935-36 (1981) (discussing fairness towards a consumer's reasonable expectations as a traditional justification for strict products liability).

⁴¹ See, e.g., *Heaton v. Ford Motor Co.*, 435 P.2d 806, 810-11 (Or. 1967) (O'Connell, J., dissenting) (arguing that a jury is well-equipped to decide whether a product performed as a reasonable person would expect).

⁴² See, e.g., *Navarro v. Fuji Heavy Indus., Ltd.*, 117 F.3d 1027, 1029 (7th Cir.), cert. denied, 118 S. Ct. 600 (1997) ("[T]his suit is based on negligence rather than on strict products liability. But there is little or no practical difference in a case of defective design . . .").

designed. The reasonableness standard based on risk-utility analysis considers factors such as the likely effects of the alternative design on product longevity, maintenance, repair, aesthetics, and the benefits in the form of reduced accident costs to be derived from adoption of the safer alternative.⁴³

C. Why Disappointment of Consumer Expectations Is an Inappropriate Standard for Defectiveness in Classic Design Cases

Proponents of the consumer expectations standard rely on section 402A, comment *i*, of the *Restatement (Second)* which states that for a product to be unreasonably dangerous within the meaning of the black letter law, it "must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics."⁴⁴ Notwithstanding its superficial appeal, any argument that the ALI ever intended the consumer expectations test to constitute an independent, governing standard for design defect liability under section 402A is sheer folly. Dean Prosser, the Reporter responsible for drafting section 402A, writing some seven years after its promulgation, made it clear that the standard for both design and failure-to-warn defects sounds in classic negligence.⁴⁵ Other scholars have further demonstrated that the ALI simply never contemplated, in the early 1960s, that some form of true strict liability should govern classic design cases.⁴⁶ Indeed, the text of comment *i* renders such an inter-

⁴³ Cf. *Soule v. General Motors Corp.*, 882 P.2d 298, 305 (Cal. 1994) (reviewing past products liability cases which pointed out that a jury will often have to weigh factors bearing on the "feasibility, practicality, risk, and benefit" of safer alternatives).

⁴⁴ RESTATEMENT (SECOND), *supra* note 10, § 402A cmt. i.

⁴⁵ In his treatise, *The Law of Torts*, Dean Prosser states:

There are . . . two particular areas in which the liability of the manufacturer, even though it may occasionally be called strict, appears to rest primarily upon a departure from proper standards of care, so that the tort is essentially a matter of negligence.

One of these involves the design of the product, which includes plan, structure, choice of materials, and specifications. There is no doubt whatever that the manufacturer is under a duty to use reasonable care to design a product that is reasonably safe for its intended use, and for other uses which are foreseeably probable. The question turns on what is reasonable care and what is reasonable safety. . . .

The second area in which negligence appears to predominate is that of warning of the dangers involved in use of the product, and, where called for, directions for its use. There is no dispute that the seller is under a duty to give adequate warning of unreasonable dangers involved in the use of which he knows, or should know.

WILLIAM L. PROSSER, *THE LAW OF TORTS* 644-47 (4th ed. 1971) (footnotes omitted).

⁴⁶ See, e.g., George L. Priest, *Strict Products Liability: The Original Intent*, 10 CARDOZO L. REV. 2301 *passim* (1989).

pretation doubtful.⁴⁷ The simple truth is that liability for defective design was in its nascent stages in the early 1960s and section 402A did not address it meaningfully, if at all.

On any view, consumer expectations as a standard separate from risk-utility fails on normative grounds. Even if one assumes that fairness-based, noninstrumental values underlie tort, consumer expectations provide an incoherent basis upon which to measure producer responsibility. In many instances, avoiding one type of design-related risk by incorporating one safety feature can be accomplished only by increasing the probability of encountering another risk of equal or even greater magnitude.⁴⁸ Persons injured by either risk will contend that their expectations were disappointed; and in each separate context, the consumer expectations test provides no means of evaluating one set of expectations against the other. Are both seemingly contradictory claims to be countenanced?⁴⁹ Moreover, what standard should govern when consumer expectations are below those that reasonable design technology can deliver? If the risks of a design are patently obvious, consumers may have no basis for expecting greater safety even though they might reasonably desire it. Should the open and obvious nature of a design feature bar liability even if it would have been feasible and reasonable to eliminate the risk of injury?⁵⁰ One might insist that certain sets of consumer expectations are unreasonable. However, what independent standard would courts apply to determine that these expectations are unreasonable? If the answer to

⁴⁷ Comment i, in describing the concept of unreasonable danger, provides:

The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics. Good whiskey is not unreasonably dangerous merely because it will make some people drunk, and is especially dangerous to alcoholics; but bad whiskey, containing a dangerous amount of fusel oil, is unreasonably dangerous. Good tobacco is not unreasonably dangerous merely because the effects of smoking may be harmful; but tobacco containing something like marijuana may be unreasonably dangerous. Good butter is not unreasonably dangerous merely because, if such be the case, it deposits cholesterol in the arteries and leads to heart attacks; but bad butter, contaminated with poisonous fish oil, is unreasonably dangerous.

RESTATEMENT (SECOND), *supra* note 10, § 402A cmt. i. These examples hardly support the use of a consumer expectations test in a classic design case.

⁴⁸ See, e.g., *Dawson v. Chrysler Corp.*, 630 F.2d 950, 962 (3d Cir. 1980) ("[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").

⁴⁹ Clearly this possibility disturbed the *Dawson* court. *Id.* ("[W]e affirm the judgment [for plaintiff] . . . with uneasiness regarding the consequences of our decision . . ."). *Dawson* involved a risk-utility standard; the problem would be compounded under a consumer expectations standard.

⁵⁰ Cf. *infra* Part III.A.5 (discussing the "patent danger rule" and concluding that this outmoded and discredited rule should not bar defendant's liability).

these difficulties is to conclude that reasonable consumers have a right to expect reasonably efficient levels of design safety, then the analysis has come full circle to the risk-utility standard from which the consumer expectations test sought to escape. What is the standard for reasonably safe design other than a risk-utility standard?⁵¹

At an even more fundamental level, it is incoherent to utilize the expectations of the ordinary consumer as the barometer for a noninstrumental, fairness-based standard of liability. As with all attempts to articulate fairness norms as standards for judging the appropriateness of various forms of behavior, the central problem is trying to eliminate individual preferences in order to achieve objectivity. Here, as elsewhere, the attempt encounters substantial difficulties.⁵² Indeed, reliance on expectations is especially vexatious in this regard. The concept of consumer expectations carries with it inescapable psychological connotations that frustrate attempts to objectify the appropriate standard. Is the ordinary consumer to be characterized as risk-averse or risk-preferring? Is the ordinary consumer willing to sacrifice aesthetics, economy, or ease of repair for greater safety? It is unrealistic to believe that one can surgically separate ordinary consumer expectations from the value preferences of flesh-and-blood human beings.⁵³ Risk-utility analysis confronts this same problem of objecti-

⁵¹ See, e.g., *Navarro v. Fuji Heavy Indus., Ltd.*, 117 F.3d 1027, 1029 (7th Cir.), cert. denied, 118 S. Ct. 600 (1997) ("[Risk-utility and consumer expectations come] to the same thing; the consumer expects the products he buys not to be defectively designed.").

⁵² The American philosopher John Rawls attempts to achieve objectivity in *A Theory of Justice* by invoking a bargaining model in which rational actors, having been placed hypothetically in what he refers to as "the original position," are posited to work their way, via consensual exchange, to a solution that organizes society in a just manner. JOHN RAWLS, *A THEORY OF JUSTICE* 118-92 (1971). For the model to have any persuasive claim based on reason, Rawls must impose knowledge conditions, captured by the phrase "the veil of ignorance," that eliminate sources of destructive self interest. *Id.* at 136-42. In a powerful critique of Rawls's theory, Robert Wolff argues that the model is inherently unworkable. ROBERT PAUL WOLFF, *UNDERSTANDING RAWLS* (1977). Wolff concludes:

At the heart of the theory in *A Theory of Justice* lies a formal model of a bargaining game. The power of the theory consists in the creativity and imagination of that device, by means of which Rawls hoped to bypass the sterile dispute between intuitionism and utilitarianism. Speaking narrowly, from within the framework of Rawls's own mode of analysis, the maneuver will not work because the model must either impute too much particularity to the players, in order to enable them to bargain to a determinate and predictable outcome or else so totally strip them of their individuating characteristics that no determinate bargaining game can be defined.

Id. at 209-10.

⁵³ Robert Wolff notes:

[I]f there are serious methodological or epistemological grounds for supposing that human beings *could not* have the sorts of general knowledge Rawls attributes to the parties in the original position, without their also having to be aware of the sorts of particular facts about themselves that are cloaked by the veil of ignorance—if, in short, the particular combination of knowledge and ignorance required by Rawls's construction is in principle impossible—then the entire theory will be called into question. I do not

fying the normative standard.⁵⁴ However, compared with the consumer expectations standard, risk-utility analysis more successfully addresses this problem.

These conceptual problems are compounded by the unique difficulties that one encounters in formulating a standard for defective design that is manageable in court. To the extent to which a fairness-based consumer expectations standard relies on intuition in attempting to respond to classic design cases not involving product malfunction, it is so vague as to be lawless.⁵⁵ As one leading authority has observed:

The meaning is ambiguous and the [consumer expectations] test is very difficult [to apply] to discrete problems. . . . The test can be utilized to explain most any result that a court or jury chooses to reach. The application of such a vague concept in many situations does not provide much guidance⁵⁶

D. Why a Risk-Utility Standard Requiring Proof of a Reasonable Alternative Design Is the Only Sensible Standard for Determining Defectiveness in Classic Design Cases

Given the problems described in the preceding section, some form of risk-utility standard must win by default unless it, too, succumbs to the same difficulties as the consumer expectations standard. A fair assessment in this regard is that, while some of the problems described above undoubtedly confront risk-utility, the risk-utility standard solves them much more readily than a standard based on consumer expectations. Risk-utility analysis deals more comfortably with the necessity of making cross-personal comparisons regarding consumer preferences. The operative perspective in risk-utility analysis is the objective one of achieving reasonable design safety from an overall, societal standpoint,⁵⁷ not the more subjective perspective of per-

for a moment suppose that I can prove so strong a claim (though Rawls has said nothing at all to prove its contrary), but I do think there are powerful reasons for at least doubting the cognitive possibility of the original position as Rawls has characterized it.

WOLFF, *supra* note 52, at 122.

⁵⁴ See *infra* note 57 and accompanying text. Robert P. Wolff, whose critique of Rawls's philosophy is quoted earlier, see *supra* notes 52-53, observes: "[One of the] most obvious weaknesses of utilitarianism [is] its inability to explain how rationally self-interested pleasure-maximizers are to be led to substitute the general happiness for their own as the object of their actions." WOLFF, *supra* note 52, at 11.

⁵⁵ For a discussion of why vague standards should be lawless, see Henderson, *supra* note 3, at 1534-42 (noting that courts are not well-equipped to adjudicate disputes which do not pose manageable, principled questions).

⁵⁶ W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 99, at 699 (W. Page Keeton ed., 5th ed. 1984) (footnote omitted).

⁵⁷ For a discussion of the "overall benefits to society" approach in microeconomics, see POSNER, *supra* note 37, at 12-16 (referring to the basis of the approach as "the Kaldor-

sonal (albeit somehow collective), psychological expectations.⁵⁸ Risk-utility analysis also better identifies the factual data relevant in reaching decisions on product defectiveness. The social costs considered in risk-utility balancing are the costs of adopting better, safer technology, including both capital and operating costs.⁵⁹ The relevant benefits are reductions in accident costs achieved by reducing both the likelihood and the severity of product-related accidents.⁶⁰ Moreover, while not perfect, a risk-utility standard for defective design renders decisions in classic design cases more manageable in court. Unlike the consumer expectations test that is almost wholly based on intuition and thus not subject to judicial limitation, the risk-utility test is relatively focused. The question in risk-utility balancing is whether the risk that culminated in plaintiff's harm was reasonably preventable. Technological data and expert opinion inform the court as to the practical limitations on product design and provide boundaries for the discussion of the defect.⁶¹

Assuming that the normative case has been made in favor of a risk-utility standard for defective design, a further question remains to be answered: What kind of risk-utility standard? Two possibilities present themselves: first, a standard that determines design defectiveness by asking whether a reasonable person would have distributed the product that harmed the plaintiff, designed in the same way as the defendant's product; and second, a standard that asks only whether a reasonable person would have designed the defendant's product more safely so as to reduce or prevent the plaintiff's harm. The first, broader variation on risk-utility supports finding the defendant's product design defective if a reasonable person would not have sold the product at all, even if a safer alternative design was not available.

Hicks concept"). See also David G. Owen, *Toward a Proper Test for Design Defectiveness: "Micro-Balancing" Costs and Benefits*, 75 TEX. L. REV. 1661, 1692-98 (1997) (arguing that the "risk-utility" test should be renamed the "cost-benefit" test).

⁵⁸ See *supra* note 53 and accompanying text.

⁵⁹ Learned Hand's classic formulation of the risk-utility approach is set forth in *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947). For an explanation of Hand's formulation, see Richard A. Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29, 32 (1972) ("[The burden of taking precautions includes] the cost of installing safety equipment or otherwise making the activity safer, or the benefit forgone by curtailing or eliminating the activity.").

⁶⁰ See Posner, *supra* note 59, at 32 ("Discounting (multiplying) the cost of an accident if it occurs by the probability of occurrence yields a measure of the economic benefit to be anticipated from incurring the costs necessary to prevent the accident.").

⁶¹ When parties fail to provide technical support for assertions regarding the feasibility of safer designs, courts refuse to allow triers of fact to speculate intuitively. See, e.g., *Troja v. Black & Decker Mfg. Co.*, 488 A.2d 516, 520 (Md. Ct. Spec. App. 1985) (holding that the trial court did not abuse its discretion in declining to admit proposed expert's testimony when "the expert's bald statement that a safety . . . device could be implemented without great cost . . . was not supported by any data regarding the cost of the materials necessary to include such a feature").

The second, narrower variation requires the plaintiff in every classic design case to establish that a reasonable alternative design was available.

An example will clarify the difference between these risk-utility variations. Suppose that a manufacturer distributes a four-foot deep, above-ground swimming pool with a slippery vinyl liner.⁶² The plaintiff dives into the pool head-first. The plaintiff's hands slide apart on the vinyl causing her head to hit the bottom, breaking her neck. The plaintiff claims that: (1) a cost-effective, less slippery liner was available to the defendant and would have prevented the plaintiff's injuries; and (2) even if a safer alternative liner was not available, the risks that above-ground pools present outweigh their social utility and, therefore, a reasonable person would not have distributed the pool in the first place. The broader risk-utility variation described above would allow both defectiveness arguments in the alternative. The narrower variation would limit the plaintiff to proving the reasonable availability of a less-slippery pool liner.

Which of these risk-utility approaches to defective design is preferable? The authors have argued elsewhere that the first variation, which would allow juries to find the entire category of above-ground pools defective if the only feasible above-ground pool liners are made of slippery vinyl, is inappropriate.⁶³ Several considerations support this conclusion. The first consideration is institutional. In an earlier article, the authors explained why the process of adjudication is ill-suited to determining whether broad categories of products are legally defective:

For the traditional process of adjudication to work rationally and properly, the parties must use applicable legal doctrine to focus their claims so that they may insist upon a favorable outcome as a matter of right. As Professor Fuller explained, some problems are polycentric in nature. They consist of elements that are connected to one another as are the strands of a spider's web, so that a decision with regard to any element affects the decisions with regard to all the others. Such problems are not suited to judicial resolution because neither side can move from element to element in an orderly sequence.

A certain degree of polycentricity inheres in defective product design cases generally. Yet courts are able to manage in these traditional contexts because plaintiffs typically propose alternative designs and ask the judiciary to focus on the relatively small, marginal

⁶² This hypothetical is based on *O'Brien v. Muskin Corp.*, 463 A.2d 298 (N.J. 1983). The hypothetical assumes that the swimming pool was accompanied with adequate warnings that informed the user not to dive into the pool.

⁶³ See James A. Henderson, Jr. & Aaron D. Twerski, *Closing the American Products Liability Frontier: The Rejection of Liability Without Defect*, 66 N.Y.U. L. REV. 1263, 1297-314 (1991).

differences between the defendant's design and the proposed alternative. With product-category liability, no comparison of marginal differences is necessary because the plaintiff is arguing that the entire product category, including all possible variations therein, should be subject to absolute liability. Quite literally, the question asked in product-category liability cases is: "taking all relevant considerations into account, is the product category in question appropriate for use and consumption in society?" Thus, the polycentricity that inheres in traditional design cases is magnified enormously.⁶⁴

One can see that risk-utility-based, product-category liability claims would be unadjudicable if one considers how the above-ground swimming pool case would be adjudicated if courts were to recognize such claims. Would vinyl-lined pools two-feet deep, for which the risks of people diving head-first are presumably lower, be included? If not, where would courts draw the boundary regarding above-ground pool depth? In calculating the aggregate risks such pools present, would all types of risks—for example, the risks of drowning—be included, or only the risks that the slipperiness of the vinyl liners pose? On the benefits side, would all social benefits be included—for example, recreational pleasure? If not, how does one conceptualize the narrower set of social benefits derived from the slipperiness of the vinyl lining? If all the social benefits from above-ground pools are to be considered, how would intangible benefits such as aggregate recreational pleasure to society at large be quantified?⁶⁵ Furthermore, placing aside quantification problems, how could the litigants in individual tort cases conceivably obtain the nation-wide data necessary for the court to reach a rational judgment?⁶⁶ Bearing in mind that a finding on the issue of categorical defectiveness in one case would presumably not bind the next,⁶⁷ it is foreseeable that opening up the judicial sys-

⁶⁴ *Id.* at 1305 (footnotes omitted).

⁶⁵ For a discussion of techniques to measure public benefits in the context of environmental law, see Brian R. Binger et al., *The Use of Contingent Valuation Methodology in Natural Resource Damage Assessments: Legal Fact and Economic Fiction*, 89 NW. U. L. REV. 1029 (1995) (evaluating the use of the contingent valuation method in quantifying the personal monetary value an individual attributes to an environmental good); David S. Brookshire et al., *Valuing Public Goods: A Comparison of Survey and Hedonic Approaches*, 72 AM. ECON. REV. 165 (1982) (examining the willingness of residents to pay for an improvement in air quality). Benefits must also be measured in connection with marginal risk-utility analysis; but the valuation problems in connection with marginal analysis would be much less difficult. Marginal comparisons focus on small differences. Aggregate, categorical comparisons require much more data and complex assessments of noncommensurates.

⁶⁶ The dissenting opinion in *O'Brien* argues persuasively that parties to tort litigation would not, and could not, obtain the factual data with which to make the necessary evaluations. *O'Brien*, 463 A.2d at 314 (Schreiber, J., concurring and dissenting).

⁶⁷ Courts have not applied offensive collateral estoppel in products liability litigation. See, e.g., *Hardy v. Johns-Manville Sales Corp.*, 681 F.2d 334, 338-39 (5th Cir. 1982) (reversing district court decision that barred presentation of evidence by defendants where an "identity of interests" was the only foundation for privity between defendants and parties in

tem to these types of claims would ask more of courts than they could deliver.

The other major reason for rejecting the broader version of a risk-utility standard for defective designs involves the magnitude of the constraints that category liability would place on consumer choice in the market. When courts review the reasonableness of product designs marginally, thereby pressuring manufacturers to adopt safer design alternatives within product categories, they clearly constrain consumer choice to some extent.⁶⁸ However, when courts deem entire categories of generically dangerous products defective, thereby pressuring manufacturers to remove those categories from the market, they place constraints of a much greater magnitude on market choice.⁶⁹ Thus, it is appropriate for courts to insist, by threat of tort liability, that safer pool liners be used if they are available and cost-effective; however, it would be socially detrimental for courts to pressure manufacturers not to sell any variations of above-ground pools because, on balance, it was judged in tort litigation that such pools were not "good for society."

Limiting the judicial imposition of design-based liability to those instances in which the plaintiff can prove that a safer alternative design could reasonably have been adopted reduces both the "limits-of-adjudication" and the "undue-market-constraints" problems mentioned above. Focusing on relatively small, marginal differences between the defendant's design and the plaintiff's proposed alternative renders manageable the risk-utility analysis of whether omission of the alternative caused the design to be unreasonably dangerous. Moreover, while threatening liability for the omission of reasonable alternative designs clearly constrains consumer choice in the market, it does so at an acceptable level. It follows that the only sensible general standard for determining defectiveness in classic design cases is a risk-utility standard with a requirement that the plaintiff prove the availability of a reasonable alternative design.

a prior action); *Goodson v. McDonough Power Equip., Inc.*, 443 N.E.2d 978, 987 (Ohio 1983) (holding the reasonableness of design issue not sufficiently "identical" to the prior case to warrant preclusion).

⁶⁸ If the plaintiff in the above-ground swimming pool example successfully proved that a rougher liner were feasible (although more costly) and would reduce injuries, then manufacturers would probably substitute rougher liners to minimize potential liability. If such a substitution were made, purchasers of above-ground pools who would never dream of diving into them headfirst would pay marginally more for rougher liners that were of no utility to them.

⁶⁹ If courts effectively removed above-ground pools from the market by imposing category-based liability, or caused their costs to consumers to escalate dramatically, the impact on middle-class Americans would be much greater than in the variation considered above. See *supra* note 68.

One possibility remains to be considered. The preceding discussion of category liability as part of a broader risk-utility standard assumes that the test for categorical defectiveness would support a finding of defect if the aggregate risks presented by the product—above-ground pools, for example—exceeded the aggregate benefits to any extent, however small.⁷⁰ Now it must be asked whether the “limits-of-adjudication” and “undue-market-constraints” problems described above would be reduced to an acceptable level if the categorical defectiveness concept were limited to instances in which a product’s generic risks were extremely (perhaps egregiously) great and its social benefits were extremely low (perhaps all but nonexistent).⁷¹ Although one is justified in wondering whether such a gratuitously dangerous product would ever be marketed, it appears that such a narrow rule of categorical design liability would be manageable in court and would not constrain consumer choice in the market. In a manner similar to other areas of tort, such a risk-utility standard would employ a quantitative solution to solve potential problems created by a lack of a qualitative solution.⁷² Although the authors are skeptical that cases that would satisfy such an “egregiously dangerous design” exception to the requirement of proof of a reasonable alternative design would ever arise, in theory such an exception would not be problematic.

III

WHAT COURTS HAVE DONE IN DECIDING CLASSIC DESIGN CASES

This Part focuses on the empirical question of what courts, in fact, have been doing over the past several decades. This Part demonstrates that the overwhelming majority of American courts have, as one might have expected based on the preceding normative analysis, adopted a risk-utility approach in determining design defects. First, this Part examines the relevant methodology to be used in assessing the case law. In this regard, it describes the major sources of confusion that might cause the decisions to be erroneously classified. After identifying potential sources of errors in classification, it examines

⁷⁰ This assumption is imbedded in Hand’s treatment of the risk-utility calculus in the *Carroll Towing* decision: “[I]f the probability [of an accidental injury] be called P; the injury, L; and the burden [of precaution], B; liability depends upon *whether B is less than L multiplied by P . . .*” *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) (emphasis added).

⁷¹ That is, instances in which the B is very low and the PL is very high. See *id.*

⁷² A good example of this type of quantitative adjustment of liability rules to solve manageability problems is the so-called “intentional infliction of emotional distress” tort, in which the requirements that the defendant’s conduct be “outrageous” (rather than simply intentional) and the upset be “severe” (rather than merely harmful) render the emotional distress tort manageable. See RESTATEMENT (SECOND), *supra* note 10, § 46.

what the courts have done. With this accomplished, it draws conclusions regarding what American courts have actually done by way of defining defective design. Lastly, this Part looks at what respected legal scholars have said over the years about the proper test for deciding difficult design cases. The fact that this body of scholarship, extending over several decades, supports the conclusions that this Article reaches provides further evidence of the validity of these conclusions.

A. Identifying Potential Sources of Error in Classifying Published Decisions

Before considering whether the reported decisions support the thesis that courts require proof of a reasonable alternative design in cases in which a general standard for design liability must be applied, some words of caution are in order. An empirical study of case law in a field such as products liability is no easy task. Tort cases are particularly fact-sensitive and courts are consequently prone to pepper their decisions with dicta and footnotes to allow "wiggle room" for cases that may arise in the future. In contrast to legal treatise writers and restaters who, in synthesizing the law, tend to speak precisely and categorically, courts in their published opinions are more likely to be open-textured and indecisive. In order to improve the validity of the results of this inquiry into what courts have done, it will be useful to identify the potential sources of analytical confusion that might cause design decisions to be misconstrued. Each of the potential sources of confusion identified in the following subsections takes the form of a failure to distinguish one type of design case, or issue within a case, from another, in a manner likely to result in misclassification of the data.

1. *Failure to Distinguish Between Reasonable Alternative Design As an Expression of the Risk-Utility Standard, Itself, and the Availability of an Alternative Design As Merely One Factor to Be Considered in Risk-Utility Balancing*

An early, influential writer, John Wade, addressed the defective design issue in a much-cited article, and advanced seven factors to weigh in determining the reasonableness of a producer's design choices.⁷³ Wade's third factor is "[t]he availability of a substitute product which would meet the same need and not be as unsafe."⁷⁴ Superficially, this reference to an "available substitute product" might be taken as equivalent to the risk-utility/reasonable alternative design

⁷³ John W. Wade, *On the Nature of Strict Tort Liability for Products*, 44 Miss. L.J. 825, 837-38 (1973).

⁷⁴ *Id.* at 837.

approach advanced in this analysis. As such, the reasonable alternative design standard might be viewed as merely one factor among others for courts to consider.⁷⁵ However, Wade's reference is not the logical equivalent of the design standard advanced herein. His reference to an "available substitute" is to the technological feasibility of an alternative design: *could* the producer have adopted a safer design? The design standard that this Article advances includes, with its requirement that the alternative design be "reasonable," the normative question of whether the producer *should* have adopted the alternative design.⁷⁶ Thus, the technical feasibility of Wade's "substitute product" is properly conceived as an empirical factor for courts to consider in the normative process of risk-utility balancing.⁷⁷ In contrast, whether a reasonable producer would (or would not) have adopted a safer design is not merely an empirical factor to be considered under risk-utility balancing. Rather, it constitutes the normative balancing process itself.⁷⁸ It follows that it would be error to rely on judicial references to Wade's third factor to support the conclusion that the risk-utility approach advanced herein is simply one of seven "factors" that the court will consider.⁷⁹

2. *Failure to Distinguish Between Classic Design Cases and Cases Involving Demonstrably Defective Designs*

Previous sections of this Article distinguish between classic design cases, in which courts must apply a general standard in order to determine defectiveness, and cases involving demonstrably defective designs, in which they need not.⁸⁰ When attempting to determine empirically whether the general standard courts have adopted consists of a risk-utility test based on reasonable alternative design or a consumer expectations test, one must be careful to make sure that the

⁷⁵ See, e.g., *Camacho v. Honda Motor Co.*, 741 P.2d 1240, 1247 (Colo. 1987) (en banc) (using the reasonable alternative design standard as merely one factor among a group of factors to be considered).

⁷⁶ In addition to the modifier "reasonable," the *Restatement (Third)* adds the requirement that "omission of the alternative design renders the product not reasonably safe." *RESTATEMENT (THIRD)*, *supra* note 16, § 2(b).

⁷⁷ Stated this way, as merely a factor and not as a necessary condition for defectiveness, Wade implicitly countenances category liability, a position this Article rejects as untenable. See *supra* text accompanying notes 62-67. That Wade did, in fact, advocate category liability is clear from his formulation of a general test for product defect: "whether [the defendant] was then negligent in putting [the product] on the market." Wade, *supra* note 73, at 834; cf. *supra* text accompanying notes 62-67 (discussing category liability).

⁷⁸ The distinction between the technical feasibility of an alternative design and the question of whether, on balance, the alternative should have been adopted is developed by Judge Posner in *Flaminio v. Honda Motor Co.*, 733 F.2d 463, 468 (7th Cir. 1984) (distinguishing the "feasibility" of a safety feature from the "net advantages" of adopting it).

⁷⁹ See *infra* text accompanying notes 219-22.

⁸⁰ See *supra* Parts I, II.A.

design cases being evaluated are ones in which no "short-cut" in the form of a specific design standard applies. This is most important when the specific standard takes the form of the implicitly intended function of the design. When designs malfunction, violating built-in standards, courts often explain judgments for plaintiffs in terms of the designs having "disappointed consumer expectations."⁸¹ However, because such cases do not involve the application of the general design standard, it would constitute error to count such cases as support for the consumer expectations test as the general standard.

3. *Failure to Distinguish Between Design Standards Applicable to Products Generally and Design Standards Applicable Only to Unique Subsets of Products*

The general standard for design defect that this analysis seeks to determine is the standard generally applicable to most products. Special product categories such as food products,⁸² used products,⁸³ and prescription drugs⁸⁴ have, with regard to the issue of defective design, traditionally been treated differently from products generally. Some of these special design standards rely on disappointment of consumer expectations as the primary test for defectiveness.⁸⁵ However, because such standards do not apply to products generally, they do not support the thesis that the general design standard is based on consumer expectations. Even jurisdictions that clearly adopt risk-utility as the general standard may apply a consumer expectations test in cases involving one or more of these special categories.

4. *Failure to Distinguish Between Cases Involving Unreasonably Dangerous Designs and Cases Involving Egregiously Dangerous Designs*

Consistent with an earlier discussion,⁸⁶ even in risk-utility jurisdictions that require plaintiffs, as a general rule, to prove the availability of a reasonably safe alternative design, reported decisions refer in dictum to the possibility that some product designs may be so egregiously dangerous and offer so little social utility that they would be deemed defective even if no safer alternative design were available. Opinions

⁸¹ See *supra* note 32 and accompanying text.

⁸² See, e.g., *Morrison's Cafeteria, Inc. v. Haddox*, 431 So. 2d 975 (Ala. 1983) (using a reasonable expectations test when a boy choked on a fishbone at a restaurant).

⁸³ See, e.g., *Turner v. International Harvester Co.*, 336 A.2d 62 (N.J. Super. Ct. Law Div. 1975) (used truck).

⁸⁴ See, e.g., *West v. Searle & Co.*, 806 S.W.2d 608 (Ark. 1991) (birth control medication).

⁸⁵ See, e.g., *Morrison's Cafeteria*, 431 So. 2d at 978 (applying a "reasonable expectations" test).

⁸⁶ See *supra* notes 71-72 and accompanying text.

of this sort frequently observe that proof of a reasonable alternative design is, therefore, not necessarily required in every classic design case.⁸⁷ Whether or not the exceptional circumstances of an egregiously dangerous design would ever arise, it would constitute error to classify such a decision as support for the conclusion that, because of the dictum just described, such a jurisdiction does not adopt reasonable alternative design as the general standard for design defect.

5. *Failure to Distinguish Between What a Plaintiff Must Prove to Establish Design Defect and What a Defendant May Prove to Escape Liability*

Some jurisdictions that generally apply a risk-utility standard in determining design defect also recognize what is commonly referred to as the "patent danger rule."⁸⁸ This outmoded⁸⁹ and discredited⁹⁰ rule holds that even if a court would otherwise deem a design unreasonably dangerous and therefore defective, a defendant is absolved from liability if the risks the design presents are obvious. The patent danger rule derives from language in comment *i* to section 402A of the *Restatement (Second)* to the effect that, in order to be defective, products must be dangerous to an extent beyond that which ordinary

⁸⁷ See, for example, *Wilson v. Piper Aircraft Corp.*, 577 P.2d 1322 (Or. 1978) (en banc), in which the court explained this reasoning.

In this case we focus on the practicability of a safer alternative design and hold that the evidence was insufficient to permit the trial judge to consider that factor. Our holding should not be interpreted as a requirement that this factor must in all cases weigh in plaintiff's favor before the case can be submitted to the jury. There might be cases in which the jury would be permitted to hold the defendant liable on account of a dangerous design feature even though no safer design was feasible (or there was no evidence of a safer practicable alternative). If, for example, the danger was relatively severe and the product had only limited utility, the court might properly conclude that the jury could find that a reasonable manufacturer would not have introduced such a product into the stream of commerce. We hold here only that, given the nature of the product and of the defects alleged, it was improper to submit the issue of a defect in the engine design to the jury in the absence of appropriate evidence that the safer alternative design was practicable.

Id. at 1328 n.5.

⁸⁸ The leading case is *Campo v. Scofield*, 95 N.E.2d 802 (N.Y. 1950), *overruled by* *Micallef v. Miehle Co.*, 348 N.E.2d 571 (N.Y. 1976).

⁸⁹ The New York Court of Appeals overruled *Campo*, *id.*, in *Micallef v. Miehle Co.*, 348 N.E.2d 571 (N.Y. 1976). A strong majority of American courts rejects the rule. See, e.g., *Pike v. Frank G. Hough Co.*, 467 P.2d 229, 235 (Cal. 1970) (noting that "the modern approach does not preclude liability solely because a danger is obvious").

⁹⁰ See generally 5 FOWLER V. HARPER ET AL., *THE LAW OF TORTS* § 28.5, at 361 n.19 (2d ed. 1986) (noting that "the 'patent' defect limitation is on the whole rejected in 'strict' liability cases"); Patricia Marshall, *An Obvious Wrong Does Not Make a Right: Manufacturers' Liability for Patently Dangerous Products*, 48 N.Y.U. L. Rev. 1065, 1067-71 (1973) (arguing that fairness requires that manufacturers of patently dangerous products be subject to liability based on risk-utility balancing).

consumers would contemplate.⁹¹ Courts invoking the patent danger rule sometimes observe that the designs in question meet consumer expectations because their dangers are obvious.⁹² However, it would be error to conclude, based on such a statement involving a limited application of consumer expectations, that the underlying test for defective design is disappointment of consumer expectations.⁹³ Although the defendant may employ satisfaction of expectations as a shield, it does not follow that the plaintiff may employ disappointment of expectations as a sword independent of a showing of unreasonable design under a risk-utility standard.

6. *Failure to Distinguish Between the Standard Used in Determining Sufficiency of Plaintiff's Proof and the Standard Used to Instruct the Jury*

The general standard for defective design performs two primary functions. First, it supplies the substantive measure against which the judge determines whether the plaintiff has introduced sufficient proof of design defect to reach the jury. Second, assuming that the plaintiff has introduced sufficient proof of defect, the standard guides the court in instructing the jury. The first of these functions is considerably more important than the second. So long as the instructions are not flatly inconsistent with the recognized legal standard, appellate courts do (and should) give substantial discretion to trial judges (or committees on uniform jury instructions) to instruct juries on the issue of defective design as they see fit. For example, even jurisdictions that require the plaintiff to prove the availability of a reasonable alternative design as a prerequisite to reaching the jury often couch their jury instructions in more general language that includes, and sometimes gives primary emphasis to, other factors such as consumer expectations.⁹⁴ It follows that it would be error, then, to rely on appellate decisions approving a jury instruction based on consumer

⁹¹ See *supra* note 47.

⁹² See, e.g., *Todd v. Societe BIC, S.A.*, 21 F.3d 1402, 1407 (7th Cir. 1994) (holding that when a four-year-old child started a fatal fire with a cigarette lighter, the lighter manufacturer was not liable as a matter of law under Illinois law, since "the ordinary consumer expects that if a lighter's flame is put to some other combustible object, a larger fire ensues").

⁹³ The federal court that decided *Todd* clearly recognized that the general standard for defective design was "rooted" in risk-utility analysis under Illinois law. *Id.* at 1410.

⁹⁴ See, e.g., COLORADO JURY INSTRUCTIONS 3d § 14:19 (approving either a consumer expectations or risk-utility instruction). The Colorado Supreme Court specifically rejected the consumer expectations test in *Camacho v. Honda Motor Co.*, 741 P.2d 1240, 1245-47 (Colo. 1987) (en banc). See also DISTRICT OF COLUMBIA JURY INSTRUCTIONS § 11-11 (defining unreasonably dangerous as "dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases the product"). The primary test in the District of Columbia is risk-utility based. See *Hull v. Eaton Corp.*, 825 F.2d 448, 454 (D.C. Cir. 1987).

expectations to support the conclusion that the jurisdiction necessarily applies a consumer expectations standard in the more critical context of assessing the sufficiency of the plaintiff's proof of defective design.

7. *Failure to Distinguish Between Substance and Rhetoric*

This final source of classification error is possibly the most important one of all. Some courts, perhaps committed to the nearly sacrosanct rhetoric of comment *i* to section 402A of the *Restatement (Second)*,⁹⁵ insist on describing their general standard for defective design as if it were based on consumer expectations; but in actuality these courts apply a risk-utility standard in determining whether the plaintiff has met the burden of production on the design defect issue. Some of these courts reveal that their commitment to consumer expectations is purely rhetorical: consumers have a right to expect reasonable safety in product designs, measured against a substantive standard of risk-utility and the availability of a reasonable alternative design.⁹⁶ Other courts do not explicitly reveal the true substance of the underlying standard, but perusal of their actual holdings regarding the sufficiency of proof of defective design reveals a pattern that is consistent only with a substantive standard of risk-utility firmly anchored in reasonable alternative design.⁹⁷ It follows that to try to support the conclusion that consumer expectations is the substantive design standard merely by quoting out of context the consumer expectations rhetoric that courts use would be to mischaracterize the substantive standard that the courts are applying. Quite literally, such jurisdictions talk one way and act another. The important point is that here, as elsewhere, actions speak very much louder than words.

B. What the Courts Have Done: Understanding the Decisions Adopting General Standards for Defective Design

The discussion of reported decisions that follows focuses on the decisional law in five jurisdictions. The primary goal of this discussion is not simply to demonstrate that a large number of jurisdictions agree with the thesis set forth herein, formidable as the numbers might be.⁹⁸ Rather, the goal is also to describe the important ways that various courts, starting from very different vantage points, have arrived at con-

⁹⁵ See *supra* note 47.

⁹⁶ See, e.g., *Aller v. Rodgers Mach. Mfg. Co.*, 268 N.W.2d 830, 834-35 (Iowa 1978) ("The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer' . . . Proof of unreasonableness involves a balancing process. On one side of the scale is the utility of the product and on the other is the risk of its use.") (quoting *RESTATEMENT (SECOND)*, *supra* note 10, § 402A cmt. i).

⁹⁷ See *infra* notes 217-18 and accompanying text.

⁹⁸ See cases cited *infra* notes 99-141.

clusions that are nearly identical to each other and to those that the authors suggest. Common-law courts are not totally free to choose the sequence in which they make their judicial pronouncements. The facts of the case *sub judice* exert powerful influences on how decisions are written. It would have been convenient if courts had first been faced only with demonstrably defective designs that did not require the application of a formal standard, and then gradually had been introduced to the more difficult cases that demanded a rigorous general standard. The history of products litigation, of course, was never so neat. The task of sequencing ideas and making sense out of decisional patterns is largely the task of scholars who can view the panorama and discern the major themes that play out over time and across jurisdictions. It is in that vein that the theme that "all roads ultimately lead to reasonable alternative design" is set forth. Different courts have taken different pathways toward reaching that conclusion. Many clearly have reached it by now, and others are but a whisker away. It is time to let the cases tell their own story.

Michigan began its odyssey into design litigation the hard way—by confronting the necessity for a general standard with which to decide classic design defect cases. In *Owens v. Allis-Chalmers Corp.*,⁹⁹ the overhead protective guard of a forklift pinned plaintiff's decedent.¹⁰⁰ He had apparently been thrown from the forklift after it struck a concrete post.¹⁰¹ The plaintiff claimed that the manufacturer of the forklift should have provided some sort of factory-installed driver restraint system that would have prevented the decedent's ejection.¹⁰² Plaintiff's expert suggested several such restraint systems.¹⁰³ In upholding a directed verdict in favor of the defendant, the court held that the plaintiff had failed to produce evidence of the practicality, cost effectiveness, or greater safety of the proffered alternative designs.¹⁰⁴ Two years later, in *Prentis v. Yale Mfg. Co.*,¹⁰⁵ the Michigan high court undertook a broad review of competing rules to govern design litigation¹⁰⁶ and cast its lot with the "overwhelming consensus"¹⁰⁷ view that adopts risk-utility balancing. Thus, having intuited the need to establish a reasonable alternative design in *Owen*, the Michigan high court in *Prentis* firmly rooted such a requirement in risk-utility balancing. In the ensuing years, both state and federal courts applying Michigan law

⁹⁹ 326 N.W.2d 372 (Mich. 1982).

¹⁰⁰ *Id.* at 373.

¹⁰¹ *See id.*

¹⁰² *See id.*

¹⁰³ *See id.* at 374.

¹⁰⁴ *Id.* at 378-79.

¹⁰⁵ 365 N.W.2d 176 (Mich. 1984).

¹⁰⁶ *Id.* at 180-85.

¹⁰⁷ *Id.* at 183; *see also* Sperry-New Holland v. Prestage, 617 So. 2d 248, 255 (Miss. 1993) ("Risk utility" has become the trend in most federal and state jurisdictions.").

have consistently required proof of a reasonable alternative design in classic design cases.¹⁰⁸ It should also be noted that Michigan has a long line of *res ipsa*-type cases in which demonstrable defectiveness based on product malfunction has freed the plaintiff from proving design defect under the general standard.¹⁰⁹

Maryland first faced the issue of strict products liability in the context of a *res ipsa*-like fact pattern. In *Phipps v. General Motors Corp.*,¹¹⁰ the plaintiff was injured when the accelerator of his nearly new Pontiac automobile became stuck without warning, causing the automobile to accelerate suddenly and leave the road.¹¹¹ In a wide-ranging discussion, the court noted the view of courts and commentators that "in a design defect case the standard of defectiveness . . . involving as it does the element of unreasonable danger, . . . requires a weighing of the utility of risk inherent in the design against the magnitude of the risk."¹¹² The court went on to say:

However, there are those kinds of conditions which, whether caused by design or manufacture, can never be said to involve a reasonable risk. For example, the steering mechanism of a new automobile should not cause the car to swerve off the road, the drive shaft of a new automobile should not separate from the vehicle when it is driven in a normal manner, the brakes of a new automobile should not suddenly fail, and the accelerator of a new automobile should not stick without warning, causing the vehicle suddenly to accelerate. Conditions like these, *even if resulting from the design of the products, are defective and unreasonably dangerous without the necessity of weighing and balancing the various factors involved.*¹¹³

The pattern of decisions in Maryland is clear and unmistakable. Having correctly identified the *res ipsa* design cases as exceptions to the general rule, Maryland courts apply a risk-utility analysis in classic de-

¹⁰⁸ See, e.g., *Phillips v. Hardware Wholesalers, Inc.*, 762 F.2d 46, 48 (6th Cir. 1985) (applying Michigan law and noting that one of the elements of plaintiff's prima facie case is proving reasonable alternative design); *Gawenda v. Werner Co.*, 932 F. Supp. 183, 187 (E.D. Mich. 1996) (same), *aff'd*, 127 F.3d 1102 (6th Cir. 1997); *Zettle v. Handy Mfg. Co.*, 837 F. Supp. 222, 225 (E.D. Mich. 1992), *aff'd*, 998 F.2d 358 (6th Cir. 1993); *Reeves v. Cincinnati, Inc.*, 439 N.W.2d 326, 329 (Mich. Ct. App. 1989) (same); *Scott v. Allen Bradley Co.*, 362 N.W.2d 734, 737 (Mich. Ct. App. 1984) (same).

¹⁰⁹ See, e.g., *Holloway v. General Motors Corp.*, 271 N.W.2d 777, 780 (Mich. 1978) (noting that in certain *res ipsa* cases a plaintiff's burden of proof is satisfied where evidence is presented from which the jury could infer that some defect attributable to the manufacturer caused the accident); *Hawkeye-Security Ins. Co. v. Harnischfeger Corp.*, 301 N.W.2d 846, 848 (Mich. Ct. App. 1980) (citing *Holloway* with approval); *Messer v. Floyd Rice Ford, Inc.*, 284 N.W.2d 139, 142 (Mich. Ct. App. 1979), *rev'd on other grounds*, 288 N.W.2d 352 (Mich. 1980) (same).

¹¹⁰ 363 A.2d 955 (Md. 1976).

¹¹¹ *Id.* at 956.

¹¹² *Id.* at 959.

¹¹³ *Id.* (emphasis added) (citations omitted).

sign cases that requires the plaintiff to prove a reasonable alternative design to establish defective design.¹¹⁴

Colorado has explicitly rejected the consumer expectations test as an independent standard for determining defective design for many of the reasons set forth earlier in the discussion.¹¹⁵ Instead, it has embraced risk-utility balancing as the only method that allows a court to consider the broad range of factors necessary to make a determination as to whether a product design is reasonably safe.¹¹⁶ In *Armentrout v. FMC Corp.*,¹¹⁷ the Colorado high court reaffirmed its commitment to risk-utility balancing and placed the burden of proving that a design was unreasonably dangerous on the plaintiff.¹¹⁸ The court then considered whether evidence of a reasonable alternative design is necessary to establish a prima facie case for defect. It noted that plaintiff had, in fact, presented evidence of a reasonable alternative design.¹¹⁹ In dictum, the court could not resist the temptation to raise the possibility that a design might be so egregiously dangerous that it would be defective even if no alternative design was available.¹²⁰ As noted earlier, such a limited exception for cases in which the risk-utility imbalance is enormous does not threaten the general liability standard.¹²¹

¹¹⁴ See, e.g., *Ziegler v. Kawasaki Heavy Indus.*, 539 A.2d 701, 707 (Md. Ct. Spec. App. 1988):

In order to create a jury issue on Kawasaki's liability for a defective design, Ziegler was required but failed to produce evidence showing "the technological feasibility of manufacturing a product with the suggested safety device at the time the suspect product was manufactured; the availability of the materials required; the cost of production of the suggested device; price to the consumer, including that of the suggested device; and the chances of consumer acceptance of a model incorporating such features."

(quoting *Troja v. Black & Decker Mfg.*, 488 A.2d 516, 519-20 (Md. Ct. Spec. App. 1985)); *Troja*, 488 A.2d at 519-20 (upholding a directed verdict for defendant on grounds that plaintiff failed to provide sufficient evidence of a reasonable alternative design).

¹¹⁵ See *Camacho v. Honda Motor Co.*, 741 P.2d 1240, 1245-47 (Colo. 1987) (en banc).

¹¹⁶ See *id.* at 1247; see also *White v. Caterpillar, Inc.*, 867 P.2d 100, 105 (Colo. Ct. App. 1993) (holding that the risk-benefit test, with consideration of scientific and technical data for alternative designs as one factor, is required in order to find a truck gasoline tank design unreasonably dangerous).

¹¹⁷ 842 P.2d 175 (Colo. 1992) (en banc).

¹¹⁸ *Id.* at 183-84.

¹¹⁹ *Id.* at 185.

¹²⁰ The court initially stated that "the existence of a feasible alternative [design] is a factor in the risk-benefit analysis of the unreasonable dangerousness of the product design." *Id.* at 185. The court qualified this statement immediately in a footnote with a citation to language from *Wilson v. Piper Aircraft Corp.*, 577 P.2d 1322, 1328 n.5 (Or. 1978) (en banc) (quoted *supra* note 87), which allows for a finding of defective design without a reasonable alternative design when a product has negligible social utility and extremely high risk. *Armentrout*, 842 P.2d at 185 n.11.

¹²¹ See *supra* text accompanying notes 71-72.

Pennsylvania has, by common agreement, developed a unique and, at times, almost unfathomable approach to products litigation.¹²² Notwithstanding its idiosyncratic approach to the subject, a quite plausible view is that Pennsylvania does require proof of a feasible alternative design in classic design cases.¹²³ The leading decision is *Azzarello v. Black Bros. Co.*,¹²⁴ which held that the trial court should perform risk-utility balancing in determining whether, as a matter of social policy, the product design can be considered defective.¹²⁵ Only after the court decides the risk-utility issue in the plaintiff's favor should a judge submit the case to the jury. Pennsylvania stands alone in its view that risk-utility balancing is never properly a jury function. In any event, both state and federal courts applying *Azzarello* have held that risk-utility balancing demands that plaintiffs introduce evidence of a feasible alternative design. Failure of plaintiffs to make such offers has led to a host of decisions holding in favor of defendants as a matter of law.¹²⁶ Pennsylvania case law confirms the thesis of this Article

¹²² See JAMES A. HENDERSON, JR. & AARON D. TWERSKI, *PRODUCTS LIABILITY: PROBLEMS AND PROCESS* 507-09 (3d ed. 1997); see also Sheila L. Birnbaum, *Unmasking the Test for Design Defect: From Negligence [to Warranty] to Strict Liability to Negligence* 33 VAND. L. REV. 593, 636-39 (1980) (describing the approach as "unacceptable and unprincipled"); Stephen J. Cipolla, Comment, *Returning the "Balance" to Design Defect Litigation in Pennsylvania: A Critique of Azzarello v. Black Brothers Company*, 89 DICK. L. REV. 149 (1984) (critiquing the Pennsylvania approach); Robert F. Harchut, Recent Development, 24 VILL. L. REV. 1035, 1048-50 (1979) (describing the uncertainty of the approach).

¹²³ See, e.g., *Habecker v. Clark Equip. Co.*, 942 F.2d 210, 215 (3d Cir. 1991) (reasoning that if no reasonable alternative design for a forklift were known at the time of manufacture, that design could not be defective).

¹²⁴ 391 A.2d 1020 (Pa. 1978).

¹²⁵ *Id.* at 1026-27. Although the court held that risk-utility balancing was for the trial court, it mandated the following jury instruction:

The [supplier] of a product is the guarantor of its safety. The product must, therefore, be provided with every element necessary to make it safe for [its intended] use, and without any condition that makes it unsafe for [its intended] use. If you find that the product, at the time it left the defendant's control, lacked any element necessary to make it safe for [its intended] use or contained any condition that made it unsafe for [its intended] use, then the product was defective, and the defendant is liable for all harm caused by such defect.

Id. at 1027 n.12 (alterations in original). The instruction clearly does not reflect the elements necessary to make a prima facie risk-utility case that will survive a summary judgment motion before a trial court.

¹²⁶ See, e.g., *Wallace v. Tesco Eng'g Inc.*, No. 94-2189, 1996 WL 92081, at *4 (E.D. Pa. Mar. 1, 1996), *aff'd*, 101 F.3d 694 (3d Cir. 1996) (granting defense's directed verdict motion when employee who slipped and fell on oil brought claim of design defect of assembly line for failing to have an adequate oil drainage system because the suggested alternative design plaintiff offered was not safer); *Fritchey v. Rhone-Poulenc, Inc.*, No. 95-1983, 1996 WL 240009, at *4 (E.D. Pa. Feb. 16, 1996) (granting the defense's directed verdict motion when worker slipped and fell on a colorless chemical in a waste water treatment plant because plaintiff had presented no evidence that a safer reasonable alternative was available that would perform the design function and allow for coloration that would be visible on a host of different types of floors in waste treatment plants); *Ballarini v. Clark Equip. Co.*, 841 F. Supp. 662, 665-66 (E.D. Pa. 1993), *aff'd*, 96 F.3d 1431 (3d Cir. 1996) (directing

in two important respects. First, it supports the conclusion that a commitment to risk-utility balancing leads inexorably to the requirement that an alternative design must be available. Second, the crucial question under Pennsylvania law is whether a plaintiff can make out a *prima facie* case without proof of an alternative design, not the content of jury instructions. Thus, starting from a very different perspective on the role of judge and jury in design litigation, Pennsylvania law supports the thesis that a feasible alternative design is a necessary predicate to a valid design defect claim.

The California experience is especially instructive. Until fairly recently, California was the most influential jurisdiction giving voice to consumer expectations as an independent standard for defective design. It has now, for all practical purposes, abandoned that position and adopted the consensus view based on risk-utility balancing. The story is worth telling. In 1978, in *Barker v. Lull Engineering Co.*,¹²⁷ the California Supreme Court concluded that plaintiffs in design defect cases may proceed independently on two alternative theories.¹²⁸ A product design was defective if: (1) it failed to meet consumer expectations, or (2) the risks inherent in the design outweighed its benefits.¹²⁹ On the latter issue, the court shifted the burden of proof to the defendant.¹³⁰ *Barker* unleashed a firestorm of controversy. It can fairly be said that the overwhelming majority of courts and commentators have been sharply critical of *Barker*.¹³¹

verdict for defendant in a case in which plaintiff alleged that a forklift was defective because it did not come equipped with an interlock device that would put the vehicle into neutral when the operator left the driver's seat, and concluding that plaintiff's expert failed to establish the feasibility of an alternative design); see also Fitzpatrick v. Madonna, 623 A.2d 322, 323, 325-26 (Pa. Super. Ct. 1993) (reversing judgment for plaintiff in wrongful death action in which the representatives of a swimmer killed by a propeller on a carelessly operated boat presented no evidence of a feasible alternative design).

¹²⁷ 573 P.2d 443 (Cal. 1978).

¹²⁸ *Id.* at 455.

¹²⁹ See *id.* at 455-56.

¹³⁰ *Id.* at 456.

¹³¹ *Barker* was sharply criticized on two grounds. First, it adopted a consumer expectations test for classic design defect cases. See *supra* text accompanying note 129. Second, when a design is attacked on a risk-utility ground, it shifted the burden of proof to the defendant to establish that a product's risks do not outweigh its benefits. See *supra* text accompanying note 130. The post-*Barker* literature took issue with *Barker* on both of these issues. See, e.g., Birnbaum, *supra* note 122, at 602-14 (discussing problems with *Barker's* approach); Gary T. Schwartz, *Foreword: Understanding Products Liability*, 67 CAL. L. REV. 435, 464-81 (1979) (same); John W. Wade, *On Product "Design Defects" and Their Actionability*, 33 VAND. L. REV. 551, 571-75 (1980) (same). For other scholarly criticism of the consumer expectations test, see *infra* text accompanying notes 149-52. For judicial criticism of the consumer expectations test, see cases cited *supra* notes 87-126. Courts have overwhelmingly rejected shifting the burden to the defendant on the risk-utility issue. See, e.g., Armentrout v. FMC Corp., 842 P.2d 175, 182 (Colo. 1992) (en banc) (stating that "the plaintiffs bear the burden"); Ontai v. Straub Clinic & Hosp. Inc., 659 P.2d 734, 740 (Haw. 1983) (same); Hayes v. Ariens Co., 462 N.E.2d 273, 278 (Mass. 1984) (same); Kallio v. Ford

Indeed, only a few states have adopted the *Barker* formulation.¹³²

In 1994, in *Soule v. General Motors Corp.*,¹³³ the California high court recounted its travails with the consumer expectations test under *Barker* and found the test unsuitable for cases involving product designs of any complexity.¹³⁴ The court in *Soule* held that it would thereafter countenance use of a limited consumer expectations test in cases "in which the *everyday experience* of the product's users permits a conclusion that the product's design violated *minimum* safety assumptions."¹³⁵ In a footnote, the court sought to enlighten the reader as to the kinds of design cases in which the consumer expectations test could be used:

For example, the ordinary consumers of modern automobiles may and do expect that such vehicles will be designed so as not to explode while idling at stoplights, experience sudden steering or brake failure as they leave the dealership, or roll over and catch fire in two-mile-per-hour collisions. If the plaintiff in a product liability action proved that a vehicle's design produced such a result, the jury could find forthwith that the car failed to perform as safely as its ordinary consumers would expect, and was therefore defective.¹³⁶

These examples are identical to the examples used earlier in this Article in connection with "demonstrably defective designs."¹³⁷ Thus, California clearly limited the consumer expectations test to *res ipsa*-like cases that do not require the application of a general standard to de-

Motor Co., 407 N.W.2d 92, 95 (Minn. 1987) (same); *Cremeans v. International Harvester Co.*, 452 N.E.2d 1281, 1284 (Ohio 1983) (same); *Wilson v. Piper Aircraft Corp.*, 579 P.2d 1287, 1287-88 (Or. 1978) (on rehearing) (same); *Ray v. BIC Corp.*, 925 S.W.2d 527, 532-33 (Tenn.), *modified*, 92 F.3d 1185 (6th Cir. 1996) (same).

¹³² See, e.g., *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871, 880-87 (Alaska 1979); *Ontai*, 659 P.2d at 740; *Knitz v. Minster Mach. Co.*, 432 N.E.2d 814, 818 (Ohio 1982). Only *Caterpillar* has agreed with California that the defendant ought to bear the burden of proof on risk-utility balancing. *Caterpillar*, 593 P.2d at 885-86.

¹³³ 882 P.2d 298 (Cal. 1994).

¹³⁴ *Id.* at 304-10.

¹³⁵ *Id.* at 308.

¹³⁶ *Id.* at 308 n.3.

¹³⁷ See *supra* text accompanying notes 21-25; see also RESTATEMENT (THIRD), *supra* note 16, § 3 cmt. b, illus. 3:

Mary purchased a new automobile. She drove the car 1,000 miles without incident. One day she stopped the car at a red light and leaned back to rest until the light changed. Suddenly the seat collapsed backward, causing Mary to hit the accelerator and the car to shoot out into oncoming traffic and collide with another car. Mary suffered harm in the ensuing collision. As a result of the collision, Mary's car was set afire, destroying the seat assembly. The incident resulting in the harm is of a kind that ordinarily occurs as a result of product defect. Mary need not establish whether the seat assembly contained a manufacturing defect or a design defect.

termine defective design. For all the rest—what are here referred to as classic design cases—risk-utility balancing is mandated.

Having cast its lot with risk-utility balancing as the governing standard for classic design cases, the court in *Soule* then endorsed the position originally taken in *Barker* that the burden of proof that a product met risk-utility guidelines should fall on the defendant. *Barker* argued that:

Because most of the evidentiary matters which may be relevant to the determination of the adequacy of a product's design under the "risk-benefit" standard—e.g., the feasibility and cost of alternative designs—are similar to issues typically presented in a negligent design case and involve technical matters peculiarly within the knowledge of the manufacturer, we conclude that once the plaintiff makes a prima facie showing that the injury was proximately caused by the product's design, the burden should appropriately shift to the defendant to prove, in light of the relevant factors, that the product is not defective.¹³⁸

This burden-shifting aspect of *Barker* is unique to California and many observers, including the authors of this Article, have criticized it.¹³⁹ Ironically, however, in the context of an attempt to determine what general standard is applicable in determining design defectiveness, the burden shift supports the authors' thesis that proof regarding an alternative design is necessary. As the quoted excerpt makes clear, shifting the burden makes sense only if the defendant is required to prove that no marginal improvement to the challenged design was reasonable. If the risk-utility balancing countenanced in *Barker/Soule* was broad enough to include a challenge to the general utility of a product category and its overall value to society, the manufacturer would have no comparative advantage in showing that a product as a whole was good or bad. That information is not "peculiarly within the knowledge of the manufacturer." It follows that, for the court's rationale in the quoted excerpt from *Barker* to make sense, the focus must be on the availability—or unavailability—of a reasonable alternative design.

The five jurisdictions selected for discussion are representative of case law throughout the country. When the facts allow a court to draw a common-sense inference of defect, the courts find no need to articu-

¹³⁸ *Barker*, 573 P.2d at 455.

¹³⁹ See *supra* note 131; see also James A. Henderson, Jr., *Renewed Judicial Controversy Over Defective Product Design: Toward the Preservation of an Emerging Consensus*, 63 MINN. L. REV. 773, 784-97 (1979) (commenting that *Barker*'s burden-shifting is a radical departure from product liability tradition that, applied literally, will lead to inconsistent results); Aaron D. Twerski, *A Moderate and Restrained Federal Product Liability Bill: Targeting the Crisis Areas for Resolution*, 18 U. MICH. J.L. REFORM 575, 580-85 (1985) (arguing that the *Barker* test leads to an unmanageable system of liability with inconsistent results).

late a general liability standard. When design defect is demonstrable, courts draw a *res ipsa*-like inference of defect. In the classic design case, courts resort to risk-utility balancing. Where a reasonable alternative design is not available, the defendant prevails. Some courts, in dicta, hold out the possibility that the risk-utility imbalance might be so egregious that the product should not be marketed at all.¹⁴⁰ Actual holdings to this effect, however, are non-existent.¹⁴¹ Thus, for in what are here described as classic design defect cases, courts impose liability only if the plaintiff's proof shows that a reasonable alternative design that would have prevented the plaintiff's harm was available to the manufacturer. A consensus to this effect has been achieved.

C. Most American Legal Scholars Agree That the General Standard for Defective Design Is Risk-Utility with a Requirement of Proof of Reasonable Alternative Design

In assessing scholarly treatments of the appropriate general standard for design defect, the important variable is when the commentary was made. From 1992 through 1997, the ALI undertook to prepare a *Restatement (Third) of Torts: Products Liability*.¹⁴² Early in that project, it became clear that the general standard for design defect that the ALI favored was the risk-utility standard coupled with a rea-

¹⁴⁰ See *supra* note 120; see also *Banks v. ICI Americas, Inc.*, 450 S.E.2d 671, 674 (Ga. 1994) (stating that a reasonable alternative design standard governs "since it is only at their most extreme that design defect cases reflect the position that a product is simply so dangerous that it should not have been made available at all"); *Kallio v. Ford Motor Co.*, 407 N.W.2d 92, 96-97 n.8 (Minn. 1982) ("Conceivably, rare cases may exist where the product may be judged unreasonably dangerous because it should be removed from the market rather than be redesigned.").

¹⁴¹ The authors have searched without success for cases where courts have held that a product should not have been marketed due to egregious risk-utility imbalance. Cf. *supra* Part III.A.4 (noting the authors' skepticism that these cases would arise); *supra* notes 71-72 and accompanying text (same). Section 2A:58C-3(b) of the New Jersey statutes provides that the obligation to establish a "practical and technically feasible alternative design" is not required when a court makes all the following determinations based on clear and convincing evidence:

- (1) The product is egregiously unsafe or ultra-hazardous;
- (2) The ordinary user or consumer of the product cannot reasonably be expected to have knowledge of the product's risks, or the product poses a risk of serious injury to persons other than the user or consumer; and
- (3) The product has little or no usefulness.

N.J. STAT. ANN. § 2A:58C-3(b) (West 1987). Appended to the legislation is an official commentary by the New Jersey Senate Judiciary Committee that indicates just how limited the exception was intended to be. The commentary notes: "It is intended that such a finding [under the exception] would be made only in genuinely extraordinary cases—for example, in the case of a deadly toy marketed for use by young children, or of a product marketed for use in dangerous criminal activities." N.J. SENATE JUDICIARY COMM. STATEMENT, No. 2805-L.1987, ch. 197. Not a single reported case utilizes this statute to impose liability.

¹⁴² The authors were appointed as Reporters for the Restatement in June, 1992. See *supra* note 16 for action taken by the ALI in approving the Proposed Final Draft.

sonable alternative design requirement. In direct response to the *Restatement (Second)*'s treatment of design defects, many articles were published in law reviews in the mid-1990s.¹⁴³ Often by their own admission, these pieces were produced in an effort to influence the process of deliberation that led to final approval of the Proposed Final Draft by the ALI membership in May of 1997.¹⁴⁴ While these efforts to influence the debate were perfectly legitimate in the context of deliberation on the *Restatement (Third)*, their pointedly adversarial nature (and hence the greater-than-normal possibility of traditional scholarly objectivity having been tainted with political bias) warrants the exercise of caution in attempting to gauge scholarly reactions to the underlying issues. In light of this reality, the treatment of scholarship in this section is limited to work published prior to 1994. Assessment of the work published thereafter, in direct response to the *Restatement (Third)*, will be deferred to a subsequent discussion of the *Restatement (Third)* itself.¹⁴⁵

Commentaries written prior to the *Restatement (Third)* project, and thus deserving of the traditional presumption of scholarly objectivity,

¹⁴³ See articles cited *supra* notes 1, 9, 14; see also Harvey M. Grossman, *Categorical Liability: Why the Gates Should Be Kept Closed*, 36 S. TEX. L. REV. 385, 402-14 (1995) (arguing that categorical liability should not be part of the product liability system because it does not effectively eliminate the manufacture or sale of products that are unavoidably dangerous and does not rationally distribute the costs involved); Howard Klemme, *Comments to the Reporters and Selected Members of the Consultative Group*, *Restatement of Torts (Third): Products Liability*, 61 TENN. L. REV. 1173 (1994) (arguing that Reporters and Advisers, as well as the Council, should not abandon dominant case law by introducing fault into modern products liability law through requiring negligence in design defect cases); Joseph W. Little, *The Place of Consumer Expectations in Product Strict Liability Actions for Defectively Designed Products*, 61 TENN. L. REV. 1189, 1194-99 (1994) (maintaining that strict liability should apply only to products that are abnormally dangerous in design, and that the jury should decide whether the product falls within this limited class); Marshall S. Shapo, *A New Legislation: Remarks on the Draft Restatement of Products Liability*, 30 U. MICH. J.L. REFORM 215, 217-20 (1997) (arguing that the ALI and its reporters are advocating different political positions in what had been an area traditionally regarded as private law); Frank J. Vandall, *Constructing a Roof Before the Foundation Is Prepared: The Restatement (Third) of Torts: Products Liability Section 2(b) Design Defect*, 30 U. MICH. J.L. REFORM 261, 279 (1997) (arguing that the *Restatement (Third)*'s treatment of design defects rests on political agendas, not case law and policy analysis); Ellen Wertheimer, *The Smoke Gets in Their Eyes: Product Category Liability and Alternative Feasible Design in the Third Restatement*, 61 TENN. L. REV. 1429, 1434-40 (1994) (concluding that proof of an alternative feasible design as a prerequisite to recovery in a product liability action is neither an advisable nor necessary change, and could lead to a product being found defective even without any way to eliminate danger).

¹⁴⁴ For example, Professor Shapo's article, Shapo, *supra* note 1, was published as a preprint on March 30, 1995 and was widely distributed prior to the ALI Annual Meeting on May 16-19, 1995 at which the Tentative Draft No. 2, including § 2(b) (the design defect section), was being considered. Shapo's position in his advocacy piece is somewhat different from his position in a treatise he wrote prior to the Restatement project. See *infra* note 148 and accompanying text.

¹⁴⁵ See *infra* Part IV.C.

support overwhelmingly the risk-utility consensus described herein.¹⁴⁶ Modern treatise writers support the reasonable alternative design standard. M. Stuart Madden concludes: "[T]he majority rule posits that plaintiff cannot establish a prima facie case of defective design without evidence of a technologically feasible, and practicable, alternative to defendant's product that was available at the time of manufacture."¹⁴⁷ Marshall Shapo observes: "Among the principal methods of judicial control over jury intuitions that would generate seriously uneconomic conceptions of [design] defect is the requirement that the plaintiff show a reasonable alternative design."¹⁴⁸

¹⁴⁶ See, e.g., PROSSER, *supra* note 45, §§ 31, 96, at 149, 644-45 (defining the standard of conduct in negligence as a balancing of "the risk, . . . probability and extent of the harm, against the value of the interest which the actor is seeking to protect, and the expedience of the course pursued" and writing that in the area of design defect, a manufacturer's liability appears to be "essentially a matter of negligence"); Page Keeton, *Product Liability and the Meaning of Defect*, 5 ST. MARY'S L.J. 30, 39 (1973) ("But if defect is to be a requirement, it is submitted that there is no way to avoid a risk-benefit analysis in passing upon designs."); W. Page Keeton, *Products Liability—Design Hazards and the Meaning of Defect*, 10 CUMB. L. REV. 293, 313 (1979) (proposing that a product be determined defectively designed "if a reasonable person would conclude that the magnitude of the danger . . . outweighs the utility of the design"); William M. Landes & Richard A. Posner, *A Positive Economic Analysis of Products Liability*, 14 J. LEGAL STUD. 535, 553-54 (1985) (endorsing the use of risk-utility analysis in design defect cases); Schwartz, *supra* note 131, at 464 (commenting that "[t]here can be little doubt about the correctness of the risk-benefit standard for design defect"); Gary T. Schwartz, *New Products, Old Products, Evolving Law, Retroactive Law*, 58 N.Y.U. L. REV. 796, 803 (1983) (noting that "[m]ost of the modern design defect cases rely on a risk-benefit liability standard that seems to be a strong assertion of the negligence formula set forth in 1947 by Learned Hand in his effort to codify traditional negligence reasoning") (footnote omitted); Wade, *supra* note 73, at 836-38 (setting out factors to be used in the risk-benefit analysis); see also Birnbaum, *supra* note 122, at 649 ("Imposing a negligence standard for design defect liability is in many cases only to define in a coherent fashion what litigants are in fact arguing and what jurors are in essence analyzing. . . . [I]t is time for courts to adopt . . . a pure negligence/risk-utility test in design defect cases."); Victor E. Schwartz, *The Uniform Product Liability Act—A Brief Overview*, 33 VAND. L. REV. 579, 586 (1980) (writing that the Uniform Act has adopted a standard for design defect cases that "balances risk against utility").

Finally, for whatever weight one chooses to give it, in numerous writings prior to our appointment as Reporters, we found risk-utility to be the only viable test for design defect. See James A. Henderson, Jr. & Aaron D. Twerski, *A Proposed Revision of Section 402A of the Restatement (Second) of Torts*, 77 CORNELL L. REV. 1512, 1532-34 (1992); James A. Henderson, Jr. & Aaron D. Twerski, *Stargazing: The Future of American Products Liability Law*, 66 N.Y.U. L. REV. 1332, 1334 (1991).

¹⁴⁷ 1 M. STUART MADDEN, *PRODUCTS LIABILITY*, § 8.3, at 299 (2d ed. 1988 & Supp. 1995).

¹⁴⁸ SHAPO, *supra* note 29, § 9.14[2]. Interestingly, this same author advanced a somewhat different position in an advocacy piece written in an attempt to influence public opinion against the *Restatement (Third)* project while the ALI was considering it. Shapo, *supra* note 1, at 665-66 ("A lamentable defect in the reporters' analysis lies in its downgrading of consumer expectations Driven by their certainty that 'risk-utility' is the sole central element for determining defect, the reporters insist that 'consumer expectations do not constitute an independent standard for judging the defectiveness of product designs.'"); cf. *supra* notes 143-45 and accompanying text (discussing the possibly biased scholarship of commentators, particularly Shapo).

Although a small core of scholars have supported the consumer expectations test over the years,¹⁴⁹ a far greater number of scholars have sharply criticized the test as an independent general standard for design defect. Thus, Professor Gary Schwartz notes that "[t]he [consumer expectations] thesis works well if the 'portrayal' is concrete enough to entail a U.C.C. express warranty or a Restatement product representation. Absent this concreteness, the thesis does not easily test out."¹⁵⁰ The Prosser and Keeton treatise makes the following points about the consumer expectation test:

The meaning is ambiguous and the test is very difficult of application to discrete problems. What does the reasonable purchaser contemplate? In one sense, he does not "expect" to be adversely affected by a risk or hazard unknown to him. In another sense, he does contemplate the "possibility" of unknown "side effects." In a sense the ordinary purchaser cannot reasonably expect anything more than that reasonable care in the exercise of the skill and knowledge available to design engineers has been exercised. The test can be utilized to explain most any result that a court or jury chooses to reach. The application of such a vague concept in many situations does not provide much guidance for a jury.¹⁵¹

Professor Mary Davis concludes: "Few courts adhere closely to the letter of section 402A's consumer expectations test in proving design defect. The test has proved unworkable for a variety of reasons."¹⁵²

¹⁴⁹ See, e.g., F. Patrick Hubbard, *Reasonable Human Expectations: A Normative Model for Imposing Strict Liability for Defective Products*, 29 MERCER L. REV. 465 *passim* (1978) (arguing that liability for product-related injuries should be apportioned in accordance with reasonable expectations); Shapo, *supra* note 39, at 1368-69 (arguing that a manufacturer's portrayal of its product should determine the context of its liability).

¹⁵⁰ Schwartz, *supra* note 131, at 476 n.241.

¹⁵¹ KEETON ET AL., *supra* note 56, § 99, at 699 (footnote omitted).

¹⁵² Mary J. Davis, *Design Defect Liability: In Search of a Standard of Responsibility*, 39 WAYNE L. REV. 1217, 1236 (1993); see also 1 MADDEN, *supra* note 147, § 6.23 (Supp. 1995) (entitled *The Retreat of the Consumer Expectations Test*); John Neely Kennedy, *The Role of the Consumer Expectation Test Under Louisiana's Products Liability Tort Doctrine*, 69 TUL. L. REV. 117, 143 (1994) ("[T]he deficiencies of the consumer expectation test are considerable."). Interestingly, a leading scholar writing from the British/Commonwealth perspective reaches the same conclusion: "By the early 1980s the inappropriate and unsupportable 'consumer expectations' test had been supplanted in most U.S. jurisdictions by an approach openly based on balancing a product's costs and benefits—in other words, the balance between its risks and its utility." JANE STAPLETON, *PRODUCT LIABILITY* 236 (1994).

IV

RECENT WORK OF THE AMERICAN LAW INSTITUTE:
 THE *RESTATEMENT (THIRD) OF TORTS:*
PRODUCTS LIABILITY

A. What the New Restatement Says About the General Standard
 for Defective Design

At its annual meeting in May of 1997, the ALI formally approved the Proposed Final Draft of the *Restatement (Third)*.¹⁵³ Subsection (b) of section 2 defines defective design in a manner consistent with the consensus position this Article describes:

§ 2. Categories of Product Defect

A product . . .

(b) is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the alternative design renders the product not reasonably safe.¹⁵⁴

Comment *b* to section 2 makes clear that the subsection 2(b) definition provides the general, but not exclusive, standard for defective design.¹⁵⁵ References in comment *b* to sections 3 and 4, and in comment *e* to section 2,¹⁵⁶ reflect earlier discussions in this Article.¹⁵⁷ Section 3 of the *Restatement (Third)* provides what was earlier described as a *res ipsa* inference of defect when a product fails to perform safely

¹⁵³ See *supra* note 16.

¹⁵⁴ *RESTATEMENT (THIRD)*, *supra* note 16, § 2(b).

¹⁵⁵ Comment *b* first appeared in the Proposed Final Draft. The comment calls attention to sections of the *Restatement* that do not require proof of a reasonable alternative design:

b. The nonexclusiveness of the definitions of defect in this Section. When a plaintiff seeks recovery under the general rule of liability in § 1, in most instances the plaintiff must establish a *prima facie* case of product defect by satisfying the requirements of § 2. Section 2 is not, however, the exclusive means by which the plaintiff may establish liability in a products case based on the general rule in § 1. Some courts, for example, while recognizing that in most cases involving defective design the plaintiff must prove the availability of a reasonable alternative design, also observe that such proof is not necessary in every case involving design defects. Sections 3 and 4 and Comment *e* to § 2 provide other approaches to the establishment of defective design under §§ 1 and 2(b).

When § 2(b) is read in conjunction with these other provisions which allow for other avenues for determining defective design, it reflects the substantial body of case law which suggests that reasonable alternative design is the predominant, yet not exclusive, method for establishing defective design.

Id. § 2 cmt. b.

¹⁵⁶ See *supra* note 155.

¹⁵⁷ See *supra* Part I.

its manifestly intended function.¹⁵⁸ Inferences of defect based on product malfunction obviate the need to apply the general design standard, thereby rendering that subset of design cases relatively easy to decide. Section 4, dealing with violations of statutory and regulatory safety standards, also makes determinations of defective design relatively easy.¹⁵⁹ Comment *e* to section 2, also referred to in comment *b*,¹⁶⁰ recognizes the possibility that a product design that combines an egregiously high risk of injury and a negligible social utility might be found defective even if no reasonable alternative design were available.¹⁶¹ Moreover, in addition to these sources of flexibility in the *Restatement (Third)* approach to defining defective design, the

¹⁵⁸ RESTATEMENT (THIRD), *supra* note 16, § 3:

§ 3 Circumstantial Evidence Supporting Inference of Product Defect

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

(a) was of a kind that ordinarily occurs as a result of product defect; and

(b) was not, in the particular case, solely the result of causes other than product defect existing at the time of sale or distribution.

¹⁵⁹ *Id.* § 4 (noting that “a product’s noncompliance with an applicable . . . statute . . . renders the product defective with respect to the risks sought to be reduced by the statute”). See generally Teresa Moran Schwartz, *Regulatory Standards and Products Liability: Striking the Right Balance Between the Two*, 30 U. MICH. J.L. REFORM 431, 450-51 (1997) (discussing the per se rule for noncomplying products).

¹⁶⁰ See *supra* note 155.

¹⁶¹ RESTATEMENT (THIRD), *supra* note 16, § 2 cmt. e:

Design defects: possibility of manifestly unreasonable design. Several courts have suggested that the designs of some products are so manifestly unreasonable, in that they have low social utility and high degree of danger, that liability should attach even absent proof of a reasonable alternative design. In large part the problem is one of how the range of relevant alternative designs is described. For example, a toy gun that shoots hard rubber pellets with sufficient velocity to cause injury to children could be found to be defectively designed within the rule of Subsection (b). Toy guns unlikely to cause injury would constitute reasonable alternatives to the dangerous toy. Thus, toy guns that project ping pong balls, soft gelatin pellets, or water might be found to be reasonable alternative designs to a toy gun that shoots hard pellets. However, if the realism of the hard-pellet gun, and thus its capacity to cause injury, is sufficiently important to those who purchase and use such products to justify the court’s limiting consideration to toy guns that achieve realism by shooting hard pellets, then no reasonable alternative will, by hypothesis, be available. In that instance, the design feature that defines which alternatives are relevant—the realism of the hard-pellet gun and thus its capacity to injure—is precisely the feature on which the user places value and of which the plaintiff complains. If a court were to adopt this characterization of the product, and deem the capacity to cause injury an egregiously unacceptable quality in a toy for use by children, it could conclude that liability should attach without proof of a reasonable alternative design. The court would declare the product design to be defective and not reasonably safe because the extremely high degree of danger posed by its use or consumption so substantially outweighs its negligible social utility that no rational, reasonable person, fully aware of the relevant facts, would choose to use, or to allow children to use, the product.

Restatement (Third) also addresses special products and product markets to which the general standard in subsection 2(b) may not apply.¹⁶²

Given that the authors of this Article were the Reporters on the *Restatement (Third)* project, citing the *Restatement (Third)* in this context may appear tantamount to the authors citing themselves in support of their own conclusions. In truth, however, such a view enormously exaggerates the extent to which Reporters can influence the content of Restatements on which they work. This is certainly true with respect to those pivotally important, potentially controversial aspects of the projects, such as the issue of design defect in this project. To appreciate the extent to which the *Restatement (Third)* is, in every sense, a group effort, it is necessary to understand the process by which it came into being. Several important groups from within the ALI membership advised and assisted the Reporters during the five-year project.¹⁶³ The Reporters met with one group or another in formal sessions at least six times each year and presented drafts at Annual Meetings in 1994, 1995, 1996, and 1997.¹⁶⁴ Altogether, a dozen soft-cover formal drafts were published separately and circulated widely among ALI members and interested observers over the life of the project. These drafts were discussed, debated, criticized, and revised.¹⁶⁵ The Reporters received and considered thousands of written suggestions and spent countless hours discussing every conceivable aspect of the project in person and on the telephone. The Reporters examined, classified, and relied on thousands of reported appellate court decisions and statutes as the basis for the black-letter rules and supporting comments.¹⁶⁶ This research was circulated widely to and critiqued by ALI members and interested observers. The effect of all

¹⁶² The *Restatement (Third)* contains a separate topic (Chapter 1, Topic 2) entitled *Liability Rules Applicable to Special Products or Product Markets*, containing four sections. Section 5 covers product components; § 6 covers prescription drugs and medical devices; § 7 covers food products; and § 8 covers used products. RESTATEMENT (THIRD), *supra* note 16, §§ 5-8.

¹⁶³ The formally constituted groups included Advisers, a Members Consultative Group, Bar Liaison Groups, and the ALI Council.

¹⁶⁴ RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY (April 12, 1994) [hereinafter Tentative Draft No. 1] was presented at the Annual Meeting on May 17-20, 1994; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY (March 13, 1995) [hereinafter Tentative Draft No. 2] was presented at the Annual Meeting on May 16-19, 1995; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY (April 5, 1996) [hereinafter Tentative Draft No. 3] was presented at the Annual Meeting on May 14-17, 1996; Proposed Final Draft (April 1, 1997), RESTATEMENT (THIRD), *supra* note 16, was approved at the Annual Meeting on May 20, 1997.

¹⁶⁵ For each of the four years in which the Reporters presented tentative drafts to the Annual Meeting, the following drafts were prepared: (1) Preliminary Draft (2) Council Draft, and (3) Tentative Draft. Each of the aforementioned drafts was presented to each of the groups identified *supra* note 163.

¹⁶⁶ Voluminous Reporters' Notes, setting forth the authorities on which the Reporters relied, accompany the *Restatement (Third)*.

this consultation and debate on the content of the project was substantial.¹⁶⁷ One can more accurately view the Reporters as the carriers of the *Restatement (Third)*'s message rather than as its authors.

B. Close But No Cigar: The Puzzling Reception of the
Restatement (Third) in Connecticut

A recent decision by the Supreme Court of Connecticut reveals how analytical errors and rhetorical overstatements can lead to ill-advised conclusions. In *Potter v. Chicago Pneumatic Tool Co.*,¹⁶⁸ responding to defendant's overly aggressive reliance on an earlier draft of the *Restatement (Third)*, the Connecticut high court purported to reject the "feasible alternative design" standard.¹⁶⁹ However, the decision reveals that the Connecticut court actually came within a whisker of endorsing the structure for design litigation set forth in the *Restatement*. *Potter* involved injuries to employees who had for more than two decades used pneumatic hand tools manufactured by the defendant.¹⁷⁰ Plaintiffs suffered vascular and neurologic injuries allegedly caused by excessive vibration.¹⁷¹ Plaintiffs' qualified experts testified about a broad range of design alternatives for reducing vibration in pneumatic tools that the defendant could have adopted.¹⁷² Plaintiffs also introduced credible expert testimony that a large number of defendant's tools violated specific industry safety standards aimed at reducing vibration.¹⁷³ Understandably enough, the trial court gave the design claims to the jury and the jury returned a verdict for the plaintiffs.¹⁷⁴

¹⁶⁷ In addition to countless stylistic changes, significant substantive changes came about from the debate. For example, Tentative Draft No. 1, *supra* note 164, § 3 applied only to manufacturing defects. Based on group discussions, this section was substantially broadened to include both manufacturing and design defects when a product fails to perform its manifestly intended function. *See supra* note 158; *supra* text accompanying notes 21-25. Tentative Draft No. 1 did not provide for liability without a reasonable alternative design when the product presented negligible social utility and an extremely high degree of risk. Comment *e* to § 2 of the *Restatement (Third)* recognizes the possibility of such liability. *See supra* note 161; *supra* text accompanying notes 70-72. Tentative Draft No. 1 did not deal in any significant way with the liability of component part sellers. After much discussion, a separate section now addresses the issue. *See* RESTATEMENT (THIRD), *supra* note 16, § 5. For a discussion of the differences between early tentative drafts and the *Restatement (Third)*, see Aaron D. Twerski, *Inside the Restatement*, 24 PEPP. L. REV. 839, 840-52 (1997) (describing the drafting process and tracing the *res ipsa* inference and the development of the manifestly unreasonable design basis for liability).

¹⁶⁸ 694 A.2d 1319 (Conn. 1997).

¹⁶⁹ *Id.* at 1332.

¹⁷⁰ *Id.* at 1324.

¹⁷¹ *See id.* at 1325.

¹⁷² *See id.* at 1326.

¹⁷³ *See id.*

¹⁷⁴ *See id.*

On its facts, the claims in the *Potter* case were clearly for the jury under the alternative design provision of the *Restatement (Third)*.¹⁷⁵ In any event, the defendant appears to have argued on appeal that proof of an alternative design is an "absolute" requirement in a design case and that the plaintiffs had failed to introduce such proof.¹⁷⁶ Of course, as previous discussions make clear,¹⁷⁷ the defendant was wrong on both counts. Under the *Restatement (Third)*, proof of an alternative design is not required in every case,¹⁷⁸ and, in any event, the plaintiff's proof of feasible, safer alternatives was more than adequate. But given the defendant's apparent insistence that the *Restatement (Third)* imposes an "absolute" requirement in this regard, the court rejected both the defendant's argument and the early draft of the *Restatement (Third)*.¹⁷⁹

That the Connecticut Supreme Court's analysis is, in actuality, consistent with the *Restatement (Third)* is clear from the court's consideration of the circumstances in which proof of a reasonable alternative design is not necessary. The opinion identifies two such circumstances: (1) when a product malfunctions, failing to perform safely its manifestly intended function;¹⁸⁰ and (2) when a product design is so egregiously dangerous that it should not be sold at all, even if a reasonable alternative design is not available.¹⁸¹ As set forth earlier,¹⁸² the *Restatement (Third)* explicitly embraces both of these positions. Product malfunction is recognized in section 3,¹⁸³ and the "should not be sold at all" possibility is recognized in comment *e* to section 2.¹⁸⁴ It follows that the court's refusal in *Potter* to adopt the general design standard in the *Restatement (Third)* is based on a misreading of the relevant texts.¹⁸⁵

175 RESTATEMENT (THIRD), *supra* note 16, § 2 cmt. f.

While plaintiff must prove that a reasonable alternative design would have reduced the foreseeable risks of harm, Subsection (b) does not require the plaintiff to actually produce a prototype in order to make out a *prima facie* case. For example, even though an expert has produced no prototype, qualified expert testimony on the issue suffices if it reasonably supports the conclusion that a reasonable alternative design could have been practically adopted at the time of sale.

176 *Potter*, 694 A.2d at 1327.

177 See *supra* text accompanying notes 153-62, 172.

178 See *supra* text accompanying notes 153-62.

179 *Potter*, 694 A.2d at 1333.

180 See *id.* at 1332.

181 See *id.*

182 See *supra* text accompanying notes 158-62.

183 See *supra* note 158.

184 See *supra* note 161.

185 At one point, the majority opinion cites, with apparent approval, a number of law review articles that are critical of the *Restatement (Third)*'s treatment of defective design. *Potter*, 694 A.2d at 1329 & n.7. Not surprisingly, these include the critics to whom this Article responds in the next section. See *infra* Part IV.C. If the reader is persuaded that

The *Potter* court's discussion of the theoretical basis for its decision reflects the rhetorical confusion that has characterized much of the case law concerning defective design. The opinion in *Potter* begins by professing Connecticut's general allegiance to the consumer expectations test, citing substantial authority for that proposition.¹⁸⁶ The problem analytically is that none of the cases cited in the opinion support the proposition for which they are cited.¹⁸⁷ The *Potter* majority must have sensed that consumer expectations could not serve as a general liability standard:

[W]e nevertheless recognize that there may be instances involving complex product designs in which an ordinary consumer may not be able to form expectations of safety. In such cases, a consumer's expectations may be viewed in light of various factors that balance the utility of the product's design with the magnitude of its risks. We find persuasive the reasoning of those jurisdictions that have modified their formulation of the consumer expectation test by incorporating risk-utility factors into the ordinary consumer expectation analysis.¹⁸⁸

Although the majority in *Potter* asserts otherwise, its holding inevitably steers Connecticut toward the reasonable alternative design requirement set forth in the *Restatement (Third)*. Indeed, this fact was not lost on Justice Berdon who, in a separate concurring opinion, expressed concern about this very issue. He pointed out that "adopting such a risk-utility test for 'complex product designs' sounds dangerously close to requiring proof of the existence of 'a reasonable alternative design.'"¹⁸⁹

It follows that the reception given to the earlier draft of the *Restatement (Third)* by the Supreme Court of Connecticut in *Potter* must be counted as a false start. It appears that the defendant overreached by insisting that the *Restatement (Third)* imposes an "absolute" require-

these critics mischaracterize the law governing defective design liability, then the *Potter* court's reliance on those same critics casts further doubt on the soundness of the court's conclusions.

¹⁸⁶ *Potter*, 694 A.2d at 1330, 1332.

¹⁸⁷ In total, the *Potter* court cites eight cases in which liability can be established based either on "the consumer expectation standard" or on a common-sense inference of defect. *Id.* Six of the eight invoke the principle set forth in § 3 of the *Restatement (Third)*. See *Standard Structural Steel Co. v. Bethlehem Steel Corp.*, 597 F. Supp. 164, 183 (D. Conn. 1984); *Slepski v. Williams Ford, Inc.* 364 A.2d 175 (Conn. 1975); *Rossignol v. Danbury School of Aeronautics, Inc.*, 227 A.2d 418 (Conn. 1967); *Living & Learning Centre, Inc. v. Griesse Custom Signs, Inc.*, 491 A.2d 433, 435 (Conn. App. Ct. 1985); *Kileen v. General Motors Corp.*, 421 A.2d 874, 875-76 (Conn. Super. Ct. 1980); and *Liberty Mutual Ins. Co. v. Sears, Roebuck & Co.*, 406 A.2d 1254 (Conn. Super. Ct. 1979). One case cited by the court, *Giglio v. Connecticut Light & Power Co.*, 429 A.2d 486 (Conn. 1980), is a classic failure to warn action. Another, *Wachtel v. Rosol*, 271 A.2d 84 (Conn. 1970), involves a manufacturing defect.

¹⁸⁸ *Potter*, 694 A.2d at 1333 (citations omitted).

¹⁸⁹ *Id.* at 1356 (Berdon, J., concurring).

ment of reasonable alternative design, and the court overreacted by rejecting that position in a case which, on its facts, clearly met the alternative design requirement that the *Restatement (Third)* only contingently imposes. Over time, with the opportunity to reflect on the issues that this Article raises, one can only hope that the confusion reflected in the *Potter* decision will dissipate.

C. Critiquing the Critics of the *Restatement (Third)*

While the ALI considered the *Restatement (Third)*, several commentaries were published that are sharply critical of the *Restatement's* treatment of the standard for determining whether a product design is defective.¹⁹⁰ More particularly, these commentaries criticize the *Restatement (Third)* for adopting a risk utility/alternative design standard, claiming that a majority of American jurisdictions measure product designs against an open-ended, consumer expectations standard.¹⁹¹ At the time these critiques were published, the Reporters were preoccupied with other matters. Now they wish to respond directly to these critics. In large measure, the preceding Part of this Article provides adequate response by demonstrating that the risk-utility standard of the *Restatement (Third)* is clearly the majority position. However, lest any doubt linger on the issue of whose readings of the relevant decisions are correct, a point-by-point response will be undertaken. Rather than be accused of selecting only the most erroneous portions of the relevant analyses, the discussion that follows responds to the case-law characterizations of these critics in exactly the same sequence in which they appear, limiting responses to those instances in which the writer claims that the Reporters have classified a particular jurisdiction's case law incorrectly.

In an article that appeared in 1994 in a symposium devoted to the *Restatement (Third)*,¹⁹² one author claims that the *Restatement (Third)* proposes "a radical restructuring of products liability theory" dealing with the subject of liability for defective designs.¹⁹³ More specifically, the author insists that the Reporters have misclassified a number of opposing jurisdictions as supportive of the *Restatement* position.¹⁹⁴ The first such jurisdiction is Illinois.¹⁹⁵ To support his reading of Illi-

190 See articles cited *supra* notes 1, 9, 14, 143.

191 See *supra* note 143.

192 *A Symposium on the ALI's Proposed Restatement (Third) of Torts: Products Liability*, 61 TENN. L. REV. 1043 (1994).

193 Vandall, *supra* note 1, at 1407.

194 *Id.* at 1408.

195 The first state that Vandall discusses is Arkansas. *Id.* at 1409. The Reporters concede in the final draft of the *Restatement (Third)* that Arkansas has adopted consumer expectations as the general test. RESTATEMENT (THIRD), *supra* note 16, § 2, Reporters' Notes, cmt. d, § II.D. The first state that Vandall characterizes differently from the Reporters is Illinois. Vandall, *supra* note 1, at 1409-10.

nois law, the author quotes from an intermediate appellate court opinion:

"Our supreme court has *never* included the existence of a feasible alternative design as one of the elements a plaintiff *must* prove in order to succeed in a products liability case. In fact, in *Palmer* [*v. Avco Distributing Corp.*], the supreme court ruled that evidence of an alternative design is admissible as proof of one of the required elements.

The supreme court in *Palmer* stated that the dangerousness of a product is usually proved in one or both of two ways: either by introducing evidence that when the product was used in the customary manner, injury resulted; or by introducing evidence of the existence of a safer, feasible alternative design. Thus, the existence of an alternative design becomes not an element of proof but instead merely one method of proving one of the elements of proof—that the product was unreasonably dangerous."¹⁹⁶

On any objective reading of this quoted excerpt, when the opinion speaks of injury resulting "when the product was used in the customary manner," the court is referring to those designs that this Article classifies as demonstrably defective—designs that self-defeatingly fail to perform their manifestly intended functions. Indeed, on its facts, *Palmer*,¹⁹⁷ the Illinois Supreme Court's decision to which the opinion refers, supports the *Restatement (Third)* position.¹⁹⁸ In *Palmer*, the court imposed liability based on plaintiff's proof of the availability of a reasonable alternative design.¹⁹⁹ Any doubt that Illinois law supports the Restatement's general design standard is eliminated by consideration of a fact that the author in question chooses to ignore²⁰⁰—Illinois

¹⁹⁶ Vandall, *supra* note 1, at 1410 (quoting *Ogg v. City of Springfield*, 458 N.E.2d 1331, 1339 (Ill. App. Ct. 1984)).

¹⁹⁷ *Palmer v. Avco Distrib. Corp.*, 412 N.E.2d 959 (Ill. 1980).

¹⁹⁸ In *Palmer*, the plaintiff was injured when his leg was caught in a farm machine. *Id.* at 961.

¹⁹⁹ *Id.* at 965.

²⁰⁰ Vandall dismisses statutes as sources of law for Restatement purposes. Vandall, *supra* note 1, at 1408 & n.11 ("[J]urisdictions that adopt the reasonable alternative design requirement through legislation should not be counted because this violates the foundational premise of the American Law Institute."). The official position of the ALI on this issue is quite the opposite. Statutes are legitimate sources upon which to base Restatement provisions. See A. James Casner, *Restatement (Second) of Property as an Instrument of Law Reform*, 67 IOWA L. REV. 87, 90, 100 (1981) (discussing the use of legislative developments in drafting the *Restatement (Second) of Property*); Herbert Wechsler, *Restatements and Legal Change: Problems of Policy in the Restatement Work of the American Law Institute*, 13 ST. LOUIS L.J. 185 (1968); Herbert Wechsler, Address at the Annual Dinner of the American Law Institute (May 17, 1984), 61 A.L.I. PROC. 408, 412-13 (1985) (noting the future importance of legislation in the development of Restatements of Law).

codified the reasonable alternative design standard by statute in 1993, a year before the author's article appeared.²⁰¹

The author argues next that the Reporters misclassified Minnesota law.²⁰² Once again the author's approach is to quote from an appellate decision:

"Whether the trial court erred [in instructing the jury] depends upon whether in a products liability alleged design defect case a plaintiff must establish as an element of his case that at the time of manufacture a safer, practicable, and technologically feasible alternative design existed—an issue of first impression for this court. . . .

. . . .

. . . . The tenor, if not the literal wording, of the instructions permitted the jury to consider availability of, and failure to use, an alternative, safer design as a factor. However, Ford complains the instructions didn't go far enough; that they should have informed the jury that plaintiff had the burden to prove the existence of a safer, feasible alternative design as an element of an alleged defective product design case. We disagree Although normally evidence of a safer alternative design will be presented initially by the plaintiff, it is not necessarily required in all cases. Such evidence is relevant to, and certainly may be an important factor in, the determination of whether the product was unreasonably defective. However, existence of a safer, practical alternative design is not an element of an alleged defective product design *prima facie* case."²⁰³

Several observations should suffice to demonstrate that the critic, not the Reporters, misreads the Minnesota case law. First, the quoted case does not involve the legal standard of sufficiency of proof for reaching the jury, but rather the adequacy of the jury instructions;²⁰⁴ in other portions of the opinion, the court points out explicitly that the plaintiff introduced sufficient proof of a safer alternative.²⁰⁵ Second, the quoted language to the effect that evidence of a safer alternative de-

²⁰¹ 735 ILL. COMP. STAT. ANN. 5/2-2104 (West Supp. 1997). In *Best v. Taylor Machine Works*, 689 N.E.2d 1057 (Ill. 1997), the Illinois Supreme Court held the tort reform statute to be unconstitutional as a violation of the state constitutional provision against "special legislation." *Id.* at 1078, 1089. It is important to note that the court vacated the lower court's holding that the provision requiring a plaintiff to establish a reasonable alternative design was unconstitutional. *Id.* at 1105-06. However, the court held that the other provisions of the bill which it found to be unconstitutional were essential to implement the legislative policy behind the statute and could not be severed. *Id.* at 1104.

²⁰² Vandall, *supra* note 1, at 1410-11.

²⁰³ *Id.* (quoting *Kallio v. Ford Motor Co.*, 407 N.W.2d 92, 94-97 (Minn. 1987)).

²⁰⁴ *Kallio*, 407 N.W.2d at 96; *see also supra* Part III.A.6 (explaining that it is erroneous to rely on appellate decisions that approve jury instructions based on consumer expectations to support the overall application of the standard).

²⁰⁵ *Kallio*, 407 N.W.2d at 97 ("Sufficient evidence existed to support the conclusion [the jury] reached [that a practical safer design was feasible].").

sign is not "necessarily required in all cases"²⁰⁶ is explained in a footnote which states that "conceivably, rare cases may exist where the product may be judged unreasonably dangerous because it should be removed from the market rather than be redesigned."²⁰⁷ This footnote is a direct reference to the theoretical possibility of an egregiously dangerous design, a possibility noted earlier in this Article²⁰⁸ and explicitly recognized in the *Restatement (Third)*.²⁰⁹ And if all this were not enough to prove the author wrong, a leading authority on Minnesota tort law has concluded: "While Minnesota differs in minor respects, Minnesota law in general seems to be consistent with the Restatement position on design defects."²¹⁰

The author's next claim of Reporter error involves the law of Washington. Once again, the author quotes from a reported opinion:

"Consistent with prior case law, this court determined that the availability of an alternative, safe design is a factor which *may*, rather than *must*, be considered by a jury in deciding if a product is unreasonably dangerous. We held that a plaintiff may establish that a product is unreasonably dangerous by means of factors other than the availability of alternative, safe designs."²¹¹

Admittedly, the reference to "factors other than the availability of alternative, safe designs" is puzzling, coupled as it is with the court's underlying commitment to determining whether a design is "unreasonably dangerous."²¹² One possibility, of course, might be that the reference is to consumer expectations. However, the Supreme Court of Washington has repeatedly insisted that consumer expectations means "*reasonable* expectations," defined explicitly in risk-utility terms.²¹³ Moreover, a statute enacted in Washington in 1981 imposes a reasonable alternative design requirement in connection with proving that defendant's design is "not reasonably safe,"²¹⁴ and then ex-

²⁰⁶ See *supra* text accompanying note 203.

²⁰⁷ *Kallio*, 407 N.W.2d at 97 n.8 (citing *Wilson v. Piper Aircraft Corp.*, 577 P.2d 1322, 1328 n.5 (Or. 1978) (en banc)).

²⁰⁸ See *supra* notes 70-72 and accompanying text.

²⁰⁹ See *supra* note 161 and accompanying text.

²¹⁰ Mike Steenson, *The Restatement (Third) of Torts and Minnesota Products Liability Law: Liability Standards*, 24 WM. MITCHELL L. REV. 1 (1997). Steenson is the Reporter for the Minnesota Civil Jury Instructions Guides.

²¹¹ *Vandall*, *supra* note 1, at 1412 (quoting *Couch v. Mine Safety Appliances Co.*, 728 P.2d 585, 588 (Wash. 1986)).

²¹² See *supra* text accompanying note 211.

²¹³ E.g., *Seattle-First Nat'l Bank v. Tabert*, 542 P.2d 774, 779 (Wash. 1975) (noting that in determining reasonable expectations, a number of risk-utility factors must be considered); see also *Baughin v. Honda Motor Co.*, 727 P.2d 655, 660 (Wash. 1986) ("While usually called a 'consumer expectations' test, the *Tabert* rule actually combines the consideration of consumer expectations with an analysis of the risk and utility inherent in a product's use.")

²¹⁴ WASH. REV. CODE ANN. § 7.72.030 (West 1992).

PLICITLY states that, in determining whether a product is not reasonably safe, "the trier of fact shall consider whether the product was unsafe to an extent beyond that which would be contemplated by the ordinary consumer."²¹⁵ The *Restatement (Third)* condones taking consumer expectations into account in determining the feasibility of an alternative design.²¹⁶

One way to reduce the rhetorical confusion is to observe that, whatever else may be said, Washington courts are committed to a risk-utility standard in which reasonable, safer alternative designs play a major role. Moreover, the confusion in the published opinions is greatest when they focus, as do all of the major reported design decisions in Washington, on the relatively less important issue of the content of jury instructions rather than on the relatively more important issue of what the plaintiff must prove to reach the jury.²¹⁷ It is telling that, in all of the classic design liability decisions in Washington published to date, appellate courts have denied liability as a matter of law whenever plaintiffs have failed to introduce sufficient proof of the availability of reasonable alternative designs.²¹⁸ Perhaps the fairest judgment to reach at this point is that the Washington courts have used unclear and confused language but have reached outcomes in design cases that are consistent with the position adopted in the *Restatement (Third)*. Certainly, it is unwarranted for the author to claim, relying on dicta quoted out of context, that Washington courts apply any other test than reasonable alternative design in judging the sufficiency of the plaintiffs' proofs in these cases.

The next jurisdiction that the author considers, and the last that this discussion will review, is Colorado. Colorado is so solidly committed to the position adopted in the *Restatement (Third)* that an informed reader may find it surprising that the author would try to argue otherwise.²¹⁹ Again, the author repeats the prescribed pattern of quoting appellate opinions out of context—here, from two Colorado Supreme Court decisions.²²⁰ In the first, the court refers to proof of a substitute safer design as one of seven "factors" to be considered in determining whether a design is defective.²²¹ The author relies on this

²¹⁵ *Id.* § 7.72.030.(3).

²¹⁶ *RESTATEMENT (THIRD)*, *supra* note 16, § 2 cmt. f.

²¹⁷ *See, e.g.*, *Falk v. Keene Corp.*, 782 P.2d 974 (Wash. 1989); *Couch v. Mine Safety Appliances Co.*, 728 P.2d 585 (Wash. 1986); *Connor v. Skagit Corp.*, 664 P.2d 1208 (Wash. 1983).

²¹⁸ *See, e.g.*, *Soproni v. Polygon Apt. Partners*, 3 Prod. Liab. Rep. (CCH) ¶ 15,033 (Wash. Ct. App. Aug. 11, 1997); *Novak v. Piggly Wiggly Puget Sound Co.*, 591 P.2d 791, 794-95 (Wash. Ct. App. 1979).

²¹⁹ *See supra* notes 115-21 and accompanying text.

²²⁰ *Vandall*, *supra* note 1, at 1413-15 (quoting *Armentrout v. FMC Corp.*, 842 P.2d 175, 185 n.11 (Colo. 1992); *Camacho v. Honda Motor Co.*, 741 P.2d 1240, 1247 (Colo. 1987)).

²²¹ *See Camacho*, 741 P.2d at 1247.

reference to support his conclusion that the reasonable alternative design standard that this Article advances is merely one of a number of factors determining defective design.²²² However, as explained earlier, this judicial reference to the early writings of Professor John Wade does not support the author's conclusion.²²³ Furthermore, it certainly has not distracted Colorado courts from steadfastly applying the reasonable alternative design standard advanced herein in judging the sufficiency of plaintiffs' proofs.²²⁴ In the second quotation from Colorado on which the author relies to cast doubt on the state's position, the high court first emphasizes the necessity of the plaintiffs proving feasible safer alternatives in most cases²²⁵ and then makes the judicially irresistible gesture of alluding, in dictum, to the theoretical possibility (in the court's own words, "[t]here might be cases") of a design being so egregiously and gratuitously dangerous that it never should have been marketed at all.²²⁶

Suffice it to say that the author's mischaracterizations of judicial dicta, considered above in the same sequence in which they appear in his article, do not support the author's claim that the *Restatement (Third)* constitutes a "radical restructuring" of products liability law on the subject of liability for defective design. Other published criticisms of the *Restatement's* position on defective design warrant the same conclusion. One such critic appears to believe that quantity is as impressive as quality in these matters. In an article that is nearly five-hundred printed pages, the author purports to show the errors of the Reporters' ways.²²⁷ The author first considers the law of Alabama. The leading case in that state clearly and unequivocally adopts the position adopted in the *Restatement (Third)*—that the plaintiff must prove that a reasonable, safer alternative design was available that would have reduced or prevented the plaintiff's harm.²²⁸ Rather than dispute this fact, the author attempts to explain it away by conceding that "enhanced injury cases . . . naturally involve alternative designs," but then insisting that "'regular' design defect cases . . . impose no such proof requirements."²²⁹

A moment's reflection reveals that the author's concession that enhanced injury cases "naturally involve alternative designs" constitutes an unwitting admission that proof of an alternative design is necessary in *all* classic design cases that do not fall within one or another

222 Vandall, *supra* note 1, at 1414.

223 See *supra* Part III.A.1.

224 See *supra* text accompanying notes 115-21.

225 See *Armentrout*, 842 P.2d at 185.

226 *Id.* at 185 n.11.

227 See Vargo, *supra* note 14.

228 *General Motors Corp. v. Edwards*, 482 So. 2d 1176, 1188-89 (Ala. 1985).

229 Vargo, *supra* note 14, at 563.

of the relatively narrow exceptions discussed earlier. The enhanced injury cases to which the author makes reference involve claims that the designs in question—typically motor vehicle designs—lack safety features that would have reduced, but not necessarily eliminated, the plaintiff's injuries.²³⁰ Enhanced injury cases are, on any view, remarkable. But what makes them remarkable is not the enhancement of injury, but the question of what a court should do when the plaintiff cannot quantify the *amount* of defect-caused enhancement. Alabama adopts the majority position on this causation issue that when quantification of the extent of causal enhancement is not possible, the plaintiff may recover for all of the injuries suffered in the product-related accident.²³¹ But on the issue of what the plaintiff must show to prove that the design is defective, *all* classic design cases are enhancement cases in the sense that the plaintiff must prove that a design defect in the form of lack of a safety feature caused some, or all, of the plaintiff's harm.

Thus, the "regular" design cases to which the author refers as a separate category are, properly viewed, nothing more than classic design cases in which the plaintiff happens to be able to quantify the harm that the design defect caused by proving that the lack of a safety feature caused *all* of the harm, not just a nonquantifiable portion of it. But in all classic design cases, quite apart from the separate issue of whether the plaintiff can quantify the element of causation, the plaintiff must show that the omission from the design of an available, alternative safety feature caused some portion of the injuries.²³² It follows that by conceding that enhanced injury cases "naturally involve alternative designs,"²³³ the author unwittingly concedes the very element in the *Restatement (Third)* with which he purports to disagree: that in classic cases the plaintiff must prove that the lack of a feasible, alternative safety feature in the design caused, in whole or in part, the injuries suffered in the product-related accident.²³⁴ Finally, the critic

²³⁰ E.g., *Reed v. Chrysler Corp.*, 494 N.W.2d 224, 227-28 (Iowa 1992) (involving an injured plaintiff who claimed that a Jeep in which he was riding should have been equipped with a metal top instead of a fiberglass one).

²³¹ See generally Barry Levenstam & Daryl J. Lapp, *Plaintiff's Burden of Proving Enhanced Injury in Crashworthiness Cases: A Clash Worthy of Analysis*, 38 DE PAUL L. REV. 55, 61 (1989) (stating that thirty-five states and the District of Columbia have adopted this theory).

²³² See, e.g., *Polston v. Boomershine Pontiac-GMC Truck, Inc.*, 423 S.E.2d 659, 662 (Ga. 1992) (stating that in an enhanced injury case, plaintiff has the burden of proving that the design defect was a substantial factor in producing additional damages).

²³³ See *supra* text accompanying note 229.

²³⁴ See *supra* Part III.B.

ignores the simple fact that Alabama imposes the reasonable alternative design requirement in non-enhanced injury cases.²³⁵

One more critic of the *Restatement (Third)* deserves mention,²³⁶ if only because of the harshness—indeed, the almost ad hominem quality—of the criticism.²³⁷ This last author's criticism is directed not so much at the functional test adopted for determining defective design, as at the doctrinal question of whether products liability cases sound in negligence, warranty, or strict liability. The author claims that by adopting fault as the basis for liability in cases involving allegedly defective design and failure to warn, the ALI advisers and Council have decided to follow their own "instrumentalist views"²³⁸ and to reject mainstream American products liability traditions.²³⁹ In making this assertion, the author misreads not only American traditions, but the *Restatement (Third)*, as well. Comment *n* to section 2 is quite clear on the relationship between functional and doctrinal analysis. So long as the functional requisites of section 2 are satisfied, plaintiffs may couch their design claims in negligence, implied warranty, or strict liability in tort.²⁴⁰

²³⁵ See, e.g., *Bean v. BIC Corp.*, 597 So. 2d 1350, 1352 (Ala. 1992) (listing the feasibility of an alternative design that averts danger as one of two factors to consider when imposing a legal duty on manufacturers to make their products child-proof).

²³⁶ Klemme, *supra* note 143.

²³⁷ Klemme characterizes the Reporters' descriptions of the case law as "substantial misrepresentations of the fact." *Id.* at 1174. He then shares these observations:

Frankly, as one who has long engaged in similar work as the reporter for the Colorado Supreme Court Committee on Civil Jury Instructions, I can only say that had I or the Committee offered such weak, and often contradictory or irrelevant, authority to support the Committee's work, I would never have survived as the Committee's reporter. Neither, I suspect, would the Committee have so long enjoyed the high regard in which the bench and bar of Colorado have held its work *and the intellectual integrity on which it is based*.

Id. at 1175 (emphasis added) (footnote omitted). The clear implication of Klemme's self-congratulatory reference to his own project's "intellectual integrity" is that the Reporters' work lacks that quality.

²³⁸ *Id.* at 1173.

²³⁹ *Id.* at 1173-75.

²⁴⁰ See RESTATEMENT (THIRD), *supra* note 16, § 2 cmt. n:

n. Relationship of definitions of defect to traditional doctrinal categories. The rules in this Section and in other provisions of Chapter 1 of this Restatement define the bases of tort liability for harm caused by product defects existing at time of sale or other distribution. The rules are stated functionally rather than in terms of traditional doctrinal categories. Claims based on product defect at time of sale or other distribution must meet the requisites set forth in Subsection (a), (b), or (c), or the other provisions in this Chapter 1. As long as these requisites are met, doctrinal tort categories such as negligence or strict liability may be utilized in bringing the claim.

Similarly, a product defect claim satisfying the requisites of Subsection (a), (b), or (c) may be brought under the implied warranty of merchantability provisions of the Uniform Commercial Code.

The author's treatment of Alabama law on the subject of defective design reveals that he has confused doctrinal terminology with underlying, functional substance. The author purports to refute what he describes as the Reporters' claim that the general standard for design in that state is the traditional negligence standard.²⁴¹ The author points out that Alabama plaintiffs are required to prove only that the design is unreasonably unsafe, not that the manufacturer was unreasonable in designing it that way.²⁴² However, assuming that the product-related risks in most cases involving durable goods were known or knowable at the time of sale (as they might not be, for example, in cases involving toxic chemicals),²⁴³ to condemn a design for being unreasonably dangerous is inescapably to condemn the designer for having been negligent. To insist otherwise would be akin to a professor telling a law student that, while the brief the student wrote is awful, the professor is not passing judgment on the student's skill in writing it. Similarly, the author's insistence that strict liability is somehow being imposed if the court assesses the reasonableness of the design and not the reasonableness of the designer's conduct is purest sophistry. Indeed, the Alabama Supreme Court understands this even if the author does not.²⁴⁴

CONCLUSION: CONSENSUS HAS BEEN ACHIEVED

Myths do, indeed, die hard. But sooner or later they die. The myth that the general standard for defective product design is unsettled and unclear has had a long life, but its time has come. Both nor-

²⁴¹ Klemme, *supra* note 143, app. at 1177.

²⁴² *Id.* (footnotes omitted):

[The Alabama decision relied on by the Reporters] does not, as claimed, retain negligence or any other form of traditional fault as the only standard for determining defective design. The court specifically held that the ordinary consumers' expectations and contemplation tests of section 402A were appropriate for determining whether the product was "defective" and "unreasonably dangerous." When those tests have been met, a defendant's conduct constitutes "fault" or "negligence" *as a matter of law*. No other proof of negligence or the like is required.

²⁴³ All of the reported decisions involving unknowable risks involve toxic chemicals. See, e.g., *Beshada v. Johns-Manville Prods. Corp.*, 447 A.2d 539 (N.J. 1982) (involving asbestos products).

²⁴⁴ See *Atkins v. American Motors Corp.*, 335 So. 2d 134, 140 (Ala. 1976) (emphasis added):

By [purporting to apply strict liability for defective designs] we do not abandon the fault concept as has been done in some jurisdictions. . . . *The manufacturer, or retailer, is held [strictly] liable because he has created an unreasonable risk of harm.*

. . . . The only real difference between strict tort liability and the traditional negligence theory in products liability cases is that those courts which have adopted the rule of strict liability look to the dangerous characteristics of the end product, rather than the methods or processes by which it was produced.

mative analysis of what courts should do and empirical analysis of what they have done support this conclusion. By adopting risk-utility balancing with a reasonable alternative design requirement as the general design standard, subject to the exceptions for demonstrably defective and egregiously dangerous designs that this Article describes, the *Restatement (Third)* reflects the consensus view. The few jurisdictions that remain in the minority on this issue may be expected to join the majority, given time for reflection on what has transpired.